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ABERTURA E INTELECTO SÃO CONSTRUTOS VÁLIDOS E CONFIÁVEIS? UMA
INVESTIGAÇÃO PSICOMÉTRICA
ARE OPENNESS AND INTELLECT VALID AND RELIABLE CONSTRUCTS? A
PSYCHOMETRIC INVESTIGATION

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Porto Alegre
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ABSTRACT

Openness and Intellect have been proposed as two distinct personality constructs located between the broad Openness/Intellect domain and its facets. Although they have shown to be useful in clarifying the associations between Openness/Intellect and different variables, their factor structure has not been empirically supported. This study a) adapted the Openness and Intellect scales for the Brazilian context and b) tested the factor structure of these scales using robust statistical techniques in two Brazilian samples ($n = 750$ and $n = 612$). Confirmatory factor analysis (CFA) did not support the original second-order model. Instead, a bifactor model with a general and two specific factors presented the best fit to the data. Evidence of validity and reliability for the Openness and Intellect aspects is presented and theoretical implications of these results are discussed.

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Keywords: Test Adaptation, Openness to Experience, Intellect, Intelligence, Vividness, Rumination, Reflection, Psychometrics

INTRODUCTION

After the identification of two "aspects" located between the broad Openness/Intellect domain and its facets (DeYoung et al., 2007), researchers have started to explore their utility in clarifying the relationships between Openness/Intellect and other constructs (e.g., Fayn, MacCann, et al., 2015; Fayn, Tiliopoulos, et al., 2015; Kaufman et al., 2010; Vartanian et al., 2018; Zajenkowski & Matthews, 2019). For instance, the two aspects—labeled as Openness and Intellect, separately—presented different patterns of relationships with negative emotionality (e.g., DeYoung et al., 2012; DeYoung, 2014; Zajenkowski & Matthews, 2019), political attitudes (Hotchin & West, 2018), and creative achievement (Kaufman et al., 2016), possibly reflecting "the most important distinction for discriminant validity" (DeYoung, 2015, p. 4).

Openness and Intellect aspects are directly measured by the Big Five Aspect Scales (BFAS; DeYoung et al., 2007), which is designed to assess 10 aspects subsumed within each Big Five domain (i.e., two aspects for each domain). Despite their apparent relevance for personality research, the hierarchical structure of its broad domain (Openness/Intellect), as reflected by the Cybernetic Big Five Theory (CB5T; DeYoung, 2015) and operationalized by the BFAS (DeYoung et al., 2007), has not been empirically tested and compared to alternative models. Given this critical limitation—which may also raise concerns about the validity of the model and its underlying theory—we aimed to a) adapt the set of items pertaining to Openness/Intellect into Brazilian Portuguese; b) examine the items' internal structure and reliability; and c) examine the unique predictive power of Openness and Intellect.
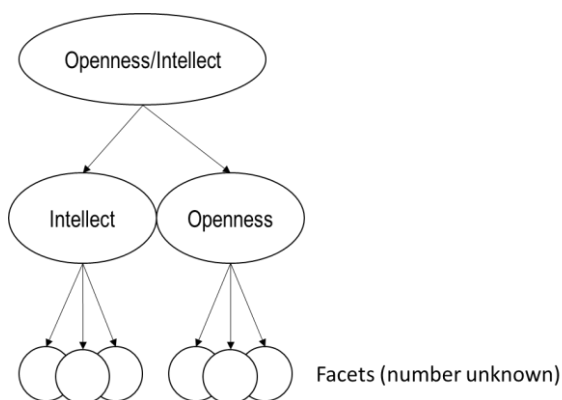
Openness/Intellect

Openness/Intellect constitutes a personality domain that describes individual differences in the ability and tendency to seek, detect, comprehend, and utilize both sensory and abstract information (DeYoung, 2014; DeYoung et al., 2012). It encompasses facets ranging from intellectual interests, to aesthetic enjoyment, to apophenia—the perception of connections or meanings in unrelated events (DeYoung et al., 2012). In the past decades, it has been shown that Openness/Intellect can be subdivided into two distinct (but correlated) aspects, referred to separately as Openness and Intellect (see Figure 1; DeYoung et al., 2007). These labels help resolving an old debate about Openness/Intellect best characterization (DeYoung, 2014; DeYoung et al., 2007). Although correlated, Openness and Intellect are conceptually and empirically distinct. Openness reflects engagement with sensory information, aesthetics, and

fantasy; whereas Intellect reflects intellectual engagement with semantic and abstract information as well as perceived intelligence (DeYoung et al., 2014).

Figure 1

Hierarchical Structure of Openness/Intellect

Facets (number unknown)

The conceptual and empirical distinction between the two aspects allowed researchers to identify a fine-grained relationship between Openness/Intellect and creativity. When controlling for the common variance of Openness and Intellect, Openness was associated with creative achievements in the arts (but not in the sciences), whereas Intellect was associated with creative achievements in the sciences (but not in the arts) (Kaufman et al., 2016). In addition to their conceptual difference, the correlates of each aspect suggest that people high in Openness would be inclined to engage in artistic activities (e.g., painting, dancing, playing music) and people high in Intellect would be inclined to engage in intellectual activities (e.g., identifying gaps in the literature, writing scientific papers). This is likely because people with high levels of Openness/Intellect pursue hobbies involving creating things, as opposed to passively observing or participating (Wolfradt & Pretz, 2001). Moreover, people who score high on Openness/Intellect are more likely to do something creative at any given time of the day (Silvia et al. 2014) and spend more time in creative activities (Conner & Silvia 2015).

Some practical implications of the distinction between Openness and Intellect have also been identified. For instance, the correlation between Openness and Psychoticism allowed for the psychometric integration between the Big Five and The Personality Inventories for DSM–5 (DeYoung et al., 2016)—a measure of maladaptive personality traits. Specifically, dysfunctional sensitivity of the mechanisms that produce Openness seems like a potential source of Psychoticism (DeYoung et al., 2016).

Openness/Intellect and Vividness of Visual Mental Imagery

Among different labels proposed for Openness/Intellect, Saucier (1992, 1994) suggested "Imagination" as he observed the adjectives "imaginative", "creative", and "original" were the best and most specific markers of Openness/Intellect. In fact, imagination is considered a central component of Openness/Intellect (Oleynick et al., 2017). Surprisingly, Openness/Intellect present weak and inconsistent correlations with mental imagery—the ability to represent and experience sensory information without a direct external stimuli (Pearson et al., 2015). Imagery is considered essential to imagination (e.g., Brann, 1991; Kind, 2001), and the sparse literature on Openness/Intellect-imagery relationship indicate that Openness/Intellect is related to the occurrence of mental imagery (Chun & Hupé, 2016), but not vividness of mental imagery (cf. Hill et al., 1997).

Often described as "seeing with the mind's eye", mental imagery is not limited to the sense of sight. Other modalities, such as hearing, touch, smell, taste, and even emotions can be mentally represented and experienced (Thagard, 2019). Among the different qualities associated with imagery, vividness refers to the clarity, richness and similarity to real perceptual experiences (Marks, 1973). To the best of our knowledge, the only study that examined the relationship between Openness/Intellect and vividness of mental imagery showed no significant relationships between these two variables (Hill et al., 1997). However, theoretical and empirical data suggest that the analysis at the aspect level may reveal different results. This clarification is important because, in spite of reflecting differences in the capacity for imagination, Openness/Intellect and vividness of mental imagery are deeply implicated in artistic and intellectual creativity (Chavez, 2016; Puryear et al., 2019), albeit the mechanisms for these associations remain unclear.

At the aspect level, Openness and Intellect reflect different routes of cognitive exploration (DeYoung, 2014). Openness reflects exploration through perceptual and sensory information and involves, among other things, propensity for fantasy and imagination. Items such as "I rarely daydream" and "I rarely get lost in thought" (negatively-worded) illustrate this characteristic. The definition of Openness and its underlying mechanism (DeYoung, 2015) suggest that people high in Openness have greater motivation and ability to create complex interpretations of the present, past and future through the processing of perceptual and sensory information. As vividness of visual imagery is a phenomenon involved in remembering the past and thinking about the future (Byrne et al., 2007; D'Argembeau & Van der Linden, 2006), it is plausible to expect people high in Openness to have more vivid visual imagery and, thus, remember past events and project themselves into the future more vividly.

Studies on Absorption—a construct that is conceptually linked to Openness (DeYoung et al., 2012)—provided an additional basis for our hypothesis. The relationship between Absorption and vividness of visual imagery, for example, is well-documented in the literature (e.g., Campos & Pérez, 1988; Crawford, 1982). On top of that, factor analysis with subscales from the NEO Personality Inventory (NEO-OE; Costa & McCrae, 1985) and the Tellegen Absorption Scale (Tellegen & Atkinson, 1974) shows that the facets Fantasy, Aesthetics, and Feelings— NEO-OE markers of Openness (DeYoung et al., 2007)—correlate with all Absorption subscales, loading on a single Absorption factor (Glisky et al., 1991). Thus, we expect a positive association between vividness of visual imagery and Openness.

Openness/Intellect, Reflection, and Rumination

Aside from imagination, Openness/Intellect is positively associated with reflection—a difference in the functioning of private self-consciousness characterized by thinking about oneself with epistemic characteristics (i.e., self-exploration and interest in acquiring greater personal knowledge). Rumination, on the other hand, reflects a difference in the functioning of private self-consciousness characterized by a tendency to automatically focus on and sustain attention on events that are unpleasant or threatening to the self (Trapnell & Campbell, 1999).

By distinguishing Openness from Intellect, researchers also gained a better insight into the affective characteristics associated with Openness/Intellect (e.g., DeYoung, 2014; Zajenkowski & Matthews, 2019). For example, the small, albeit significant relationship between Openness/Intellect and depression (Wolfestein & Trull, 1997) were clarified by the mechanisms underlying Openness. Specifically, by having a reduced threshold for bringing information into awareness, people with high scores on Openness may end up with a greater amount of stimuli available to worry about (DeYoung et al., 2014). At the facet level, only Aesthetics and Fantasy (markers of Openness) were associated with depression scores (Wolfestein & Trull, 1997). In a factor analytic study, facets of Neuroticism show modest positive loadings on Openness, whereas their loadings on Intellect were negative (DeYoung et al., 2012). Taken together, these data suggest that the same mechanism driving the relationship among Openness, depression, and Neuroticism might also be drawn upon to explain the relationship between rumination and the facets of Openness/Intellect (Feelings and Fantasy; Trapnell & Campbell, 1999)—all markers of Openness (DeYoung et al., 2007). Therefore, we expect rumination to be positively associated with Openness when controlling for general Openness/Intellect and Intellect. Also, taking into account that Intellect is associated with more positive affective states and lower stress (Zajenkowski & Matthews, 2019), and that

Neuroticism facets load negatively on Intellect (DeYoung et al., 2012), we expect Intellect to be negatively associated with rumination.

Further, we expect reflection to be more strongly associated with Openness when controlling for Openness/Intellect. The reason for this is because a construct with similar content and label ("V + II + Reflection"; Goldberg, 1999) is more strongly associated with measures of Openness than Intellect (DeYoung et al., 2012). Additionally, a greater amount of stimuli available into awareness (a characteristic associated with Openness; DeYoung, 2012) may facilitate self-exploration.

THE PRESENT STUDY

The current study examines BFAS' Openness/Intellect scale in a Brazilian sample and assess the scale's validity and reliability. In addition, we compare the original hierarchical structure of the scale (i.e., a second-order model; DeYoung et al., 2007; DeYoung, 2015) with three alternative models—a unidimensional model, a two-dimensional model, and a bifactor model. The second-order model reflects important theoretical assumptions about the underlying mechanisms of Openness/Intellect and its two aspects (DeYoung, 2015). However, this model has not been empirically tested with strict methods such as confirmatory factor analysis (CFA). Consequently, it is unclear whether Openness and Intellect scale scores adequately measure their intended constructs. By using CFA, we intend to clarify this problem and determine which model provides the best fit to the data. Additionally, for the purposes of convergent validity and hypothesis testing, the measurement model retained in CFA will be set to predict theoretically relevant variables in a structural equation modeling (SEM) framework. The four hypotheses of this study are the following:

Hypothesis 1 – The second-order model (reflecting the original hierarchical structure and theoretical assumptions) will be retained;

Hypothesis 2 – Both aspects (Openness and Intellect) as well as the general factor (Openness/Intellect) will show a positive correlation with vividness of visual imagery;

Hypothesis 3 – Compared to Intellect, Openness will be a stronger predictor of vividness of visual imagery;

Hypothesis 4 – Both aspects (Openness and Intellect) will show a positive correlation with reflection,

Hypothesis 5 – Compared to Intellect, Openness will be a stronger predictor of reflection;

Hypothesis 6 – Openness will be the only significant predictor of rumination.

METHOD

Sample

A total of 1,362 individuals (79.8% females, 18,9% males, 1,3% others/unspecified) with mean age of 24.84 years (SD = 5.53, minimum = 18, maximum = 67) of two different samples participated in the study. Sociodemographic characteristics of both samples and the total sample are displayed in Table 1. Two individuals did not report their professional status.

Informed consent was obtained from all participants prior to their enrollment in the study. The exclusion criterion was being less than 18 years old and failing to respond adequately to an attention check item ("Marque a opção 5" [Mark option 5]) or a bogus item ("Sou pago quinzenalmente por duendes" [I am paid biweekly by leprechauns]; Meade & Craig, 2012). For the bogus item, a level of agreement of 4 ("agree") or 5 ("strongly agree") were considered inadequate responses.

Procedure

Participants were recruited through announcements on Facebook groups. They were informed that the study aimed to adapt and validate, for the Brazilian context, two scales designed to assess personality traits. We also mentioned that the study aimed to test the relevance of a new model of organizing personality traits. Participants were also instructed to respond in a quiet and comfortable place.

The study was conducted in accordance with Brazilian guidelines that regulate human research (Resolution No. 466/12, National Health Council; Resolution No. 16/2000, Federal Council of Psychology), and was approved by the Research Ethics Committee. Certificate of Presentation for Ethical Consideration is registered under number 31010320.3.0000.5334. Qualtrics online survey platform was used for data collection and no monetary compensation was offered to participants.

Table 1

Sociodemographic Characteristics of Participants

Characteristics	Sample 1 (*n* = 750)		Sample 2 (*n* = 612)		Total Sample (*n* = 1362)	
	n	%	n	%	n	%
Race						
White	490	65.3	374	61.1	864	63.4
Pardo (Brazilians of mixed ethnicity)	159	21.2	149	24.3	308	22.6
Black	89	11.9	77	12.6	166	12.2
Yellow	11	1.5	9	1.5	20	1.5
Indigenous	1	.1	3	.5	4	.3
Education						
Less than secondary education	4	.5	8	1.3	12	.9
Secondary education/some higher education	376	50.1	354	57.9	730	53.6
Complete higher education	227	30.3	156	25.5	383	28.1
Incomplete postgraduate degree	65	8.7	49	8	114	8.4
Complete postgraduate degree	78	10.4	45	4.7	123	9
Professional Status						
Employed	301	40.1	249	40.8	550	40.5
Student	201	26.8	179	29.3	380	28
Unemployed	139	18.5	106	17.4	245	18
Other	105	14	73	12	178	13.1
Retired	3	.4	3	.5	6	.4

Openness and Intellect Scales

The Openness and Intellect scales from the Big Five Aspect Scales (BFAS; DeYoung et al., 2007) consist of two scales of 10 items each. Participants are asked to assess how much

the statements relate to them on a five-point Likert-type scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). Examples of items on Openness and Intellect scales are "I enjoy the beauty of nature" and "I am quick to understand things", respectively. Openness and Intellect scores are computed by averaging completed items within each scale; the broad Openness/Intellect score are computed by averaging scores for Openness and Intellect aspects. Eight items (15, 45, 50, 55, 60, 80, 85, 90) are reversed scored, and they are numbered as they appear in the original instrument (DeYoung et al., 2007).

The scale presents convergent validity evidence with three different measures of the Big Five (DeYoung et al., 2007). Scores of BFAS general Openness/Intellect scale significantly correlated with the scores of general Openness to Experience scale from the following measures: the Big Five Inventory ($r = .67$ in the university sample; $r = .77$ in a community sample); the NEO-PI-R ($r = .78$); and the Mini-Markers of Big Five ($r = .71$). Acceptable to good test-retest reliability coefficients were obtained for the general Openness/Intellect factor ($r = .82$), the Intellect aspect ($r = .86$), and the Openness aspect ($r = .79$; DeYoung et al., 2007).

Adaptation into Brazilian Portuguese

Following ITC (2017) Guidelines for Translating and Adapting Tests, two independent graduate students, who were proficient in English and had prior experience with adaptation of psychological tests, performed a forward translation of Openness and Intellect scales. A third, independent translator—who is a professor and expert on the Big Five and adaptation of psychological tests—resolved the discrepancies between the two alternative forward translations and reconciled them into a single version after considering semantic, idiomatic, conceptual, linguistic, and contextual differences between the two countries.

In order to ensure clarity and adequacy of the items, the first author conducted interviews with three people, who were native to Brazilian Portuguese. Interviewees were asked to explain their interpretations of the items, so problems with the intended denotation could be identified. This process resulted in minor revisions to four items (Item 20 [e.g., "Believe in the importance of art"], Item 30 [e.g., "Love to reflect on things"], Item 60 [e.g., "Rarely notice the emotional aspects of paintings and pictures"], and Item 85 [e.g., "Learn things slowly"]).

Other Measures

Rumination and Reflection. The Rumination-Reflection Questionnaire (RRQ; Trapnell & Campell, 1999; Brazilian version adapted by Zanon & Teixeira, 2006) consists of two scales of 12 items each. The questionnaire was created to assess two forms of private self-consciousness—a constructive form (i.e., Reflection; e.g., "I love exploring my 'inner' self")

and a maladaptive form (i.e., Rumination; e.g., "My attention is often focused on aspects of myself I wish I'd stop thinking about"). Evidence of construct validity and good internal consistency estimates (α = 0.87 for both scales) indicate that the instrument is suitable for assessing Rumination and Reflection in Brazilian university students (Zanon & Teixeira, 2006; Zanon & Hutz, 2009).

Vividness of Mental Imagery. The Plymouth Sensory Imagery Questionnaire (Psi-Q; Andrade et al., 2014; Brazilian version adapted by Pereira & Teixeira-Santos, 2019) is a 35-item questionnaire that assesses vividness of mental imagery across seven modalities (5 items for each modality). Modalities are sight (e.g., "Imagine the appearance of: a friend you know well"), sound (e.g., "Imagine the sound of: an ambulance siren"), smell (e.g., "Imagine the smell of: a stuffy room"), taste (e.g., "Imagine the taste of: mustard"), touch (e.g., "Imagine touching: warm sand"), bodily sensations (e.g., "Imagine the bodily sensation of: relaxing in a warm bath") and emotional feelings (e.g., "Imagine feeling: excited"). Item scores range from 0 "no image" to 10 "image as clear and vivid as real life". For the purposes of this study, only the sight subscale was used. Validity evidence for the sight subscale was evaluated on our sample through exploratory factor analysis (i.e., principal axis factoring) that indicated one predominant factor, whose eigenvalue of 2.81 explained 56.18% of the variance. Factor loadings ranged from 0.58 to 0.74 pointing out the items constitute adequate indicators of the factor. Good internal consistency estimate was found for the sight subscale (α = 0.80).

Analytic Plan

In order to investigate the original and competing models for the adapted version of the Openness and Intellect scales, we performed confirmatory factor analyses (CFA) in two subsamples. Models were specified as follows:

Unidimensional. The first model reflects a unidimensional conceptualization of Openness and Intellect. All 20 items were set to load on a single latent factor.

Two-dimensional. The second model reflects a two-dimensional model in which two latent factors—Openness and Intellect—are needed to account for the variance in the set of items. In this model, items 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 were set to load on the Openness factor; whereas items 5, 15, 25, 35, 45, 55, 65, 75, 85, and 95 were set to load on the Intellect factor. Both factors are allowed to covary with each other.

Second-order. The third model reflects the original theoretical framework conceptualized by DeYoung and colleagues (2007). In this model, both first-order latent factors (i.e., Openness and Intellect) are predicted by a third, second-order latent factor (i.e., Openness/Intellect). As in the two-dimensional model, items 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 were set to load on the Openness factor; whereas items 5, 15, 25, 35, 45, 55, 65, 75, 85, and 95 were set to load on the Intellect factor. The second-order latent factor was then set to predict Openness and Intellect factors. In order to be identified, the variance of the second-order factor was fixed to one and the two first-order factors' loadings were set equal to each other.

Bifactor. The fourth model reflects the bifactor model (Holzinger & Swineford, 1937), in which items are set to load on their specific latent factors (i.e., Openness or Intellect) as well as on a shared, general latent factor (Openness/Intellect). All three factors (i.e., Openness, Intellect and Openness/Intellect) are not allowed to covary. In this model, items 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 were set to load on the Openness factor; Items 5, 15, 25, 35, 45, 55, 65, 75, 85, and 95 were set to load on the Intellect factor; all items were also set to load on the general Openness/Intellect factor. An advantage of the bifactor model is that it allows for evaluation of the relevance of using subscale scores after controlling for the variance of the general factor (Reise, 2012). If the set of items conform to a bifactor structure, the scores contain variance due to their specific factors (Openness and Intellect) as well as their general Openness/Intellect factor.

Structural equation modeling was conducted in M*plus* Version 7.11 (Muthén & Muthén, 1998–2013). We treated variables as categorical and, given their deviation from normality, we used weighted least squares means and variance adjusted (WLSMV; Muthén et al., 1997) estimation method. WLSMV produces accurate test statistics, parameter estimates, and standard errors of CFA models with varying degrees of non-normality (Flora & Curran, 2004). Also, they are appropriate to model the categorical nature of Likert-type items. The factor loading of the first indicator of a latent variables was constrained to 1 to stablish the metric.

Model fit evaluation was based on chi-square (χ2), root mean square error of approximation (RMSEA) and comparative fit index (CFI) criteria. Cutoff values of RMSEA < .08 and CFI > .90 were considered acceptable (Hu & Bentler, 1999).

Ancillary bifactor indices. Ancillary bifactor indices of model-based dimensionality and reliability were calculated for the bifactor model. A total of seven different indices (i.e., coefficient omega hierarchical [ω_H]; coefficient omega hierarchical subscale [ω_{HS}]; explained

common variance [ECV]; percentage of uncontaminated correlations [PUC]; proportion of reliable variance [PRV]; *H*; and average relative parameter bias [ARPB] see Rodriguez et al., 2016) were calculated to further examine the utility of a total Openness/Intellect score and specific, aspects scores (i.e., Openness and Intellect scores).

ω_H estimates the proportion of variance in total scores that can be attributed to a single, general factor—variability in scores due to specific factors are considered measurement error. Similarly, ω_{HS} estimates the proportion of variance in subscale scores that can be attributed to each specific factor after partitioning out variance due to the general factor (Reise et al., 2013). Thus, ω_H > .80 indicate that the majority of reliable variance is explained by a common source (i.e., the general factor), rather than the specific factors. On the other hand, lower ω_H values coupled with higher ω_{HS} values support the multidimensionality of the instrument (Rodriguez et al., 2016a, 2016b).

ECV are interpreted in conjunction with PUC. These indices help determining the degree to which multidimensional data are unidimensional (Rodriguez, 2016b). ECV > .70 suggest that factor loadings on the general factor (in a bifactor model) come close to the factor loadings of a unidimensional model, suggesting less bias (Rodriguez et al., 2016b). PUC moderates the association between ECV and model bias in structural coefficients; when there are more uncontaminated correlations (when PUC is higher) relative bias can be low, even with ECVs < .70. When PUC < .80, researchers may consider ECV > .60 and ωH <.70 as tentative benchmarks (Reise at al., 2013).

PRV for the general and specific factors refers to the PRV in the model accounted for by that factor. PRV examines only the reliable variance—error variance is not included its calculations (e.g., the PRV for the general factor is ωH divided by ω; the PRV for the specific factors is ωHS of that specific factor divided by ω).

H index "represent[s] the correlation between a factor and an optimally-weighted item composite" (Hancock & Mueller, 2001, p. 230). H > .70 suggest a well-defined latent variable, whereas H < .70 suggest the latent variable is not well-defined by its indicators and, thus, is likely to change across studies (Rodriguez et al., 2016a). According to Rodriguez et al., (2016b, p. 143), *H* index "is more appropriate for evaluating the feasibility of specifying a measurement model in an SEM framework using a particular set of items."

Finally, ARPB is "the difference between an item's loading in the unidimensional solution and its general factor loading in the bifactor (i.e., the truer model), divided by the general factor loading in the bifactor" (Rodriguez et al., 2016b, p. 145). ARPB values "less than 10-15% may not be serious in most latent variable modeling contexts" (Muthén et al., 1987, p. 446).

Criterion validity evidences. After identifying the best-fitting model, the relationships of the studied constructs (e.g., Openness/Intellect, Openness, and Intellect) with theoretically relevant variables (i.e., vividness of visual imagery, reflection and rumination) were estimated using a structural regression model.

DISCUSSION

The conceptual and empirical distinction between Openness and Intellect enabled researchers to have a fine-grained understanding of the links between the broad Openness/Intellect trait and a variety of constructs. Given the relevance in measuring Openness and Intellect separately, we aimed to a) adapt the Openness and Intellect scales for the Brazilian context; b) assess the scales' reliability and dimensionality; and c) examine the unique predictive power of Openness and Intellect aspects on theoretically relevant variables.

The results did not support a second-order model of Openness/Intellect as conceived by CB5T (DeYoung, 2015). Instead, a bifactor model with a general Openness/Intellect factor and two specific factors—Openness and Intellect—provided the best fit to the data. The bifactor conceptualization of Openness/Intellect would imply that the mechanisms underlying Openness and Intellect could be better understood as sufficiently independent of those of Openness/Intellect. However, as noted by DeYoung (2015, p. 5) "it would be unwise to treat a

score on a questionnaire asking about patterns of behavior and experience (our typical measure of traits) as if it were an adequately validated measure of any of the particular underlying processes that generate those patterns." It should also be noted that bifactor models have a higher fitting propensity (i.e., artificially heightened fit) than non-bifactor models (Reise et al., 2016). Thus, it is unclear if these results would warrant any theoretical consideration.

Using ancillary bifactor indices to assess the scales' reliability and dimensionality, we found support for interpreting raw scores as essentially multidimensional. However, there is no support for calculating raw, composite scale scores for both general and specific factors. In other words, computing raw scores for measuring general Openness/Intellect, Openness or Intellect is likely to reflect a great amount of error. Still, these constructs can be reliably specified as latent factors in SEM—except for Openness, which was poorly defined by its set of indicators.

Further confirmatory SEM analysis showed that both Openness and Intellect significantly predicted vividness of visual imagery and reflection above and beyond the general Openness/Intellect factor, providing evidence of incremental validity for both aspects and evidence of convergent validity for the general and the specific factors. Contrary to our predictions, however, Openness and Intellect did not differentially predict any external variable (i.e., their structural coefficients were about the same), thus failing to provide evidence of discriminant validity. An unexpected finding was the significant, negative association between Openness/Intellect and rumination. Specifically, past research showed significant correlations between rumination and facets of Openness/Intellect only—the correlation at the domain level was not significant (Trapnell & Campbell, 1999). A possible explanation for this discrepancy might be due to differences in the content of Openness/Intellect as assessed with the adapted measure (our study) and as assessed with the NEO-PI-R (Costa & McCrae, 1992; Trapnell and Campbell's study [1999]). In our measure, the intellectual and experiencing components of Openness/Intellect are relatively balanced (Intellect had one additional indicator). NEO-PI-R (Costa & McCrae, 1992), on the other hand, emphasizes the experiencing characteristics of Openness/Intellect (Connelly et al., 2014). Such differences in content might explain the discrepancy between our results and those of Trapnell and Campbell (1999). Also, Openness/Intellect (as assessed by the BFAS) reflects cognitive flexibility (DeYoung et al., 2005), which is inversely associated with rumination (Davis & Nolen-Hoeksema, 2000). Specifically, the ability to inhibit perseverative tendencies is impaired in ruminators (Davis & Nolen-Hoeksema, 2000), which explains the negative association between these two variables.

Theoretical implications of our findings can be viewed in light of the CB5T (DeYoung, 2015). According to CB5T, Openness/Intellect captures differences in the complexity with

which people engage in exploring the world through perception, abstraction and imagination (DeYoung, 2015). In keeping with this description, our findings suggest that the imaginative complexity of Openness/Intellect might encompass the ability to mentally represent clear and vivid visual stimuli. This ability, in turn, could potentially aid in the prediction of effective strategies to pursue goals (DeYoung, 2015) through the emulation of vivid future scenarios—an adaptive feature that helps guiding behavior (Moulton & Kosslyn, 2009; Szpunar et al., 2013).

At the aspect level, the relationship between Intellect and vividness of visual imagery might be better explained by a cognitive substrate associated with Intellect. Specifically, Intellect is exclusively linked to working memory (DeYoung et al., 2009; Kaufman et al., 2010), which is a cognitive system implicated in the experience of vivid imagery (Baddeley & Andrade, 2000). It is unclear, however, how Openness independently contributes to vividness of visual imagery. One possibility for this association is through a shared neural substrate between Openness and schizotypy. Elevated striatal dopamine activity, for example, has been proposed as a common source of influence for both Openness and positive schizotypal symptoms (DeYoung, 2015), and people with schizotypal traits report enhanced vividness of visual imagery (Oertel et al., 2009).

Regarding reflection, its positive association with Openness/Intellect was expected given that the original conception of reflection was based on the cognitive and motivational characteristics of Openness to Experience (Trapnell & Campbell, 1999). Thus, Openness/Intellect and reflection are likely to be capturing similar processes. The unique associations between reflection and the Openness and Intellect aspects, on the other hand, is less obvious. One possibility for the exclusive contribution of Openness and Intellect to reflection might be due to the reduced threshold for bringing information into awareness (a cognitive process linked to Openness; Kaufman, 2009a, 2009b) that, in combination with other factors, including working memory (a cognitive system linked to Intellect; DeYoung et al., 2009; Kaufman et al., 2010) interact to "enlarge the range and depth of stimuli available in conscious awareness to be manipulated and combined to form novel and original ideas" (Carson, 2011, p. 144). It is plausible that this process also results in the novel, unique, or alternative self-perceptions that characterize reflection (Trapnell & Campbell, 1999).

This study has a few limitations. First, Openness was estimated in SEM for hypothesis testing despite its low H index. As a consequence, its structural coefficients with external variables may vary across studies (Rodriguez et al., 2016b). Therefore, future research should assess the replicability of the associations among Openness, vividness of visual imagery and reflection using a suited measure of Openness. Second, a back-translation procedure was not

performed. While this is an encouraged procedure for adapting psychological instruments (ITC, 2017), it may cause false alarms and, ultimately, does not guarantee translation quality (Behr, 2016). Third, the adapted set of items did not produce a scale that could be used to calculate scale scores (i.e., unweighted approach), and future research should refine and add relevant content to these items. Despite these limitations, our results provide additional support for the utility of Openness and Intellect aspects. Also, it provided first-time evidence for the association between Openness/Intellect and vividness of visual imagery, which is coherent with theoretical and empirical expectations. Just as Openness/Intellect, imagery has long been associated with creativity in the arts and sciences (e.g., Miller, 1995; Paivio, 1983). By revealing this association, we expect future research to extend these findings, exploring the potential moderator role of imagery vividness in the association between Openness/Intellect and creativity.

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ANEXOS

ANEXO A – Termo de Consentimento Livre e Esclarecido (TCLE)

Termo de Consentimento Livre e Esclarecido

Gostaríamos de convidá-lo(a) a participar de forma voluntária no Estudo de Adaptação e Validação das Escalas de Abertura e Intelecto do Big Five Aspect Scales (BFAS). Esta pesquisa faz parte da dissertação de mestrado de Rodrigo Rodrigues Fabretti, mestrando do Programa de Pós-Graduação em Psicologia da Universidade Federal do Rio Grande do Sul (UFRGS), sob orientação do Prof. Dr. Cristian Zanon, professor do Departamento de Psicologia do Desenvolvimento e da Personalidade.

Esse estudo tem como objetivo adaptar e validar, para o contexto brasileiro, duas escalas para avaliação de características de personalidade, bem como avaliar a pertinência de um novo modelo de categorização da personalidade. A relevância desse estudo justifica-se por seu potencial de contribuição teórica e empírica para a área. Através desse estudo, será possível testar, simultaneamente: a) suposições teóricas que buscam explicar alguns traços de personalidade e b) se o novo modelo adaptado apresenta vantagens se comparado aos modelos atualmente usados no Brasil e no mundo. Outra importância é a viabilização desse instrumento para uso em nível nacional.

A pesquisa consiste em um questionário com perguntas objetivas e terá duração média de 30 minutos. Você não será identificado em nenhum momento e poderá se recusar a participar ou desistir de sua participação a qualquer momento da pesquisa, sem que isso traga qualquer penalidade ou prejuízo. Os riscos/danos para realização desta pesquisa podem incluir cansaço devido ao tempo destinado para responder as perguntas e desconforto/constrangimento/estresse frente a algumas questões. Caso se sinta desconfortável, encerre sua participação e entre em contato com os pesquisadores, que poderão encaminhá-lo(a) para algum local de atendimento especializado. Se está respondendo a pesquisa de forma on-line, o contato pode ser feito através do e-mail rodrigo.fabretti@ufrgs.br ou crstn.zan@gmail.com ou, ainda, pelo telefone (51) 3308-5246 (Laboratório de Mensuração) ou (51) 99327-8764 (Rodrigo). Lembre-se de que não existem respostas certas ou erradas, apenas queremos conhecer suas características de personalidade e imaginação.

Os dados coletados via formulários on-line serão armazenados em uma conta do repositório virtual Google Drive durante o período de 5 anos e, posteriormente, serão apagados. Com relação aos dados coletados presencialmente, esses serão armazenados no Laboratório de Mensuração da UFRGS, localizado na Rua Ramiro Barcelos, 2600, Sala 209, Bairro Santa Cecília, Porto Alegre, RS. Dúvidas relacionadas à pesquisa devem ser esclarecidas através dos e-mails rodrigo.fabretti@ufrgs.br ou crstn.zan@gmail.com, pelo telefone (51) 99327-8764, ou, ainda, através da entidade responsável – Comitê de Ética em Pesquisa (CEP) da UFRGS – localizado na Rua Ramiro Barcelos, 2600, Bairro Santa Cecília. Contato do CEP através do telefone: (51) 3308-5698 / (51) 3308-5066, ou e-mail: cep-psico@ufrgs.br.

Acredito ter sido suficientemente informado(a) a respeito das informações que li. Ficaram claros para mim quais são os propósitos do estudo, os procedimentos a serem realizados, seus desconfortos e riscos, as garantias de confidencialidade e de esclarecimentos permanentes. Ficou claro também que a minha participação é isenta de despesas.

ANEXO B – Questionário Sociodemográfico e de Saúde

1) Gênero:

( ) Masculino

( ) Feminino

( ) Não-Binário

( ) Travesti

( ) Prefiro não informar

( ) Prefiro descrever: _____

2) Qual sexo lhe foi designado ao nascer?

( ) Masculino

( ) Feminino

( ) Intersexual

( ) Outro: _____

3) Você se considera

( ) Heterossexual

( ) Gay

( ) Lésbica

( ) Bissexual

( ) Pansexual

( ) Assexual

( ) Prefiro me descrever: _____

4) Você se considera

( ) Branco(a)

( ) Pardo(a)

( ) Preto(a)

( ) Amarelo(a)

( ) Indígena

5) Idade (em anos)

6) Escolaridade:

( ) Sem escolaridade;

( ) Ensino fundamental (1º Grau) incompleto

( ) Ensino fundamental (1º Grau) completo

( ) Ensino médio (2º Grau) incompleto

( ) Ensino médio (2º Grau) completo

( ) Ensino superior incompleto

( ) Ensino superior completo

( ) Pós-graduação incompleta

( ) Pós-graduação completa

7) Estado no qual reside: (lista de estados)

8) Estado no qual nasceu: (lista de estados)

9) Cidade/Estado onde passou a maior parte da infância (ex.: Porto Alegre/RS):

10) Língua materna (ex.: Português):

11) Situação profissional:

( ) Trabalhador   ( ) Desempregado

( ) Estudante   ( ) Outro:

( ) Aposentado

12) Escreva sua profissão:

13) Qual sua religião?

( ) Católica

( ) Protestante ou Evangélica

( ) Espírita

( ) Umbanda ou Candomblé

( ) Sem Religião

( ) Outra: _____

14) Tem histórico de alguma doença/condição neurológica ou psiquiátrica? Se sim, qual/quais?

15) Faz algum tipo de tratamento medicamentoso? Se sim, qual/quais?

16) Poderia preencher uma parte desse questionário novamente em duas semanas? Se sim, deixe o seu e-mail no espaço abaixo:

ANEXO C – *Big Five Aspect Scales* (BFAS)

Here are a number of characteristics that may or may not describe you. For example, do you agree that you rarely feel blue, compared to most other people? Please fill in the number that best indicates the extent to which you agree or disagree with each statement listed below. Be as honest as possible, but rely on your initial feeling and do not think too much about each item. Use the following scale:

1 - - - - - - - - 2 - - - - - - - - - 3 - - - - - - - - - 4 - - - - - - - - 5
Strongly   Neither Agree   Strongly
Disagree   Nor Disagree   Agree

1. ___ Rarely feel blue.
2. ___ Am not interested in other people's problems.
3. ___ Carry out my plans.
4. ___ Make friends easily.
5. ___ Am quick to understand things.
6. ___ Get angry easily.
7. ___ Respect authority.
8. ___ Leave my belongings around.
9. ___ Take charge.
10. ___ Enjoy the beauty of nature.
11. ___ Am filled with doubts about things.
12. ___ Feel others' emotions.
13. ___ Waste my time.
14. ___ Am hard to get to know.
15. ___ Have difficulty understanding abstract ideas.
16. ___ Rarely get irritated.
17. ___ Believe that I am better than others.
18. ___ Like order.
19. ___ Have a strong personality.
20. ___ Believe in the importance of art.

21. ___ Feel comfortable with myself.
22. ___ Inquire about others' well-being.
23. ___ Find it difficult to get down to work.
24. ___ Keep others at a distance.
25. ___ Can handle a lot of information.
26. ___ Get upset easily.
27. ___ Hate to seem pushy.
28. ___ Keep things tidy.
29. ___ Lack the talent for influencing people.
30. ___ Love to reflect on things.
31. ___ Feel threatened easily.
32. ___ Can't be bothered with other's needs.
33. ___ Mess things up.
34. ___ Reveal little about myself.
35. ___ Like to solve complex problems.
36. ___ Keep my emotions under control.
37. ___ Take advantage of others.
38. ___ Follow a schedule.
39. ___ Know how to captivate people.
40. ___ Get deeply immersed in music.
41. ___ Rarely feel depressed.

42. ___ Sympathize with others' feelings.

43. ___ Finish what I start.

44. ___ Warm up quickly to others.

45. ___ Avoid philosophical discussions.

46. ___ Change my mood a lot.

47. ___ Avoid imposing my will on others.

48. ___ Am not bothered by messy people.

49. ___ Wait for others to lead the way.

50. ___ Do not like poetry.

51. ___ Worry about things.

52. ___ Am indifferent to the feelings of others.

53. ___ Don't put my mind on the task at hand.

54. ___ Rarely get caught up in the excitement.

55. ___ Avoid difficult reading material.

56. ___ Rarely lose my composure.

57. ___ Rarely put people under pressure.

58. ___ Want everything to be "just right."

59. ___ See myself as a good leader.

60. ___ Rarely notice the emotional aspects of paintings and pictures.

61. ___ Am easily discouraged.

62. ___ Take no time for others.

63. ___ Get things done quickly.

64. ___ Am not a very enthusiastic person.

65. ___ Have a rich vocabulary.

66. ___ Am a person whose moods go up and down easily.

67. ___ Insult people.

68. ___ Am not bothered by disorder.

69. ___ Can talk others into doing things.

70. ___ Need a creative outlet.

71. ___ Am not embarrassed easily.

72. ___ Take an interest in other people's lives.

73. ___ Always know what I am doing.

74. ___ Show my feelings when I'm happy.

75. ___ Think quickly.

76. ___ Am not easily annoyed.

77. ___ Seek conflict.

78. ___ Dislike routine.

79. ___ Hold back my opinions.

80. ___ Rarely get lost in thought.

81. ___ Become overwhelmed by events.

82. ___ Don't have a soft side.

83. ___ Postpone decisions.

84. ___ Have a lot of fun.

85. ___ Learn things slowly.

86. ___ Get easily agitated.

87. ___ Love a good fight.

88. ___ See that rules are observed.

89. ___ Am the first to act.

90. ___ Rarely daydream.

91. ___ Am afraid of many things.

92. ___ Like to do things for others.

93. ___ Am easily distracted.

94. ___ Laugh a lot.

95. ___ Formulate ideas clearly.

96. ___ Can be stirred up easily.

97. ___ Am out for my own personal gain.

98. ___ Want every detail taken care of.

99. ___ Do not have an assertive personality.

100. ___ See beauty in things that others might not notice.

Note: For electronic administration, we recommend adding "I" to the beginning of each statement.

BFAS Scoring Key:

Neuroticism
Withdrawal: 1R, 11, 21R, 31, 41R, 51, 61, 71R, 81, 91
Volatility: 6, 16R, 26, 36R, 46, 56R, 66, 76R, 86, 96

Agreeableness
Compassion: 2R,12, 22, 32R, 42, 52R, 62R, 72, 82R, 92
Politeness: 7, 17R, 27, 37R, 47, 57, 67R, 77R, 87R, 97R

Conscientiousness
Industriousness: 3, 13R, 23R, 33R, 43, 53R, 63, 73, 83R, 93R
Orderliness: 8R, 18, 28, 38, 48R, 58, 68R, 78R, 88, 98

Extraversion
Enthusiasm: 4, 14R, 24R, 34R, 44, 54R, 64R, 74, 84, 94
Assertiveness: 9, 19, 29R, 39, 49R, 59, 69, 79R, 89, 99R

Openness/Intellect
Intellect: 5, 15R, 25, 35, 45R, 55R, 65, 75, 85R, 95
Openness: 10, 20, 30, 40, 50R, 60R, 70, 80R, 90R, 100

Reverse response scores for items followed by "R" (i.e. 1=5, 2=4, 4=2, 5=1). To compute scale scores, average completed items within each scale. To compute Big Five scores, average scores for the two aspects within each domain.

Reference:

DeYoung, C. G., Quilty, L. C., & Peterson, J. B. (2007). Between facets and domains: 10 Aspects of the Big Five. Journal of Personality and Social Psychology, 93, 880-896.

Contact Colin DeYoung (cdeyoung@umn.edu) for additional information.

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Contact Colin DeYoung (cdeyoung@umn.edu) for additional information.

***Tradução:* Escalas de Aspectos do Big Five**

Aqui está um número de características que podem ou não lhe descrever. Por exemplo, se concorda que raramente se sente triste comparado à maioria das outras pessoas? Por favor, preencha o número que melhor indica o quanto você concorda ou discorda de cada afirmação listada abaixo. Seja o mais honesto possível, mas confie na sua sensação inicial e não pense muito sobre cada item.

Use a escala abaixo:

1 - - - - - - - - - 2 - - - - - - - - - 3 - - - - - - - - - 4 - - - - - - - - 5

Discordo	Não Concordo	Concordo
Totalmente	Nem Discordo	Totalmente

1. ___ Raramente fico triste.

2. ___ Não estou interessado nos problemas de outras pessoas.

3. ___ Realizo meus planos.

4. ___ Faço amigos facilmente.

5. ___ Sou rápido para entender as coisas.

6. ___ Fico com raiva facilmente.

7. ___ Respeito autoridade.

8. ___ Deixo meus pertences ao redor.

9. ___ Assumo o controle.

10. ___ Aprecio a beleza da natureza.

11. ___ Estou cheio de dúvidas sobre as coisas.

12. ___ Sinto as emoções dos outros.

13. ___ Desperdiço meu tempo.

14. ___ Sou difícil de conhecer.

15. ___ Tenho dificuldade em entender ideias abstratas.

16. ___ Raramente fico irritado.

17. ___ Acredito que sou melhor que os outros.

18. ___ Gosto de ordem.

19. ___ Tenho personalidade forte.

20. ___ Acredito na importância da arte.

21. ___ Me sinto confortável comigo mesmo.

22. ___ Procuro saber sobre o bem estar dos outros.

23. ___ Acho difícil começar a trabalhar.

24. ___ Mantenho os outros à distância.

25. ___ Posso lidar com muita informação.

26. ___ Fico chateado facilmente.

27. ___ Odeio parecer insistente.

28. ___ Mantenho minhas coisas arrumadas.

29. ___ Não tenho talento para influenciar pessoas.

30. ___ Amo refletir sobre as coisas.

31. ___ Me sinto ameaçado facilmente.

32. ___ Não posso ser incomodado pela necessidade dos outros.

33. ___ Estrago tudo.

34. ___ Revelo pouco sobre mim mesmo.

35. ___ Gosto de resolver problemas complexos.

36. ___ Mantenho minhas emoções sob controle.

37. ___ Tiro vantagem dos outros.

38. ___ Sigo um cronograma.

39. ___ Sei como cativar as pessoas.

40. ___ Fico profundamente imerso na música.

41. ___ Raramente fico depressivo.

42. ___ Simpatizo com os sentimentos dos outros.

43. ___ Termino o que comecei.

44. ___ Me aqueço rapidamente a outros.

45. ___ Evito discussões filosóficas.

46. ___ Mudo bastante de humor.

47. ___ Evito impor minha vontade sob os outros.

48. ___ Não sou incomodado por pessoas bagunceiras.

49. ___ Espero que outros liderem o caminho.

50. ___ Não gosto de poesia.

51. ___ Me preocupo sobre coisas.

52. ___ Sou indiferente aos sentimentos dos outros.

53. ___ Não coloco minha mente na tarefa em questão.

54. ___ Raramente me empolgo com algo.

55. ___ Evito material de leitura difícil.

56. ___ Raramente perco minha compostura.

57. ___ Raramente coloco pessoas sob pressão.

58. ___ Quero que tudo seja "perfeito".

59. ___ Vejo a mim mesmo como um bom líder.

60. ___ Raramente percebo os aspectos emocionais de pinturas e fotos.

61. ___ Me sinto facilmente desanimado.

62. ___ Não tenho tempo para os outros.

63. ___ Faço as coisas rapidamente.

64. ___ Não sou uma pessoa muito entusiasmada.

65. ___ Tenho um vocabulário rico.

66. ___ Sou uma pessoa que a qual o humor sobe e desce facilmente.

67. ___ Insulto pessoas.

68. ___ Não sou incomodado pela desordem.

69. ___ Posso convencer as pessoas a fazer as coisas.

70. ___ Preciso de uma saída criativa.

71. ___ Não me envergonho facilmente.

72. ___ Me interesso pela vida das outras pessoas.

73. ___ Sempre sei o que estou fazendo.

74. ___ Mostro meus sentimentos quando estou feliz.

75. ___ Penso rapidamente.

76. ___ Não me irrito facilmente.

77. ___ Procuro por conflito.

78. ___ Não gosto de rotina.

79. ___ Guardo minhas opiniões.

80. ___ Raramente me perco nos pensamentos.

81. ___ Fico impressionado sobre eventos.

82. ___ Não tenho um lado suave.

83. ___ Adio decisões.

84. ___ Me divirto muito.

85. ___ Aprendo as coisas devagar.

86. ___ Fico agitado facilmente.

87. ___ Amo uma boa briga.

88. ___ Vejo que regras são observadas.

89. ___ Sou o primeiro a agir.

90. ___ Raramente sonho acordado.

91. ___ Tenho medo de muitas coisas.

92. ___ Gosto de fazer as coisas para os outros.

93. ___ Me distraio facilmente.

94. ___ Rio bastante.

95. ___ Formulo ideias claramente.

96. ___ Posso ser agitado facilmente.

97. ___ Estou em busca de ganhos pessoais.

98. ___ Quero que cada detalhe seja cuidado.

99. ___ Não tenho uma personalidade assertiva.

100. ___ Vejo beleza em coisas que outros podem não perceber

Nota: para administração eletrônica, recomendamos adicionar um "eu" no início de cada afirmação.

Chave de pontuação da BFAS:

Neuroticismo

Retirada: 1R, 11, 21R, 31, 41R, 51, 61, 71R, 81, 91

Volatilidade: 6, 16R, 26, 36R, 46, 56R, 66, 76R, 86, 96

Amabilidade

Compaixão: 2R,12, 22, 32R, 42, 52R, 62R, 72, 82R, 92

Polidez: 7, 17R, 27, 37R, 47, 57, 67R, 77R, 87R, 97R

Conscienciosidade

Industrialidade: 3, 13R, 23R, 33R, 43, 53R, 63, 73, 83R, 93R

Ordem: 8R, 18, 28, 38, 48R, 58, 68R, 78R, 88, 98

Extroversão

Entusiasmo: 4, 14R, 24R, 34R, 44, 54R, 64R, 74, 84, 94

Assertividade: 9, 19, 29R, 39, 49R, 59, 69, 79R, 89, 99R

Abertura/Intelecto

Intelecto: 5, 15R, 25, 35, 45R, 55R, 65, 75, 85R, 95

Abertura: 10, 20, 30, 40, 50R, 60R, 70, 80R, 90R, 100

Escores de itens com respostas invertidas seguidos por "R" (i.e. 1=5, 2=4, 4=2, 5=1). Para computar os escores das escalas, tirar a média dos itens completos em cada escala. Para computar os escores do Big Five, tirar a média dos escores dos dois aspectos dentro de cada domínio.

Referência:

DeYoung, C. G., Quilty, L. C., & Peterson, J. B. (2007). Between facets and domains: 10 Aspects of the Big Five. Journal of Personality and Social Psychology, 93, 880-896.

Contate Colin DeYoung (cdeyoung@umn.edu) para informações adicionais.

ANEXO D – Questionário de Ruminação e Reflexão (QRR)

Item

1. Minha atenção é freqüentemente focada em aspectos de mim mesmo sobre os quais eu gostaria de parar de pensar.

2. Eu sempre pareço estar remoendo, em minha mente, coisas recentes que eu disse ou fiz.

3. Às vezes, é difícil para mim parar de pensar sobre mim mesmo.

4. Muito depois de uma discordância ou discussão ter acabado, meus pensamentos continuam voltados para o que aconteceu.

5. Eu tendo a ruminar ou deter-me sobre coisas que acontecem comigo por um longo período depois.

6. Eu não perco tempo repensando coisas que já estão feitas e acabadas. *

7. Eu freqüentemente fico revendo em minha mente o modo como eu agi em uma situação passada.

8. Eu freqüentemente me pego reavaliando alguma coisa que já fiz.

9. Eu nunca fico ruminando ou pensando sobre mim mesmo por muito tempo. *

10. É fácil para mim afastar pensamentos indesejados da minha mente. *

11. Eu freqüentemente fico pensando em episódios da minha vida sobre os quais eu não devia mais me preocupar.

12. Eu passo um bom tempo lembrando momentos constrangedores ou frustrantes pelos quais passei.

Reflexão

13. Coisas filosóficas ou abstratas não me atraem muito. *

14. Eu realmente não sou um tipo meditativo de pessoa. *

15. Eu gosto de explorar meu interior.

16. Minhas atitudes sobre as coisas fascinam-me.

Item

17. Eu realmente não gosto de coisas introspectivas ou auto reflexivas. *

18. Eu gosto de analisar por que eu faço as coisas.

19. As pessoas freqüentemente dizem que eu sou um tipo de pessoa introspectiva, "profunda".

20. Eu não me preocupo em auto analisar-me. *

21. Eu sou uma pessoa muito auto investigadora por natureza.

22. Eu gosto de meditar sobre a natureza e o significado das coisas.

23. Eu freqüentemente gosto de ficar filosofando sobre minha vida.

24. Não acho graça em ficar pensando sobre mim mesmo. *

A chave de respostas utilizada para cada item é um sistema *Likert* de 5 pontos, em que:
1 (discordo totalmente), 2 (discordo), 3 (neutro), 4 (concordo) e 5 (concordo totalmente).
Os itens 6, 9, 10, 13, 14, 17, 20 e 24 são invertidos, uma vez que possuem sentido contrário aos demais itens da dimensão a que pertencem.

ANEXO E – Psi-Q: O Questionário de Imagética Sensorial de Plymouth

Psi-Q: The Plymouth Sensory Imagery Questionnaire / O Questionário de Imagética Sensorial de Plymouth

Versão para investigação em português do Brasil

Por favor, tente formar as imagens descritas abaixo em sua mente e avalie cada uma na seguinte escala:

0 (nenhuma imagem) a 10 (imagem tão clara e nítida como na vida real) Marque a opção apropriada para cada item. Por favor, classifique todos os itens.

Imagine a aparência de: (escala 0 a 10)
- uma amiga que você conheça bem
- um gato subindo em uma árvore
- um pôr do sol
- a porta da frente da sua casa
- uma fogueira

Imagine o som de: (escala 0 a 10)
- uma sirene de ambulância
- mãos aplaudindo
- o miado de um gato
- o som de uma buzina de carro
- o som de crianças brincando

Imagine o cheiro de: (escala 0 a 10)
- um quarto abafado
- uma rosa
- tinta fresca
- grama recém-cortada
- madeira queimando

Imagine o gosto de: (escala 0 a 10)
- mostarda
- pasta de dente
- limão
- água do mar
- pimenta do reino

Imagine-se tocando em: (escala 0 a 10)
- areia quente
- uma toalha macia
- a ponta de um alfinete
- água gelada
- pêlo de um animal

Imagine a sensação corporal de: (escala 0 a 10)
- relaxar em um banho quente
- estar com dor de garganta
- enfiar linha em uma agulha
- pular em uma piscina
- andar rapidamente no frio

Imagine-se sentindo: (escala 0 a 10)
- animado/a
- aliviado/a
- furioso/a
- apaixonado/a
- assustado/a

ANEXO F – Aprovação do Comitê de Ética

PARECER CONSUBSTANCIADO DO CEP

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: Adaptação e Validação das Escalas de Abertura e Intelecto do Big Five Aspect Scales (BFAS)

Pesquisador: Cristian Zanon

Área Temática:

Versão: 1

CAAE: 31010320.3.0000.5334

Instituição Proponente: Instituto de Psicologia - UFRGS

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 4.014.076

Apresentação do Projeto:

Esse projeto tem como objetivo a adaptação das escalas de Abertura e Intelecto do Big Five Aspect Scales (BFAS) para o contexto brasileiro. Além da adaptação e validação da escala, o estudo busca avaliar a pertinência de um novo modelo de categorização da personalidade, a fim de viabilizar a realização de tais estudos na população brasileira. O estudo apresenta os aspectos de Abertura e Intelecto como fatores de personalidade que descrevem diferenças individuais em exploração cognitiva para informações abstratas. A pesquisa salienta a necessidade de validação da escala BFAS, uma vez que os instrumentos existentes no cenário brasileiro não se propõem a avaliar traços de personalidade em nível de aspecto. Sendo assim, o estudo justifica-se pela importância de existirem instrumentos brasileiros que permitam medi-los de forma mais completa como, por exemplo, ao permitir a análise da diferenciação dos aspectos considerando a variância comum a todos os seus itens. Com o objetivo de captar essa diferença de forma válida, o estudo volta-se para a validação do instrumento dos Cinco Grandes Fatores. O processo de adaptação do BFAS seguirá as seguintes orientações para adaptação transcultural de instrumentos: (1) tradução dos itens para o português brasileiro por dois tradutores bilíngues; (2) síntese das versões traduzidas considerando diferenças semânticas, idiomáticas, conceituais, linguísticas e contextuais; (3) avaliação da versão sintetizada por um comitê de especialistas; (4) avaliação dos itens pela população-alvo; (5) retrotradução e (6) estudo piloto. Além da adaptação do instrumento, a

Continuação do Parecer: 4.014.078

pesquisa propõe testar diferentes modelos estatísticos examinando correlatos de Abertura e Intelecto, de forma a confirmar suposições teóricas sobre mecanismos subjacentes a esses aspectos de personalidade: Abertura e Intelecto. Para tal, o estudo terá 630 participantes adultos com idades a partir de 18 anos, dos quais 300 serão coletados presencialmente. Os participantes serão convidados a participar de um estudo sobre personalidade e imaginação. Na modalidade online, os participantes serão recrutados através de divulgações em redes sociais e, na modalidade presencial, serão convidados nas salas de aula, após combinação prévia com professores. Serão recrutados alunos de cursos onde são esperados escores mais altos (e.g., cursos relacionados às artes e humanidades) e baixos (e.g., Economia, Engenharias e Direito) no fator geral Abertura à Experiência (Vedel, 2016). Os participantes também responderão a um questionário sociodemográfico e de saúde.

Objetivo da Pesquisa:
Objetivo Primário:
Adaptar e produzir evidências de validade e fidedignidade para o conjunto de itens referentes à escala de Abertura e Intelecto do BFAS (DeYoung et al., 2007), de forma a possibilitar o estudo dos aspectos Abertura e Intelecto separadamente na população brasileira.

Objetivos Secundários:
* Testar diferentes modelos (e.g., unidimensional, bidimensional, segunda ordem e bifactor) de forma a avaliar a pertinência da diferenciação dos aspectos Abertura e Intelecto na predição de variáveis teoricamente relevantes – vivacidade da imagética mental visual, Reflexão e Ruminação;
* Examinar a relação dos aspectos Abertura e Intelecto com a vivacidade nas demais modalidades de imagética mental (som, cheiro, gosto, toque, sensações corporais e sentimentos emocionais).

Avaliação dos Riscos e Benefícios:
Os pesquisadores mencionam os riscos mínimos possíveis para os participantes, que podem incluir cansaço devido ao tempo destinado para responder as perguntas, como também apresentar desconforto, constrangimento ou estresse frente a algumas questões. Caso seja identificado algum indício de problema de saúde no participante, este será orientado aos encaminhamentos necessários.
Quanto a benefícios, o estudo menciona aspectos teóricos e práticos sendo, respectivamente, o conhecimento sobre mecanismos subjacentes aos traços de personalidade e viabilização de um novo instrumento para avaliação de Abertura e Intelecto na população brasileira, cuja

aplicabilidade pode se estender para o contexto clínico, organizacional e escolar.

Comentários e Considerações sobre a Pesquisa:

A pesquisa apresenta adequação teórico-metodológica, bem como atende os requisitos éticos exigidos. Além de já incluir uma tradução preliminar da escala, apresenta também os questionários a serem aplicados e, no TCLE, todas as informações necessárias.

Considerações sobre os Termos de apresentação obrigatória:

O TCLE está escrito em linguagem adequada, contendo todas as informações necessárias. Sugere-se que possa constar a tradução preliminar do título da escala.

Recomendações:

O cronograma da pesquisa está de acordo com o tempo previsto para a aplicação, coleta e análise dos dados, contudo, sugere-se alteração nas datas previstas para a coleta presencial, considerando a situação de caráter excepcional em relação ao COVID-19. Além disso, recomenda-se atenção quanto ao convite para os alunos participantes, certificando-se que estes não estejam tendo aula com os pesquisadores.

Conclusões ou Pendências e Lista de Inadequações:

O projeto está em condições de ser aprovado.

Considerações Finais a critério do CEP:

Recomendamos a todos os pesquisadores que avaliem os seus projetos de pesquisa em andamento e considerem os impactos da COVID-19 na continuidade de sua realização.

Esta recomendação se aplica a todos os projetos de pesquisa. Devem ser avaliadas as situações de interação pessoal em coletas de dados e outras situações decorrentes da realização dos estudos.

Caso necessite de uma consultoria, o CEP do Instituto de Psicologia fica à disposição para discutir cada situação de forma pontual.

Este parecer foi elaborado baseado nos documentos abaixo relacionados:

Continuação do Parecer: 4.014.078

Tipo Documento	Arquivo	Postagem	Autor	Situação
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_1537966.pdf	24/04/2020 10:29:08		Aceito
Outros	Qualificacao.pdf	24/04/2020 10:28:31	RODRIGO RODRIGUES FABRETTI	Aceito
Folha de Rosto	Rosto.pdf	14/04/2020 18:59:09	RODRIGO RODRIGUES FABRETTI	Aceito
Projeto Detalhado / Brochura Investigador	Projeto.pdf	13/04/2020 12:59:34	RODRIGO RODRIGUES FABRETTI	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE.pdf	13/04/2020 12:59:21	RODRIGO RODRIGUES FABRETTI	Aceito

Situação do Parecer:
Aprovado

Necessita Apreciação da CONEP:
Não

PORTO ALEGRE, 07 de Maio de 2020

Assinado por:
Jerusa Fumagalli de Salles
(Coordenador(a))