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# Assessing teacher-related experiential avoidance: Factor structure and psychometric properties of the Teachers Acceptance and Action Questionnaire (TAAQ-PT)

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## ABSTRACT

The Teachers Acceptance and Action Questionnaire (TAAQ) was designed to assess teachers' experiential avoidance (EA) related to their professional context. The current study aimed to adapt the TAAQ for European Portuguese (TAAQ-PT) and address its factor structure and psychometric characteristics. EA is defined as an emotion regulation process encompassing the unwillingness to stay in touch with negative private events and deliberate efforts to control them. EA has been pointed out as a transdiagnostic process associated with a wide range of psychological difficulties, playing a pivotal role in their development and maintenance (e.g., depression and anxiety). A sample of 304 Portuguese teachers completed the TAAQ-PT, the Depression Anxiety and Stress Scales-21 (DASS-21), the Utrecht Work Engagement Scale (UWES), and the Five Facet Mindfulness Questionnaire (FFMQ). The TAAQ-PT one-factor structure was tested through confirmatory factor analysis and revealed a good fit to the data and excellent internal consistency. The TAAQ-PT showed significant positive correlations with depression, anxiety and stress symptoms and negative correlations with mindfulness and work engagement. Overall, the TAAQ-PT revealed to be a short, valid and reliable measure of teachers' EA.

## KEYWORDS

Experiential avoidance; teachers; assessment; confirmatory factor analysis; psychometric properties

## Introduction

Teaching is frequently a demanding and stressful profession given the full range of tasks, interactions, responsibilities, and work overload. These characteristics may impact on teachers' wellbeing depending on whether these are perceived as relevant and challenging or perceived as threatening and challenging to overcome. Though described as rewarding, teaching tends to be a stressful occupation and teacher stress can be seen as an international phenomenon (e.g., ESP, 2018; Liu & Onwuegbuzie, 2012; NASUWT, 2016; Stoeber & Rennert, 2008). Specifically in Portugal, a study conducted in a sample encompassing 1000 teachers showed that 20% to 25% of participants revealed symptoms of stress, anxiety, and depression (Patrão, 2016). Moreover, a report focusing on Portuguese Teachers Life and Work Conditions (Varela et al., 2018) pointed out that high levels of stress and emotional exhaustion were reported by more than 60% of teachers. Teaching stressors comprise discipline problems, time pressure, low student motivation, lack of recognition, lack of personal autonomy, conflicts with colleagues, students,

parents, or the school board, unavailability of administrative support, low payment and status (Fernet et al., 2012). When work-related stressors persist over time and are not coped adaptively, teachers can experience various negative outcomes.

Although there are several aspects of job difficulties and of job resources related to teachers' well-being, the way these professionals deal with the emotions arising from their professional demands seems to play an important role. Emotion regulation is characterized by processes that amplify, attenuate or maintain the strength of emotional reactions (Davidson, 2000; Gross, 2015). The difficulties inherent to this process can take multiple forms, one of which being experiential avoidance (EA). EA is conceptualized as a verbally mediated emotion regulation process involving the unwillingness to stay in touch with negative private events (thoughts, feelings, memories, bodily sensations and behavior tendencies) and deliberate efforts to control the form, frequency, intensity or length of these events, even if this leads to actions that are incongruent with values (S. C. Hayes et al., 1996). In the short-term,

EA can provide distress relief, seeming to be a helpful coping strategy and increasing the likelihood that the behavior will endure (S. C. Hayes et al., 1996). Nevertheless, in the long term, EA has detrimental effects, becoming a rigid mechanism and leading to behavior patterns that are not coherent with the individual's life values (S. C. Hayes et al., 2006). EA has been associated with a broad range of psychopathological situations, playing an important role in their development and maintenance, for example, anxiety and depressive disorders (Levin et al., 2014). Bond and Bunce (2003) found that call center employees who presented lower levels of EA (to deal with job-related emotions) showed better outcomes regarding mental health, as well as higher job satisfaction and job performance. In line with these findings and in a sample of preschool teachers, Biglan et al. (2013) also found that EA was significantly related to depression, burnout, and stress. Furthermore, Hinds et al. (2015) state that EA plays a mediator role in the relationship between stress emerging from student problem behavior and teachers' burnout and depression levels, reinforcing the pivotal role of EA on the way teachers cope with this stress.

The most commonly used instrument for measuring EA is the Acceptance and Action Questionnaire II (AAQ-II; Bond et al., 2011). Despite the utility of AAQ-II, this is a general measure, and several versions have been developed aiming to address EA associated with more specific conditions, such as diabetes (Gregg et al., 2007), epilepsy (Lundgren et al., 2008), chronic pain (McCracken et al., 2004), weight (Lillis & Hayes, 2008), smoking (Gifford et al., 2004), tinnitus (Westin et al., 2008), substance abuse (Luoma et al., 2011), body image (Sandoz et al., 2013), work (Bond et al., 2012), university students (Levin et al., 2019), among others. Similarly to what has been found in other populations, EA has been identified as an essential construct for teachers leading to the development of a specific instrument assessing EA in this professional group, the Teachers Acceptance and Action Questionnaire (TAAQ; Hinds et al., 2015). The TAAQ includes a set of items reflecting EA in teaching-specific situations or contexts and proved to be a valid and reliable measure of teaching-related EA.

Considering that the TAAQ was only available in English, the current study aimed to translate it to Portuguese (TAAQ-PT) and investigate its factor structure and psychometric characteristics in a sample of Portuguese teachers. Similarly to the original version (Hinds et al., 2015), we hypothesized that the TAAQ-PT would show a single-factor solution, assessing teaching-related EA. Additionally, gender differences

were explored as well as differences in EA between professionals teaching in different education levels.

## Materials and methods

### Participants

The sample comprised 304 teachers, 256 women (84.2%) and 48 men (15.8%). Participants showed a mean age of 47.51 ( $SD = 7.58$ ) years, ranging from 24 to 64 years old with. Two hundred and twenty-seven participants (74.7%) were university graduates, 68 (22.4%) had a master's degree, 7 (2.3%) had a doctoral degree, and 2 (0.7%) postdoctoral studies. These professionals reported being on the teaching career for 23.45 years ( $SD = 8.10$ ). The vast majority was employed ( $n = 301$ ; 99%), and only three teachers indicated being unemployed (1%). Participants were teaching in public schools ( $n = 271$ ; 89.1%) and private schools ( $n = 33$ ; 10.9%). Ninety-one teachers (29.9%) were teaching in the first basic education cycle (1st-4th grades), 131 (43.1%) in the second and third basic education cycles (5th-9th grades), and 82 (27%) were teaching in a secondary school (10th-12th grades).

### Instruments

A sociodemographic (age, sex, marital status, and years of education) and professional (years of professional experience, employment status, education cycle of teaching, and whether they were teaching in a public or private school) questionnaire was used.

### Teachers acceptance and action questionnaire

The TAAQ (TAAQ; Hinds et al., 2015) is a self-report instrument that aims to assess how teachers use emotional and behavioral control, the propensity to avoid negative thoughts and emotions, and the obstacles to action (once negative thoughts and emotions occur). The TAAQ was designed based on the AAQ-II and items were adapted in order to address teaching-related thoughts and feelings and the extent to which they get in the way of values guided actions (e.g., "I sometimes feel very distracted by my negative thoughts about students," "After a difficult interaction at school, I have a hard time turning my attention back to my teaching responsibilities"). Hinds et al. (2015) consulted a panel of researchers working on the EA construct and conducted a preliminary analysis of 30 items. A 7-point Likert scale, ranging from 1 (never true) to 7 (always true), was used. The original items were recoded so that higher scores indicated higher EA. To reduce the

number of items and study the TAAQ psychometric properties the sample was split into two. In the first sample, an exploratory factor analysis was performed, and a one-factor solution comprising ten items with factor loadings greater than .60 was achieved. In the second sample, a confirmatory factor analysis was conducted. Results indicated a good model fit (CFI = .96; TLI = .95; WRMSR = .97), revealing, also, good internal consistency ( $\alpha = .87$ ), and a significant correlation with the AAQ-II original version ( $r = .53$ ;  $p < .01$ ) (Hinds et al., 2015).

### **Depression, anxiety and stress scales – 21**

The DASS-21 (DASS 21; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro et al., 2004) is a 21-items self-report instrument assessing depression (e.g., “I felt I wasn’t worth much as a person”), anxiety (e.g., “I felt scared without any good reason”), and stress (e.g., “I found it hard to wind down”) symptoms. Respondents are asked to use a 4-point scale ranging from 0 (“Did not apply to me at all”) to 3 (“Applied to me very much, or most of the time”) to assess the frequency of symptoms during the previous week. In the DASS original study (Lovibond & Lovibond, 1995) and in the Portuguese study validation (Pais-Ribeiro et al., 2004), good psychometric properties were found. Cronbach’s coefficient values for the depression, anxiety, and stress subscales were of .94, .87, and .91 and .84, .80, and .87, for the original (Lovibond & Lovibond, 1995) and Portuguese studies (Pais-Ribeiro et al., 2004), respectively. In the current study, the Cronbach alpha values were .92 for the depression subscale, .89 for the anxiety subscale and .92 for the stress subscale.

### **Utrecht work engagement scale**

The UWES (UWES; Schaufeli et al., 2006; Portuguese version by Simões & Gomes, 2012) is a self-report questionnaire that aims to assess the engagement individuals have to their work. In the current study the 9-items short version was used. It encompasses three subscales: dedication (e.g., “I am proud of the work that I do”), absorption (e.g., “I get carried away when I’m working”), and vigor (e.g., “At my job, I feel strong and vigorous”), each of which comprising 3 items. The Cronbach’s alpha for the three scales in the UWES two versions (original and short) were higher than .90, indicating an excellent consistency (Schaufeli et al., 2006). In a study that used the Portuguese short version with teachers of public higher education Cronbach alphas ranged between .82 and .91 (Esteves,

2013). In this study, a Cronbach’s alpha value of .95 was found for the total scale.

### **Five facet mindfulness questionnaire**

The FFMQ (FFMQ; Baer et al., 2006; Portuguese version by Gregório & Pinto-Gouveia, 2011) is a 39-item self-report instrument that assesses five mindfulness facets: observing (e.g., “I watch my feelings without being getting lost in them”), describing (e.g., “I am good at finding words to describe my feelings”), acting with awareness (e.g., “I believe some of my thoughts are abnormal or bad and I shouldn’t think that way”), non-judging of inner experience (e.g., “I tell myself I shouldn’t be feeling the way I’m feeling”), and non-reactivity to inner experience (e.g., “When I have distressing thoughts or images I am able just to notice them without reacting”). Although Baer et al. (2006) and Gregório and Pinto-Gouveia (2011) used this instrument considering each of the separate facets, in the current study a total score was used, according to Heeren et al. (2011), who have found a Cronbach alpha of .88 for the total score. Regarding the FFMQ internal consistency in this study, the alpha Cronbach value was .89.

### **Procedures**

After obtaining the authors’ permission, the translation of the TAAQ from the English version to the Portuguese language was completed in several steps. Initially, an English native speaker, also fluent in Portuguese, completed the translation of the original items to Portuguese. The current study researchers (Portuguese native speakers and fluent in English) translated back the items to English and compared each item content equivalence (back translation; Erkut, 2010). Differences between the original and translated versions were minimal, and small changes were made so that all items matched the original instrument as closely as possible. The Portuguese items were then examined by individuals from the general population aiming to assess whether the items and instructions were clear and understandable (pre-testing and interview). No difficulties or inconsistencies were reported. Two of the authors, experts on ACT (Hayes et al., 1999), revised the items’ content to guarantee they would adequately describe the measured construct. The procedures described were in by the recommendations of Hambleton et al. (2005) and with the International Test Commission (2010).

Concerning participants’ recruitment, teachers’ associations were contacted via e-mail and were requested

to inform their members about the study aims and procedures, asking them to voluntarily participate. An access link was made available for online data collection (<https://goo.gl/forms/fz14HKxZNPZzM6pc2>). Before completing the self-report measures informed consent was requested from all individual participants included in the study. Data collection took place from January 30th to May 31st, 2017 and was completed following the Declaration of Helsinki.

### Statistical analysis

The collected data were extracted to the Excel program and transferred to an IBM SPSS Statistics 24 (IBM Corp. Released, 2016) database. The confirmatory factor structure of the TAAQ was conducted with the software AMOS (Arbuckle, 2006). Descriptive statistics were used for participants' sociodemographic and professional characterization. Item means, standard deviations, corrected item-total correlations and Cronbach alpha values if item removed were calculated. The TAAQ-PT structure adequacy was analyzed by performing a Confirmatory Factor Analysis (CFA), with Maximum Likelihood as the estimation method. The existence of outliers was analysed through the Mahalanobis square distance ( $D^2$ ). The following good-of-fit indices were used: the normed chi-square goodness-of-fit ( $\chi^2/df$ ), the Comparative Fit Index (CFI), the Goodness of Fit Index (GFI), the Tucker Lewis Index (TLI) and the Root-Mean Square Error of Approximation (RMSEA). CFI, GFI and TLI are indicative of a good fit when values range from .90 to .95 and a very good fit when values are above .95 (Hooper et al., 2008). The RMSEA value was examined considering that values between .05 and .08 indicate a good fit, and values below .05 represent a very good fit (Hu & Bentler, 1999). The model quality was also examined through the local adjustment indices, which are adequate when showing values equal or superior to .40 (Tabachnick & Fidell, 2013). Internal consistency analysis was conducted by examining Cronbach's alpha value (Kline, 2000). Composite reliability (CR) was also estimated to determine the construct reliability further. CR is computed based on standardized factor loadings and error variances (Raykov, 1997). Pearson correlation coefficients were calculated to explore relationships with other measures. Pearson correlation coefficients were calculated to explore associations with other measures and with age and years of professional experience. Effect sizes for these coefficients were considered as small ( $r = .10$  to  $.29$ ), moderate ( $r = .30$  to  $.49$ ), large ( $r = .50$  to  $.69$ ), very large ( $r = .70$  to  $.89$ ), nearly perfect ( $r \geq .90$ ), and perfect ( $r = 1$ ) (Cohen et al., 2003).

Independent samples t tests were used to explore differences between men and women and a one-way ANOVA was conducted to investigate mean differences between teachers working in the different education levels.

## Results

### TAAQ-PT item analyses

Means, standard deviations, item-total correlations and Cronbach alphas if item deleted of the TAAQ items are presented in Table 1. Item-total correlations ranged from .36 (item 6, the only item reverse coded) to .81 (item 3).

### TAAQ-PT confirmatory factor analysis and reliability

The one-factor model was tested through a confirmatory factor analysis (CFA). The Mahalanobis square distance analysis pointed to the existence of outliers, but these were kept because otherwise, the variability associated with the factor in the study would diminish and it would restrict the possible interpretation of interest in this analysis. As for the normality assumption, none of the variables showed Sk and Ku values demonstrating severe violations to the normal distribution ( $|Sk| < 3$  and  $|Ku| < 10$ ). Results for the fit indexes of the one-factor model were:  $\chi^2/df = 3.87$ ;  $p < .001$ , CFI = .942, GFI = .916, TLI = .925, RMSEA = .097. Although the tested model showed an overall good fit to the data, modification indices analyses suggested the correlation of the error terms 5–7. (Figure 1). The correlation of these residuals led to a fit improvement. For this respecified model, results showed a significant normed chi-squared goodness-of-fit ( $\chi^2/df = 2.792$ ;  $p < .001$ ), a CFI = .965, a GFI = .940 and a TLI = .953, a RMSEA = .077. Local adjustment indicators analysis confirmed the model's adequacy with all items showing adequate standardized

**Table 1.** TAAQ-PT items means, standard deviations, corrected item-total correlations and Cronbach  $\alpha$  if item deleted.

| TAAQ-PT items | M    | SD   | Corrected item-total correlations | Cronbach $\alpha$ if item deleted |
|---------------|------|------|-----------------------------------|-----------------------------------|
| Item 1.       | 2.95 | 1.32 | .76                               | .90                               |
| Item 2.       | 2.53 | 1.31 | .77                               | .90                               |
| Item 3.       | 2.90 | 1.49 | .81                               | .89                               |
| Item 4.       | 2.94 | 1.53 | .75                               | .90                               |
| Item 5.       | 3.13 | 1.51 | .66                               | .90                               |
| Item 6.       | 2.64 | 1.39 | .36                               | .92                               |
| Item 7.       | 2.98 | 1.44 | .74                               | .90                               |
| Item 8.       | 2.79 | 1.28 | .63                               | .91                               |
| Item 9.       | 2.53 | 1.30 | .72                               | .90                               |
| Item 10.      | 2.97 | 1.80 | .62                               | .91                               |



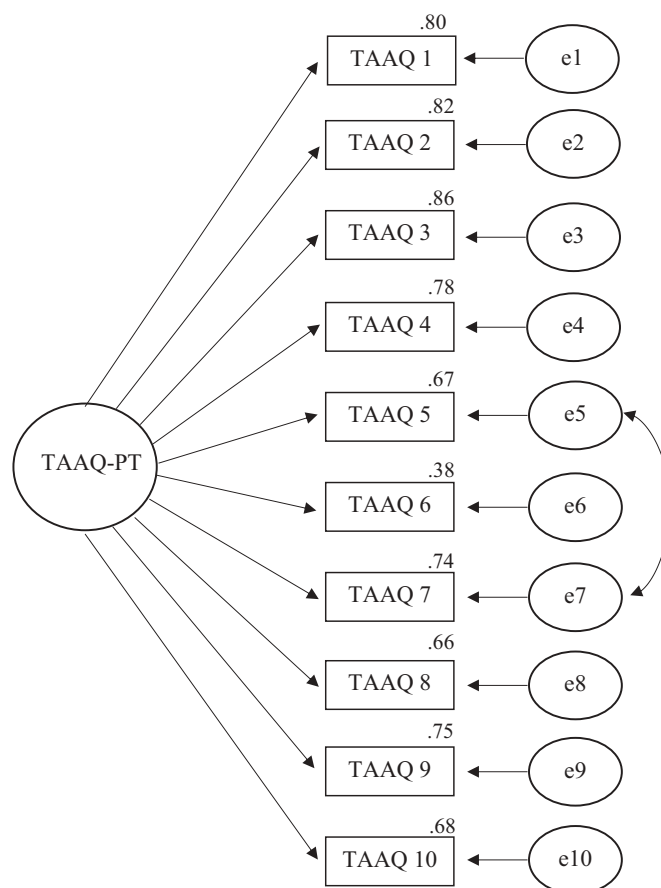


Figure 1. TAAQ-PT one-factor model.

regression weights (Figure 1), ranging from .38 (item 6) to .86 (item 3).

Squared multiple correlations results also confirmed the TAAQ-PT reliability, with all items showing values that varied from .14 (item 6) to .74 (item 3). TAAQ-PT internal reliability, assessed through Cronbach's alpha, showed a value of .92. Additionally, the TAAQ-PT revealed a CR of .92.

### TAAQ-PT relation with other measures

Significant positive correlations between the TAAQ-PT and the depression ( $r = .69$ ;  $p < .001$ ), anxiety ( $r = .63$ ;  $p < .001$ ) and stress ( $r = .70$ ;  $p < .001$ ) symptoms were found. Regarding the correlations between the TAAQ-PT and the UWES, that assesses feelings related to work, a negative and significant correlation ( $r = -.61$ ;  $p < .001$ ) was found. Similarly, a significant negative correlation was found between the TAAQ-PT and the FFMQ that assesses mindfulness skills ( $r = -.60$ ;  $p < .001$ ).

There were no associations between TAAQ-PT and age ( $r = -.10$ ;  $p = .079$ ) and between the TAAQ-PT and number of years of professional experience

( $r = -.09$ ;  $p = .123$ ). In addition, no significant differences between men and women TAAQ-PT mean scores were observed ( $t_{(302)} = -.39$ ;  $p = .699$ ). Moreover, no significant differences were found between teachers of the different education levels regarding the TAAQ-PT mean scores ( $F_{(3, 301)} = 2.55$ ;  $p = .080$ ).

### Discussion

The current study aimed to translate the Teachers Acceptance and Action Questionnaire (TAAQ; Hinds et al., 2015) to European Portuguese and analyze its factor structure and psychometric properties. A sample of 304 teachers from the first (1st-4th grades), second (5th-6th grades) and third (7th-9th grades) Portuguese basic education cycles and secondary cycle (10th-12th grades) was recruited through professional associations, showing similarities to the Portuguese teachers' profile regarding age and sex (OECD, 2019). The TAAQ aims to assess experiential avoidance related to specific aspects of the teaching activity and, until now, only an English version of this measure was available. The TAAQ items refocus the general AAQ-II items to the teaching activity and school setting and this may be

advantageous, given that content-specific measures of avoidance seem to more precisely predict changes in specific behaviors (Blackledge & Hayes, 2006).

Following the recommendations of the International Test Commission (2010) the linguistic equivalence between the English language version and the European Portuguese version was achieved. For the factor structure of the TAAQ-PT analysis, and according to the original version (Hinds et al., 2015) a one-dimensional structure was tested. The one-factor model showed a good fit for the data but the definition of a correlation between error terms of items 5 and 7 led to a fit improvement. Identifying correlated measurement errors among items with similar phrasing (in the Portuguese version) is often necessary, according to Brown (2003).

Concerning the psychometric characteristics of the TAAQ-PT, results were similar to the ones found in the TAAQ original version (Hinds et al., 2015), with the Portuguese version showing high item-total correlations and a very good internal consistency, either considering Cronbach alpha and composite reliability (Pestana & Gageiro, 2008). No statistically significant differences were found between male and female teachers. This result suggests that men and women tend to show similar levels of EA related to specific aspects of their teaching activity. Although no gender differences were found in this study, the model measurement and structural invariance should be tested in larger and size equivalent samples of both genders, in future studies. Age, as well as years of teaching experience, were not associated with teachers' EA. These findings suggest that the unwillingness to be in touch with painful experiences related to the teaching activity seems to be independent of the teachers' age or the time they have been acting as teachers.

Likewise the original version (Hinds et al., 2015), the TAAQ-PT scores were significantly associated with depressive, anxiety and stress symptoms. This pattern of results would be expected because the unwillingness to be in contact with painful internal experiences and the actions people take to modify the aversive experiences or the events that trigger them and psychopathological symptoms has been previously stated. The relationship between EA and depressive symptoms has been well established (e.g., Cribb et al., 2006; Mellick et al., 2017), even with sub-clinical levels of depression (Tull et al., 2004) and its relationship with anxiety has been pointed in the literature (e.g., S. C. Hayes et al., 1996; Chawla & Ostafin, 2007; Spinhoven et al., 2017). Similar associations between EA and stress have also been found in previous studies (Bardeen & Fergus, 2016). The

current study also replicates previous research that has found substantial correlations between the AAQ-II and psychological distress (e.g., Bond et al., 2011; Gámez et al., 2011; Rochefort et al., 2018; Vaughan-Johnston et al., 2017). In fact, EA has been suggested as a transdiagnostic construct (Baer, 2007; Barlow et al., 2004; Harvey et al., 2004). Furthermore, a negative association was found between the TAAQ-PT and work engagement, and between the TAAQ-PT and mindfulness. These results suggest that the higher the teaching-related EA, the lower teachers' engagement with their work environment and activities. Bearing in mind Schaufeli et al. (2002) work engagement definition as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (p. 74), its negative relationship with EA would be expected. Besides, vigor (high energy levels and mental resilience at work, the willingness to invest effort in one's work, and persistence when facing difficulties), dedication (meaning making, enthusiasm, inspiration, pride, and challenge) and absorption (being concentrated and deeply engaged in one's work) (Seppälä et al., 2009) are related to positive emotions and actions toward meaningful teaching attitudes, and these are somehow opposite to EA. Additionally, mindfulness represents a beneficial counterpart of EA, given that it encompasses paying attention purposefully and non-judgmentally in the present moment (Kabat-Zinn, 1990). EA and mindfulness are constructs that impact on the experience of emotions (Mitmansgruber et al., 2009). Mindfully dealing with difficult emotions in a mindful way means being open, non-reactive and non-judgmental toward the experience (even though the experience might be difficult or painful), on the other hand, applying EA is equivalent to being unwilling to stay in touch with aversive emotions and take deliberate efforts to modify or suppress them. Similarly to what was suggested by Consedine and Butler (2013) and Heeren et al. (2011), we used the FFMQ total score because we were interested in exploring the association between teaching-related experiential avoidance and the overall level of dispositional mindfulness. However, future studies may address this association, considering the different mindfulness facets.

Some limitations should be taken into account when interpreting these results. Convergent validity with other measures of experiential avoidance should be addressed. Although the sample size was adequate (Mundfrom et al., 2005), assessment of test-retest reliability was not conducted due to practical impediments in sample recruitment and should be explored in future

studies. TAAQ-PT sensitivity to therapeutic change may also be an important topic to focus on future research.

Despite the limitations mentioned, the TAAQ-PT seems to be a valid and reliable measure of teachers' EA and may be an important contribution to clinical/counseling work with teachers. As previously mentioned, teachers are prone to the development of stress, anxiety and depressive symptoms. Given that EA is a process implicated in the development and maintenance of psychopathological symptoms, assessing EA may contribute to the design of more specific intervention programs explicitly targeting this emotion regulation process. Acceptance and Commitment Therapy (ACT; S. C. Hayes et al., 1996) is one of the therapeutic approaches that address EA and this may be an adequate psychological intervention for teachers showing high EA levels. Identifying particular manifestations of EA through the use of the TAAQ-PT may allow the selection of approaches aiming to explore creative hopelessness or to promote radical acceptance within the context of ACT (Ciarrochi & Bailey, 2008).

The availability of the TAAQ-PT may also promote research on the role of teachers' EA in these professionals' psychological adjustment. Additionally, the use and validation of self-report instruments in different countries and different languages allow conducting cross-cultural studies.

Specific measures of EA show the benefit of examining experientially avoidant behaviors directly connected to a particular domain or setting and data suggest that the TAAQ-PT is a measure that can be applied to both men and women, to teachers of any age, and at different stages of their careers. Finally, the Portuguese version is not restricted only to use in Portugal given that Portuguese is the fourth most widely spoken language in the world, with around 261 million speakers spread all over the globe (Observatório da Língua Portuguesa, 2018).

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## Disclosure statement

The authors declare that they have no conflict of interest.

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