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Psychometric validation of the Portuguese version of the Measure of Anxiety in Selection Interviews

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Abstract

Feeling anxiety in a job interview is common. It is important to have a valid, reliable, and culturally adapted measure, enabling cross-cultural comparisons. Our main goal was to examine the psychometric properties of the Measure of Anxiety in Selection Interviews (MASI) in a Portuguese sample, since no similar measure is available in the Portuguese language. The MASI was developed to capture five dimensions of anxiety: Communication, appearance, social, performance, and behaviour. We tested 436 participants (337 women; aged 18 - 61 years old) with and without prior job interview experience. Confirmatory factor analysis indicated an adequate fit for the five-factor solution. Good internal and test-retest reliability (two weeks between assessments) was observed. The MASI-P positively correlated with social anxiety/fear, but negatively correlated with age, number of previous job interviews and perceived performance on the last job interview. Overall, the use of MASI-P can be advantageous in job interview training, research, and employment processes.

Keywords: interview anxiety, job anxiety, measurement, psychometrics

Psychometric validation of the Portuguese version of the Measure of Anxiety in Selection Interviews

Stress and anxiety are embedded in the pre-employment testing environment, especially in decisive moments such as job interviews. Job interviews are the most common and widely used selection method (Macan, 2009). Many people face interviews to attain a job, during which anxiety is an inherent part of the experience (Young et al., 2004) for several reasons: a job interview is the first moment that the candidate meets potential employers, the interviewer is typically a stranger (McCarthy & Goffin, 2004), it is a highly social evaluative moment that can play an important role in the candidate's future (Finnerty et al., 2016).

Individuals with a high degree of social anxiety during social evaluative tasks show more anxiety and shame and perform less well than those with no social anxiety disorder (Beltzer et al., 2014). Expressing anxiety in a job interview decrease employability (McCarthy et al., 2017). A meta-analysis has shown that anxiety in interviews has a meaningful impact on hiring decisions, especially in competitive situations, through a performance decrease during the interview (Feiler & Powell, 2016). Anxious interviewees are consistently rated as less suitable to a job, less hireable, and receive less favourable recommendations than confident interviewees (Finnerty et al., 2016; Sieverding, 2009).

The association between job interview anxiety with performance seems to be relevant to all those implicated (i.e., candidates, human resources, organisation). Anxiety in job interviews lasts throughout the interview, thus differing from other types of anxiety in other social events, such as public speaking, in which physiological and psychological anxiety usually manifests before and initially, but decrease throughout the performance (Young et al., 2004). This characteristic of anxiety in job interviews seems to be due to the inherently uncontrollable interaction between

interviewer and interviewees. Therefore, it is fundamental to use specific instruments that can reliably measure anxiety in job interviews.

In the absence of a theory explaining the anxiety in a job interview, McCarthy and Goffin (2004) relied on prior research on general anxiety, test-taking anxiety, and interactional anxiety to create the Measure of Anxiety in Selection Interviews (MASI). After a careful literature search, the authors were able to differentiate the following five dimensions of anxiety that occur in a job interview: communication (nervousness about verbal and non-verbal communication and listening competencies); appearance (apprehension about physical look); social (nervousness about social behavioural appropriateness because of the desire to be liked); performance (worry about the outcome, such as fear of failure); and behavioural (expression of the autonomic arousal of anxiety, such as uneasiness or fidgeting) (McCarthy & Goffin, 2004). MASI has been used as a unidimensional composite or as a construct with five dimensions (Budnick et al., 2019; McCarthy & Goffin, 2004). MASI has been used in English-speaking countries (Budnick et al., 2019; Feeney et al., 2015). To the best of our knowledge, the measure had only been translated into Farsi (Banki & Latham, 2010), though the authors did not perform a validation of the measure and only reported the results of internal reliability. The translation of a measure from one language to another is not sufficient for cross-cultural or multinational research. Besides translation, a reliable and valid method should include back-translation, a pilot study and a study showing adequate psychometric properties of a measure (Sousa & Rojjanasrirat, 2011).

The present study aimed to examine the psychometric properties of the MASI-P, and to explore whether MASI-P was related with age, gender, and related job interviews variables, as previously reported in the literature. To study anxiety in job interviews, it is important to consider gender and age differences. In social evaluative tasks, women, compared to men,

experience and report higher levels of stress and negative feelings (Allen et al., 2017; Sieverding, 2009). Feeney et al. (2015) showed that overall job interview anxiety and the associated MASI dimensions were generally higher for females than males. Though, in a study using a mock interview with students, men did not report more anxiety, but experienced a greater performance impairment than women, as a result of interview anxiety (Feiler & Powell, 2013). Age can also be a key component in performance, with younger participants expressing higher stress levels in their initial career stage (Allen et al., 2017), with anxiety decreasing throughout life (Jorm, 2000). Job interview competencies may also contribute to decreasing anxiety. Several authors have shown how training job interview competencies before a selection process can be important to foster confidence, reduce anxiety and contribute to a better performance (Langer et al., 2016; Macan, 2009; Smith et al., 2017).

The present study evaluates the psychometric proprieties of the Portuguese version of the MASI (MASI-P) to enable its use among Portuguese-speaking countries. First, we conducted confirmatory factor analyses (CFA) of the MASI-P among adult participants with and without previous job interview experience. We also examined the internal reliability of the MASI-P, test-retest reliability, and concurrent validity. Finally, we analysed gender and age differences, and the role of experience in job interviews (if the participants had been candidates in a job interview, the number of prior interviews, and their perceived performance in the last interview). Based on McCarthy and Goffin (2004) findings, we hypothesised the same five-factor structure solution (H1). As an exploratory aim, a second-order structure was tested to examine if the five dimensions could represent the underlying construct of job interview anxiety.

We expected the measure to show good internal reliability (H2) and test-retest reliability (H3). Also, moderate to strong positive correlations of MASI-P overall score and its dimensions with

social anxiety were expected (H4). Based on prior findings about gender and age differences, we hypothesised that women (H5) and younger (H6) participants would report higher anxiety in job interviews. In addition, we hypothesised that those with prior experience, with a higher number of interviews, would report lower anxiety in job interviews than the participants who have never been in a job interview (H7), or who had fewer interviews (H8), because participating in job interviews is a form of training. Finally, among participants who had previous experience in job interviews, we expected to find a positive correlation between job interview anxiety and better perceived performance in those interviews (H9).

Method

Participants

A convenience sample of participants was recruited through three methods: snowball sampling (34.3%), by disseminating the study through social networks, by distributing flyers in social spaces close to universities, by the university research participation pool system (i.e., via Sona-systems) (29.3%), and by inviting students during classes or extracurricular group activities at the university (36.4%). Those who participated through the research participation system could apply for course credits. The forced answer option was never used and, consequently, we had missing values in both online or the hard copy versions of the survey which were independent of the participant being a student or a worker.

The original sample comprised a total of 567 participants. However, 131 participants were excluded for i) total non-response ($n = 113$), ii) missing values higher than 50% in the scales used ($n = 9$) (Hair et al., 2014), iii) responding to the survey more than once ($n = 6$) (this was identified because some participants applied for course credits and the anonymous academic code was duplicated; thus, only the first participation was considered), and iv) due to age

information missing, which consequently did not comprise with ethical standards (n = 3). The final sample comprised 436 participants (completion rate of 76.90%), with the majority (n = 264, 60.55%) taking part online (through the Qualtrics software platform), and the remaining responding using a hard copy version of the survey distributed in classes.

Based on acceptable goodness-of-fit statistics guidelines (Hair et al., 2014), our sample size was higher than the recommended (n = 300), considering the dimensions of the measure under analysis. The majority had Portuguese nationality (n = 405, 92.3%) and all were native Portuguese speakers. The age ranged between 18-61 years (M = 24.03, SD = 7.75) and most participants were women (n = 337, 76.8%), single (n = 378, 86.1%), undergraduate (n = 257, 58.5%), and were currently enrolled in school (n = 353, 84.4%) either being a student or working student. The majority had prior experience with job interviews (n = 264, 60.1%) and planned to apply for a job within a year (n = 293, 66.7%).

Measures

Sociodemographic data included the participants' age, gender, educational level, nationality, relationship status, and occupational status. We also collected variables related to job interviews, including the level of interest in applying for a job during the following year, previous experience in job interviewing, number of prior job interviews, and perceived performance on the last job interview.

Anxiety in interviews was assessed using the self-report Measure of Anxiety in Selection Interviews (MASI, McCarthy & Goffin, 2004), which is comprised of 30 items with responses given on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

The Portuguese version of the Liebowitz Social Anxiety Scale - Self Report assessed social anxiety/fear in social situations (LSAS-SR; Caballo et al., 2019). As proposed by Caballo et al.

(2019) the anxiety/fear subscale version of LSAS-SR provided better psychometric proprieties to measure social anxiety in Portuguese populations and, for this reason, we only used this subscale. The social anxiety/fear subscale has 24 items with 13 items related to performance (e.g. "Acting, performing or giving a talk in front of an audience") and 11 items related to social interaction (e.g. "Calling someone you don't know very well."). Responses are given on a four-point scale, ranging from 0 (*none*) to 3 (*severe*), ($\alpha = .92$). The results were averaged with higher scores corresponding to greater social anxiety/fear.

Procedure

The Ethics Committee of the university where the study was conducted approved all procedures (ref. 17/2018), which was performed in line with the principles of the Declaration of Helsinki. The translation and adaptation of the MASI from English to Portuguese was performed as recommended (Sousa & Rojjanasrirat, 2011) by including: i) an independent translation to Portuguese by two bilingual translators, followed by an external agreement; ii) a back-translation by two different, independent bilingual translators, followed by agreement; ii) a pilot study followed by cultural adaptations. The pilot study was performed with ten participants who had job interview experience. They made suggestions to ensure the comprehension of all items, such as synonyms to promote clarity (e.g., translating anxious as "nervoso"; nervous in English). The pilot phase was also used to verify the usability and technical functionality of the online survey. Then data collection began, which took place between March 2018 and April 2019.

The instructions asked participants to reflect and base their ratings on what they felt during previous job interviews. For those who had not yet been in a job interview, we asked them to imagine themselves in the situation and to reflect on how they feel in situations of exposure and public evaluation.

All participants provided informed consent and then completed the survey protocol, which took around 15 min. At least two weeks after the first assessment, those who took part in the test-retest protocol answered the MASI-P a second time, using the same online platform, which took approximately 10 minutes to complete. In both sessions, the presentation order of the MASI-P items was randomised.

Results

Confirmatory factor analysis (CFA) was performed using EQS Structural Equation Modelling Software (Bentler, 2005). *T*-test, effect sizes and confidence intervals (CI) for Cronbach's alpha were calculated using JASP (Version 0.14.1; JASP Team, 2020). The remaining analyses were performed with IBM SPSS Statistics (Version 25.0), including correlations using Pearson coefficients to examine MASI-P test-retest reliability and associations between this scale and age, number of job interviews, and perceived job performance.

All variables were checked for data inaccuracy and missing values. For each variable, missing data was minimal (below 5%). According to the results of Little's missing completely at random (MCAR) test for each scale, the distribution of missing data, which was observed in only 25 cases, was random (*p*s > .05). Therefore, the expectation maximisation algorithm was used for missing imputation (Tabachnick & Fidell, 2007). Assumptions of normality were examined for each item, with skewness scores below |1|, but six items had kurtosis scores above |1|, thus indicating a deviation from univariate normality (Hair et al., 2014). Moreover, multivariate normality analysis was non-normally distributed, since Mardia's C.R (normality estimate) was above 5.00 (Bentler, 2005).

The database, the codebook and the syntax that support the findings of this study are openly available in the Open Science Framework repository, a tool that promotes and facilitates

openness, integrity, and reproducibility in research (Foster & Deardorff, 2017) at https://osf.io/bvpf2/?view_only=4541ea3c837044438e5e68c8e1869871

Confirmatory factor analysis

Based on standard guidelines for establishing model fit criteria, we considered the following fit indexes: Chi-square/degree of freedom ratio (χ^2/df) < 3, Comparative Fit Index (CFI) ≥ .92, Tucker-Lewis Index (TLI) ≥ .92, Standardised Root Mean Square Residual (SRMR) < .80 (Hair et al., 2014), Root Mean Square Error of Approximation (RMSEA) < .06 with CI of 90% between .05 and .10 (Hu & Bentler, 1999). To compare measurement models, we considered the Akaike Information Criterion (AIC), since it takes into account both model fit and the number of the parameters included in the model, with smaller values indicating a better fit (Burnham & Anderson, 2002).

In order to comply with the non–multivariate normal data, CFAs were conducted with *robust* estimation (Bentler, 2005). Therefore, the goodness-of-fit estimates reported correspond to the robust solution (except for SRMR), such as the Satorra-Bentler Chi-square and fit indexes that control non-normality (Hu & Bentler, 1999). CFA was performed to analyse the factor structure of the MASI-P. As in McCarthy and Goffin (2004), we started to analyse the one-factor solution which could reflect the anxiety in job interviews to be unidimensional; after, we tested the five-factor solution to inspect if similar results would be found in our sample in line with H1.

CFI testing the unidimensional structure of MASI-P (Model 1) did not present an acceptable fit to the data (χ^2/df = 3.21, p < .001, CFI = .82, TLI = .80, SRMR = .08, RMSEA = .07 with CI 90% [.07, .08], AIC = 490.083). We proceeded with the analysis of a multidimensional structure with 5-correlated factors (Model 2), which showed a better adjustment (χ^2/df = 2.07, p < .001, CFI = .91, TLI = .90, SRMR = .06, RMSEA = .05 with CI 90% [.05, .05], AIC = 28.339), though the CFI and TLI indexes were below the threshold.

To better examine Model 2 misspecification, we explored the factor loadings, correlational residuals, original inter-item correlation matrix, and large modification indexes through an iterative process. After inspection of the factor loadings, we observed that item six scored .35. As a rule of thumb, factor loadings should score .4 or greater in order to be significant for samples equal to or bigger than 200 (Hair et al., 2014). MASI's authors described that the standardised factor loadings for the five-factor structure to be above |.4|. Moreover, a standardised residual exceeding the cut point of |2.58| was observed between item 6 and item 18, thus representing a high similarity between two items from different factors. Also, with the item 6 in the model the values of convergent validity of the Communication dimension were not acceptable. Consequently, as a result of a combination of factors, item six ("I find it easy to communicate my personal accomplishments during a job interview") was deleted. Moreover, based on correlational residuals inspection, we included the two correlated errors with the largest χ^2 modification indexes (MI > 25) and standardised expected parameter change (SEPC > .17), according to the Lagrange Multiplier Test. First, the correlated error terms between the items 11 ("I feel uneasy if my hair is not perfect when I walk into a job interview") and 10 ("If I do not look my absolute best in a job interview, I find it very hard to be relaxed.") of the Appearance dimension (MI = 49.71, SEPC = 0.44); then between the items 17 ("I worry about whether job interviewers will like me as a person.") and 15 ("I get afraid about what kind of personal impression I am making on job interviewers.") of the Social dimension (MI = 26.82; SEPC = 0.27). The analysis of the correlated error term suggested that participants might have perceived and responded similarly to them. Therefore, we correlated the errors and tested a new model. Model 3 presented an acceptable fit to the data ($\chi 2/df = 1.95$, $p < .001$, CFI = .93, TLI = .92, SRMR = .05, RMSEA = .05 with CI 90% [.04, .05], AIC = -16.805). The two error covariances

(items 10-11 and items 15-17) were correlated at .37 and .26, respectively, with $p < .05$. In comparison to the other models, Model 3 showed the best fit to the data, having the lowest AIC value ($\Delta AIC = 11.53$), and proving to be the most parsimonious model tested (Burnham & Anderson, 2004).

There was evidence that some dimensions were highly correlated ($r > .85$) (Kline, 2005). Therefore, a second order structure (Model 4) was examined. After deleting item 6 and proceeding with the correlation of the same error terms (10-11, 15-17) a good solution was verified ($\chi 2/df = 1.98$, $p < .001$, CFI = .92, TLI = .92, SRMR = .05, RMSEA = .05 with CI 90% [.04, .05], AIC = -5.241). The two error covariances (items 10-11 and 15-17) were correlated at .38 and .26, respectively, $p < .05$. Both models 3 and 4 also showed to be equally well adjusted.

Factor loadings at first order ranged from .56 to .82 for the Communication dimension, from .52 to .72 for the Appearance dimension, from .42 to .74 for the Social dimension, from .47 to .78 for the Performance dimension, from .52 to .72 for the Behavioural dimension. Second-order factor loadings ranged between .79 and .96. Standardised factor loadings, explained variance, and error covariances values can be seen in the Supplementary Material. These results provide support for the hypothesised structure of the MASI-P in which the items were thought to assess the five dimensions of anxiety in job interviews.

We analysed the reliability measures derived from CFA, namely convergent and discriminant construct validity. Composite reliability (CR) was used as a measure of internal reliability for the factors. Values greater .70 indicate good reliability (Hair et al., 2014). CR results showed good values for all MASI-P dimensions (Communication = .84, Appearance = .81, Social = .78, Performance = .82, and Behavioural = .79). For convergent validity, the average variance extracted (AVE) should be equal to or greater than .50 and should be lower

than the CR (Hair et al., 2014). Though AVE scores were lower than the CR values, they were not equal to or higher than .50, resulting in some concern regarding convergent validity, with the exception of Communication (AVE = .52). Moreover, discriminant validity is achieved when AVE is greater than the maximum shared squared variance (MSV). Unfortunately, the AVE scores were all lower than the MSV; reflecting lower discriminant validity. Considering that Model 4 showed acceptable fit indexes, the second-order solution can be used to overcome the discriminant validity issue encountered with the first-order of the five-factor solution.

Internal reliability

To estimate internal reliability, we considered the ordinal levels of Cronbach's alpha (α) and a CI 95%. The overall scale presented a very good internal reliability (H2) (α = .94, 95% CI [.93, .94]) similar to the original English version (α = .92; McCarthy & Goffin, 2004). Reliability for the five dimensions were acceptable, ranging from .78, 95% CI [.74, .81] (Behavioural) to .84, 95% CI [.82, .86] (Communication) (see Table 1). The mean of inter-item correlations was equal to .32 for the total score; with values ranging between .37 (Behavioural) and .43 (Performance) for the five dimensions.

We found moderate to high correlations between the five dimensions, with the lowest value between Communication and Appearance (r =.49, p < .01) and the highest between Social and Performance (r =.72, p < .01). Thus, the internal reliability of MASI-P is adequate.

Table 1

Test-Retest Reliability

Test-retest reliability was analysed with Pearson's linear correlation coefficients, with high values showing higher temporal stability. This analysis was examined in a sub-sample of 30 participants (73.3% females; M_{age} = 22.73; SD_{age} = 8.15) with the majority being students or working-students (n = 24, 80.0%) and having previous experience in job interviews (n =18, 60.0%). Correlation coefficients between the two phases were high (r = .92) for the total MASI-P score, and ranged between .76 (Behavioural) and .88 (Performance) dimensions, ps < .01. These results show that MASI-P consistently produced consistent scores with at least two weeks apart, indicating a good stability of the measure (H3).

Concurrent validity

The concurrent validity was analysed by the correlation between MASI-P and the dimension of the social anxiety/fear of the LSAS-SR (see Table 1). As predicted, MASI-P overall and dimension scores were moderately correlated with social anxiety/fear (H4), with values ranging between .42 (with Appearance) and .57 (with Performance), and .61 for the overall MASI-P score (ps <.01) (see Table 1).

Gender and job interviews experience differences in MASI-P

Analyses comparing MASI-P scores as a function of gender and prior job interviews experience were performed separately using t-tests for independent samples (see Table 2). The results for the overall scale showed statistical differences for gender (H5), t (434) = -5.73, p < .001, d = 0.66, and for prior job interviews experience (H7), t (433) = -5.86, p < .001, d = 0.58. Overall, women (M = 2.98, SD = 0.66) reported higher anxiety in job interviews in comparison with males (M = 2.55, SD = 0.75). Also, those who have never been in a job interview (M = 3.11, SD = 0.65) expected to have higher anxiety in job interviews, in comparison with those with

previous experience (M = 2.73, SD = 0.65). Similar gender and prior job interview differences were found for each dimension of MASI-P (ps < .001, d > 0.41).

Table 2

Age, number of job interviews, and performance

Associations of the MASI-P scores with age, the number of job interviews, and perceived performance on the last job interview were also analysed using the Pearson correlation. As seen in Table 1, there are negative correlations between overall anxiety in job interviews with age (H6) (r = -.39, p < .01), the number of job interviews (H8) (r = -.16, p = .01) and the perceived performance on the last job interview (H9) (r = -.39, p < .01). A similar associative pattern was observed for the five MASI-P dimensions with age and the perceived performance on the last job interview. On the contrary, Appearance (r = -.06, p = .341) and Performance MASI-P's dimensions (r = -.10, p = .135) were not significantly correlated with the number of job interviews performed. These results suggest that anxiety in job interviews is higher for younger participants, for those with a worse perception of their performance on the last job interview, and for those who have had fewer job interviews.

Discussion

The principal goal of the present study was to analyse the psychometric properties of the MASI-P in a Portuguese sample of participants. Our results showed that the five-factor structure of the MASI-P provided an overall acceptable fit for the sample (H1). However, it was required to proceed with the analysis by including post hoc modifications, and to further test additional CFA models. One modification was to include two pairs of error covariances in the five-factor

solution. These required modifications may be related to content overlap between those items, potentially associated with cultural differences in their interpretation. Next, we tested a second-order structure because of the convergent and discriminant validity results. Regarding convergent validity, our results showed that all factor loadings in MASI-P were highly significant as required, and CR was also above the threshold of .50. Also, most of the factor loadings were above .40, except item six which scored .35 (Hair et al., 2014). In addition, the MASI-P has shown good internal reliability values (H2) and the reliability analysed through test-retest has indicated good temporal stability (H3) (Hair et al., 2014). However, discriminant validity was not observed in our first-order structure with five dimensions, suggesting that the anxiety in job interviews may also be explained by the structure of another latent variable (Hair et al., 2014). Thus, we proposed the second-order model, since it showed an acceptable fit, and can be a solution for the discriminant validity issues. Thus, although both first and second-order solutions with five factors provided empirical support for the multidimensional model of anxiety in job interviews, our analysis of the second-order structure of the MASI-P indicated that a higher order factor accounts for the lower order factors. Furthermore, this model can explain the way the variances and covariances relate to the first order factors (i.e., communication, appearance, social, performance and behavioural). Our results showed that anxiety in job interviews is not a unifactorial construct, and that a second-order structure may be a more appropriate explanation due to the strong link between some of its dimensions. Nonetheless, future studies should analyse the MASI five-factor with first and second-order solutions in different samples and contexts.

The brief concurrent analysis with a social anxiety measure showed moderate correlations with each of the five dimensions and the total score (H4). Anxiety in job interviews was higher for those with higher social anxiety. In general, those with higher social anxiety have higher

scores on performance anxiety, communication anxiety and social anxiety in the job interview setting. These results confirm the essential characteristic of a job interview - a social evaluative situation that puts the candidate under potential threat -, and consequently the interviewee manifests avoidance or safety behaviours (Beltzer et al., 2014; Clark & Wells, 1995). Given that the self-report measures are only moderately associated, this highlights the differences between general social anxiety and the specific nature of anxiety experienced in job interviews, thus showing that measures related to this specific situation are more relevant.

Gender differences are in line with prior studies (e.g. Allen et al., 2017; Feeney et al., 2015; Sieverding, 2009), indicating that women reported more anxiety in job interviews than men (H5), with medium effect sizes. However, studies suggest that not only do women develop more effective coping strategies than men but also that the predictive power of anxiety in performance is lower for women (Feeney et al., 2015). Thus, future studies should carefully address this issue.

Regarding age associations, even though we found that levels of anxiety in job interviews decreased with age (H6), correlations were weak to moderate. Our results are in line with prior studies indicating that younger individuals report higher stress and anxiety levels in social evaluative situations (Allen et al., 2017; Jorm, 2000). Research about the link between age and performance in job interviews is scarce, and future studies could include participants at different life stages.

Experience is also relevant to anxiety during an interview. Our results showed significant differences between those with previous experience and those who had never had a job interview, with the last group scoring higher in anxiety in job interviews (H7). In the group of experienced participants, those with a higher number of interviews (H8) and those who perceived

their performance as better in the last interview (H9) also had lower anxiety scores. These findings are in line with the studies on job interview training (Langer et al., 2016; Macan, 2009; Smith et al., 2017).

Our results suggest the need of educational institutions to have proper training programs to prepare students for upcoming job interviews so that anxiety does not interfere with decisive job interviews, and that candidates may pursue the moment with the knowledge and the socioemotional competencies necessary to reduce the job interview related anxiety. Training can involve speech tasks, mock interviews, or arithmetic tasks. The Trier Social Stress Test (TSST) is one example of a protocol that often includes a mock interview and a surprise arithmetic task, being similar to a job interview process (Allen et al., 2017). After the TSST, a recovery moment occurs, during which pedagogues and therapists can give the candidates feedback about their performance. Most research using these protocols does not use self-report questionnaires specific to anxiety in a job interview, thus, the MASI-P may be more focused and helpful for understanding the specific difficulties people may feel in job interview circumstances. Recent studies using virtual reality have shown promising results, such as the improvement of socioemotional competencies, interviewing competencies, less anxiety and better performance (e.g., Langer et al., 2016; Smith et al., 2017). Teaching interviewees how to promote themselves, paradoxically, can help interviewers to more accurately understand a candidate's best qualities, allowing more valid interview decisions (Macan, 2009).

This study has limitations. First, the non-representativeness of the sample can limit the extent to which the findings can be generalised. Second, male participants were poorly represented (n = 99, 22.6%), despite our effort in dissemination. Third, our study relied only on self-report measures. Future studies should investigate the correlation of MASI with

physiological indicators of anxiety or stress, such as autonomic system (e.g. cardiovascular indexes) or hormonal production (e.g. cortisol) (Allen et al., 2017) thus allowing for convergent validity analysis. Fourth, although we acknowledge the importance of interview performance within the larger context of a job interview and its relationship with anxiety in such a context, we did not include measures of performance in this study. Therefore, future studies should investigate this relationship to bolster our understanding. Finally, the results should be considered with caution as they rely upon the participants recalling memories of past job interviews, or the participants' ability to imagine what they would feel during a job interview. Future studies should investigate how individuals report their anxiety in interviews while in real selection environments to increase ecological validity. Considering the current global pandemic effects on economy and the growing interest in online job interviews (Novkovska & Milenkovska, 2020), it would be also relevant to test if MASI is invariant across these conditions by comparing anxiety in online versus face-to-face interviews. This is further salient given anxiety's potential impact during health-related crises.

The strengths of the present study should be noted. This study makes use of a reliable and valid instrument to assess job interview anxiety in a Portuguese-speaking sample. The development of such measures remains rare, and cross-validation is very important. Given how prevalent and crippling anxiety can be in employment contexts, using the same measures in different countries will enhance cross-cultural comparison and allow a better understanding of the phenomenon. These validated tools permit better testing for intervention, understanding, research and justifying their use in applied contexts. Also, by having a sample with both experienced and non-experienced participants in job interviews, this study showed that anxiety levels in interviews are different between the groups. Lending support to the notion that job

interview training should be as real as possible to foster critically relevant competencies in future candidates and to give them the confidence in the experience by decreasing the sense of novelty and uncontrollability of a first-time job interview.

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Table 1.

Descriptive, reliability, and concurrent validity of the Portuguese version of Measure of Anxiety in Selection Interviews and each factor dimension

	Descriptives		Reliability		Pearson *r* correlations			
	M	*SD*	Cronbach's α	95% CI	Social Anxiety/Fear	Age	Number of job interviews	Performance on prior job interview
MASI total	2.88	0.67	.94	[.93, .94]	.61**	-.39**	-.16*	-.39**
Communication	2.51	0.80	.84	[.82, .86]	.53**	-.26**	-.20**	-.44**
Appearance	2.76	0.84	.82	[.79, .84]	.42**	-.29**	-.06	-.24**
Social	3.04	0.80	.79	[.76, .82]	.52**	-.41**	-.16*	-.27**
Performance	3.16	0.80	.82	[.79, .85]	.57**	-.33**	-.10	-.37**
Behavioural	2.88	0.80	.78	[.74, .81]	.49**	-.33**	-.14*	-.30**

Note. *$p < .05$, **$p < .01$ CI = Confidence Intervals, MASI = Measure of Anxiety in Selection Interviews.

Table 2.

Means and standard deviations of the Portuguese version of Measure of Anxiety in Selection Interviews and dimensions as a function of gender and job interview experience.

MASI	Gender						Previous job interview experience					
	Male (n = 99)		Female (n = 337)		t	Cohen' d	Yes (n = 263)		No (n = 172)		t	Cohen' d
	M	*SD*	*M*	*SD*			*M*	*SD*	*M*	*SD*		
Total	2.55	0.63	2.98	0.66	-5.73*	0.66	2.73	0.65	3.11	0.65	-5.86*	0.58
Communication	2.22	0.75	2.59	0.80	-4.19*	0.48	2.33	0.76	2.78	0.79	-6.01*	0.59
Appearance	2.39	0.79	2.87	0.82	-5.18*	0.59	2.62	0.84	2.97	0.80	-4.22*	0.41
Social	2.70	0.82	3.14	0.78	-4.83*	0.55	2.93	0.81	3.21	0.77	-3.59*	0.35
Performance	2.82	0.75	3.26	0.79	-4.92*	0.56	3.02	0.80	3.36	0.76	-4.40*	0.43
Behavioural	2.59	0.72	2.97	0.80	-4.29*	0.49	2.70	0.77	3.16	0.76	-6.14*	0.60

Note. *p < .001, MASI = Measure of Anxiety in Selection Interviews.