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Psychological Assessment

Psychometric properties of the Engaged Teachers Scale (ETS)

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Abstract

Work engagement is an affective-motivational condition that generates willingness, involvement at work and focused effort on the accomplishment of tasks by the employee. This study joined validity evidence for the Engaged Teachers Scale (ETS) in the Brazilian context. The sample consisted of 417 teachers, male and female (62.1% female). The confirmatory factor analyses evidenced that the original model of the instrument, which consists of 16 items distributed in four factors, showed the best fit to the data. The scale revealed invariance for sex, application type (face-to-face or online), age range and teaching experience. The internal consistency rates range between 0.66 and 0.85. Furthermore, the scale showed convergent validity indicators with work engagement and affective organizational commitment. The good psychometric qualities of the scale recommend its future use in research of engagement in teachers.

Keywords: work engagement; teacher; teacher's work engagement; confirmatory factor analysis; psychometrics.

PROPRIEDADES PSICOMÉTRICAS DA ESCALA DE ENGAJAMENTO NO TRABALHO DE PROFESSORES (EEP)

Resumo

O engajamento no trabalho caracteriza-se por um estado afetivo-motivacional que gera disposição no empregado, envolvimento com o trabalho e esforço concentrado na realização das tarefas. O estudo reuniu evidências de validade da Escala de Engajamento de Professores (EEP) no contexto brasileiro. A amostra foi composta por 417 professores, de ambos os sexos (62,1% feminino). As análises fatoriais confirmatórias evidenciaram que o modelo original do instrumento, composto por 16 itens, distribuídos em quatro fatores, foi o de melhor ajuste aos dados. A escala apresentou invariância para sexo, tipo de aplicação (presencial ou online), faixa etária e tempo de docência. Os índices de consistência interna dos fatores variaram de 0,66 a 0,85. A escala apresentou, ainda, indicadores de validade convergente com o engajamento no trabalho e o comprometimento organizacional afetivo. As boas qualidades psicométricas da escala recomendam seu uso futuro na pesquisa do engajamento em professores.

Palavras-chave: engajamento no trabalho; professor; engajamento do professor; análise fatorial confirmatória; psicometria.

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CUALIDADES PSICOMÉTRICAS DE LA ESCALA DE ENGAGEMENT DOCENTE (ECD)

Resumen

El *engagement* laboral se caracteriza por un estado afectivo-motivacional que genera disposición en el empleado, involucramiento con el trabajo y esfuerzo concentrado en la realización de las tareas. El estudio juntó evidencias de validez de la Escala de Engagement Docente (EED) en el contexto brasileño. La muestra incluyó a 417 profesores, de ambos sexos (62,1% femenino). Los análisis factoriales confirmatorios evidenciaron que el modelo original del instrumento, compuesto por 16 ítems, distribuidos en cuatro factores, fue el de mejor ajuste a los datos. La escala mostró invariancia para sexo, tipo de aplicación (presencial o en línea), rango de edad y tiempo de docencia. Los índices de consistencia interna variaron de 0,66 a 0,85. Además, la escala presentó indicadores de validez convergente con el engagement laboral y el compromiso organizacional afectivo. Las buenas cualidades psicométricas de la escala recomiendan su uso futuro en la investigación del engagement en profesores.

Palabras-clave: *engagement* laboral; profesor; *engagement* laboral del profesor; análisis factorial confirmatoria; psicometría.

1. Introduction

Teachers are strategically positioned in the school environment, as they play an important role in the articulation between the school and the students, and society (Ramos, 1999). In addition, they are a fundamental part of the teaching-learning process by sharing their knowledge with the students (Song, Kim, Chai, & Bae, 2014). Nevertheless, Brazilian schools, whether in the public or private network, present a history of students with behavioral problems, lack of interest in the contents and disrespect for the teachers in the classroom, which sometimes makes them feel impotent and even indifferent towards those problems (Ramos, 1999). In this context, the fact that the students can count on teachers who are engaged in their work is particularly relevant, in view of the decisive role these professionals play in the students' personal and professional development (Bakker & Bal, 2010).

According to Schaufeli (2013), work engagement is an affective-motivational state that arouses the employee's willingness, involvement with the work and effort focused on the accomplishment of the task. This construct tends to be

quite stable, despite some variations over time, being a phenomenon associated with the individual role performance, that can vary in function of contextual aspects (Schaufeli, Bakker, & Salanova, 2006). This construct takes the form of high levels of energy (vigor), feelings of enthusiasm (dedication) and involvement in the work (absorption) (Schaufeli, 2013).

The Job Demands and Resources Model has been frequently adopted to study work engagement, as this construct represents an important mediator of the relationships between job resources and demands, and professional task accomplishment (Bakker & Demerouti, 2017). The demands are variables that negatively affect the task development, as they require physical and psychological costs from the employee that inhibit and wear out their energy. Demands such as high-pressure levels at work, bureaucracy, a negative physical environment, and role conflicts have been perceived as demands that frustrate the personal development and achievement of the job goals (Bakker & Demerouti, 2017).

On the other hand, the job resources, such as social support, development opportunities, feedback and participation in decision making go against the demands and make the workers achieve their objectives, as well as to develop and grow personally and professionally (Bakker & Demerouti, 2017). Thus, the job demands are the main factors accountable for burnout, while the job resources act as the main predictors of work engagement (Bakker & Demerouti, 2017). Furthermore, the JD-R model argues that the personal resources, referring to the individuals' beliefs on their task control skills, influence the job demands and also serve as predictors of work engagement (Bakker & Demerouti, 2017).

One of the tools that is frequently used to measure engagement is the Work Engagement Scale (Utrecht Work Engagement Scale-UWES-17), developed by Schaufeli, Salanova, González-Romá, and Bakker (2002). It consists of 17 items, divided in three dimensions: vigor (six items), dedication (five items) and absorption (six items). Further studies led to the elaboration of a short version of the scale (UWES-9), consisting of nine items distributed in three dimensions (vigor, dedication and absorption), containing three items each (Schaufeli et al., 2006).

The UWES 9 and UWES 17 have been adopted as work engagement measures in different occupational groups, including public servants, entrepreneurs, physicians, military police and nurses, among others (Schaufeli, 2013). In addition, both versions of the UWESs have shown good psychometric characteristics in samples

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from different countries. In Brazil, both versions also presented good psychometric indexes (Ferreira et al., 2016; Vazquez, Magman, Pacico, & Hutz, 2015).

Nevertheless, the UWES serves to assess work engagement in corporate environments (Bakker, Albrecht, & Leiter, 2011), leaving aspects related to the school environment and teachers out of consideration. This justifies the construction of a scale that permits assessing and understanding teachers' work engagement, as the teachers' attitudes and motivational levels are transmitted directly to the students, making their engagement vital for the educational process (Klassen et al., 2012).

Based on these considerations, Klassen, Yederlen, and Durksen (2013), more recently, proposed a specific engagement scale for teaching – called the Engaged Teachers Scale (ETS) – to assess these professionals' engagement in the development of their school tasks. Initially, the authors built a 48-item scale and applied it to a sample of 224 primary or secondary school teachers. After adopting exploratory factor analyses, the scale was reduced to 27 items. This version was applied to another sample of 265 teachers, and the new exploratory factor analyses led to a final version, consisting of 16 items, distributed in four dimensions: cognitive engagement, emotional engagement, social engagement with the students and social engagement with the colleagues. Then, the final version of the scale was applied to a sample of 321 teachers and the confirmatory factor analysis results evidenced that the instrument presented good fit indexes (X^2/gl = 292.67 (98); CFI = 0.97; GFI = 0.90; NFI = 0.96; RMSEA = 0.08), besides Cronbach's alpha coefficients ranging from 0.79 to 0.84. Moderate to strong positive correlations were also found between the teachers' engagement assessed, using the Engaged Teachers Scale and their work engagement assessed using UWES-9, as well as their self-efficacy. These results are promising and recommend the use of the ETS in future research involving this professional group.

In Brazil, however, no studies on that scale were located, according to a survey in Brazilian databases (Scielo, PePSIC, CAPES dissertation database) in August 2019, using the following descriptors: work engagement; teachers; teachers' work engagament. Thus, additional studies that aim to identify validity evidence of the scale in Brazilian teachers are justified. This investigation can contribute to further the understanding about the nomological network of this construct, as well as to cooperate with diagnoses of teachers' work engagement and the assessment of interventions, intended to stimulate this construct, which have

shown vital for good performance in the teaching work (Bakker & Bal, 2010). Furthermore, assessing teachers' work engagement is fundamental to understand the psychological processes underlying high-quality teaching. Based on these considerations, the general objective of this study was to adapt and join initial evidence of internal structural validity, of invariance in terms of sex (male or female), data collection modality (in-class or online), age range and teaching experience, of correlations with external variables and of internal consistency of the ETS in Brazilian samples.

In the correlation with external variables, the variables emotional exhaustion, work engagement and affective organizational commitment were used. As work engagement makes the workers display greater motivation for their tasks, their chances are of feeling very stressed end up decreasing, due to a feeling of being energetically linked to their work (Schaufeli, 2013). Thus, a moderate and negative correlation is to be expected between teachers' engagement and emotional exhaustion (H1). On the other hand, considering that both work engagement and teachers' work engagement arouse a motivational status that favors the achievement of desirable results, motivated by intrinsic reasons that guide the task accomplishment (Klassen et al., 2013), a high and positive correlation would be expected between those two constructs (H2). Finally, as work engagement is an affective-motivational state deriving from work (Schaufeli et al., 2002), which guides the desire to commit to the execution of the work activities (Klassen et al., 2013), the hypothesis was raised that the engaged teachers scale would be moderate and positively correlated with affective organizational commitment, which is also a positive emotional-affective work-related state, but deriving from the organization (Hakanen, Bakker, & Schaufeli, 2006) (H3).

2. Method

2.1 Participants

In this research, a convenience sample of male and female teachers was used, who worked at different teaching levels and at public and private institutions in the Lake Region of the State of Rio de Janeiro. To be included in the study, as a criterion, the teacher should be working and possess at least one year of experience on the job. The sample consisted of 417 teachers, male and female (62.1% female),

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with ages ranging between 20 and 70 years (M = 40.97; SD = 11.01), who taught in primary (44.7%), secondary (26.4%) or higher education (28.9%). These professionals' total work experience ranged from 1 to 47 years (M = 16.8; SD = 10.8), and their length of experience in teaching from 1 to 55 years (M = 9.4; SD = 7.7). As for the work sector, 61.4% of the teachers came from public and 38.6% from private schools. These professionals' weekly workload was mostly 20 hours. Regarding education levels, 5.7% had secondary education; 13.02% unfinished higher education; 15.9% finished higher education; 40.1% specialization; 20.2% Master's and 4.9% held a Doctoral degree. Despite the small percentage of teachers with unfinished secondary and higher education, these were maintained in the sample because the study involved complex statistical analyses that implied larger samples.

2.2 Instruments

The teachers' work engagement was assessed using the ETS (Klassen et al., 2013), consisting of 16 items, to be answered on seven-point Likert scales ranging from 1 (never) to 7 (always). These items are distributed in four dimensions: cognitive engagement (four items), example: While teaching, I work with intensity; emotional engagement (four items), example: I feel happy while teaching; social engagement with the students (four items), example: In class, I show warmth to my students; and social engagement with the colleagues (four items), example: At school, I connect well with my colleagues. As mentioned earlier, this original version of the scale presented good fit indexes, as well as appropriate internal consistency indexes (between 0.79 and 0.84). To adapt the scale to Brazilian Portuguese, two professional psychologists who mastered the English language translated the instrument from English to Portuguese. Then, another professional checked for semantic equivalence between the first and second translation and reached a final consensus on the initial Brazilian version of the scale (Borsa, Damásio, & Bandeira, 2012).

Work engagement was measured using the short version of the Work Engagement Scale (UWES-9) (Schaufeli et al., 2006), adapted to the Brazilian context by Ferreira et al (2016). It contains nine items, to be answered on seven-point Likert scales, ranging from never (1) to always (7), example: I feel happy when I work intensely. In the adaptation by Ferreira et al (2016), the internal consistency of the scale corresponded to 0.91, against 0.93 in this research.

The emotional exhaustion dimension of burnout was assessed using Maslach's Burnout Inventory-General Survey, adapted for use in Brazil by Silva Júnior and Ferreira (2009). That scale consists of five items, to be answered on seven-point Likert scales ranging from never (1) to always (7), for example: I feel emotionally drained from my work. In the adaptation by Silva Júnior and Ferreira (2009), Cronbach's alpha for the dimension was 0.80, against 0.92 in this study.

Affective organizational commitment at work was assessed using the affective organizational commitment subscale of Meyer and Allen's Organizational Commitment Scale (1991), validated in Brazilian samples by Ferreira et al. (2002). The subscale also consists of a single factor with six items, to be answered on five-point scales ranging from I totally disagree (1) to I totally agree (5). Example: I feel that I truly belong to my organization. In the original validation process in Brazilian samples, the scale obtained an internal consistency index of 0.85, against 0.90 in this research.

2.3 Data collection and analysis procedures

The data were collected in an online version (23.3%) and in a printed version (76.7%). In the online version, teachers from different schools in the authors' contact network were asked through individual and group e-mails to complete the tool. The instrument was published on Google docs and contained information on the general study objective, as well as instructions to complete the questionnaire. In the printed version, the school principals in the Lake Region were contacted to request their authorization to develop the research among the schools' teachers. With their permission, a date and time was scheduled for the data collection, when the study objectives and instructions were explained. Then, the questionnaires were distributed, completed and returned at the end of the session. The participants chose to participate in the research voluntarily and completed a free and informed consent form in both application modes. In addition, the anonymity of any information provided was guaranteed to all respondents.

The data were analyzed using confirmatory factorial analyses in *MPlus*, version 6.12, using the parameters estimated by means of Weighted Least Squares Mean and Variance Adjusted (WLSMV). The minimum requirements for the fit indexes and reference values were: $X^2/gl < 5$; CFI > 0.95; TLI > 0.95; RMSEA < 0.05. The parameters invariance for the participants' sex, age range and length of teach-

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ing experience for the groups that answered the electronic or printed versions was verified using multiple-group confirmatory factor analysis (CFA) with the Maximum Likelihood estimator (MLR). Internal consistency was assessed using Cronbach's Alpha Coefficient, and the association with external variables, using Pearson's correlation coefficient. To interpret the magnitude of the correlation coefficients, Miles and Shevlin's criteria (2001) were adopted, according to the following intervals: 0.10 – 0.29 (low); 0.30 – 0.49 (moderate); and higher than 0.50 (high).

2.4 Ethical procedures

The research was initially submitted to the Research Ethics Committee at the authors' institution and received approval under number CAAE 65061316.8.0000.5289.

3. Results

Based on earlier studies on the ETS (Klassen et al., 2013), initially, three models were tested: a first-order model with four independent dimensions; with four independent dimensions and one general factor; a two-factor model, characterized by one general and four specific dimensions. The comparative results of the indexes found in each of the demonstrated models (Table 3.1) that the fit of the two-factor model to the data was slightly superior to the first-order model. Nevertheless, this model is more complex and requires the estimation of a larger number of parameters (Reise, 2012). In addition, the four-factor model is more coherent with the original ETS by Klassen et al. (2013). In that sense, the first-order four-factor model was chosen as the final solution.

Table 3.1. Fit Indexes of the Different Models Tested for the ETS.

Model	X^2	CFI	TLI	RMSEA (CI 90%)
First Order	256.926 (95)	0.985	0.981	0.064 (0.055-0.073)
Second Order	275.851 (97)	0.983	0.979	0.066 (0.057-0.076)
Bifactor	252.080 (87)	0.984	0.978	0.067 (0.058-0.077)

In Table 3.2, the non-standardized parameters of this solution are displayed, showing that the 95% confidence interval does not include any 0. In addition, all critical indexes are superior to 1.96, indicating that the assessed parameters are significantly different from 0 and can consequently be considered useful to the model. Table 3.3 contains the standardized factor loadings in the final model.

Table 3.2. Non-standardized parameters of final solution.

Parameters	*B* coefficient	Standard error	Critical ratio	CI (95%)
ETP1:	0.69	0.04	16.57	0.61-0.77
ETP2:	0.64	0.03	19.62	0.58-0.70
ETP3:	0.75	0.03	28.72	0.69-0.81
ETP4:	0.85	0.02	38.76	0.81-0.89
ETP5:	0.92	0.01	60.27	0.90-0.94
ETP6:	0.77	0.02	34.13	0.73-0.81
ETP7:	0.82	0.03	30.28	0.76-0.88
ETP8:	0.87	0.02	50.58	0.83-0.91
ETP9:	0.82	0.03	28.99	0.76-0.88
ETP10:	0.91	0.02	52.05	0.87-0.95
ETP11:	0.81	0.02	39.28	0.77-0.85
ETP12:	0.45	0.05	09.76	0.35-0.55
ETP13:	0.77	0.02	31.97	0.73-0.81
ETP14:	0.73	0.03	27.58	0.67-0.79
ETP15:	0.80	0.02	38.38	0.76-0.84
ETP16:	0.76	0.02	30.58	0.72-0.80

Fix indexes
x^2 (gl) = 256.926 (95)
TLI = 0.981
CFI = 0.985
RMSEA (CI 90%) = 0.064 (0.05-0.07)

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Table 3.3. Standardized factor loadings of ETS.

Items	Standardized factor loadings			
	Factor 1	Factor 2	Factor 3	Factor 4
2. I am excited about teaching	0.64			
5. I feel happy while teaching	0.92			
10. I love teaching	0.91			
13. I find teaching fun	0.77			
1. At school, I connect well with my colleagues		0.69		
7. At school, I am committed to helping my colleagues		0.82		
9. At school, I value the relationships I build with my colleagues		0.82		
12. At school, I care about the problems of my colleagues		0.45		
4. I try my hardest to perform well while teaching			0.85	
8. While teaching, I really "throw" myself into my work			0.87	
11. While teaching I pay a lot of attention to my work			0.81	
15. While teaching, I work with intensity			0.80	
3. In class, I show warmth to my students				0.75
6. In class, I am aware of my students' feelings				0.77
14. In class, I care about the problems of my students				0.73
16. In class, I am empathetic towards my students				0.76

To check for differences between the respondents in terms of sex (male and female), invariance analysis was applied to the scale according to this variable. The results displayed in Table 3.4 demonstrated configural invariance (concerning the number of items and factors), metric invariance (associated with the factor

loadings) and scalar invariance (related to the intercepts) between male and female. In addition, configural and metric invariance was found between the online and in-class application forms. Scalar invariance was not evidenced, though. When the intercept of item 12 was released, however, so as to be freely estimated among the groups, the difference in the fit index for the metric invariance model decreased again (ΔCFI = 0.004) (Table 3.4). Furthermore, the possible influence of the participant's age range and length of teaching experience on the item parameters was assessed. As these variables were collected at intervals (time), for the sake of the multi-group invariance analysis, three age ranges and three ranges of teaching experience were created based on the terciles (i.e. approximate percentages 33 and 66). This strategy was adopted to maintain a sample of at least 100 participants per group. The results also indicated the invariance of the measure among the age range and teaching experience groups. In other words, age and length of teaching experience do not seem to influence the score structure and item parameters.

The internal consistency indexes of the four dimensions (emotional engagement - 0.82; social engagement with the colleagues - 0.66; cognitive engagement - 0.85; social engagement with the students - 0.80) indicated that all four presented appropriate precision in the estimation of the scores, as all indices were superior to 0.70, except for engagement with the colleagues, which bordered on the acceptable coefficient (0.66).

To verify the relations with external variables, initially, the means, standard deviation and correlations between the dimensions of the ETS and the other scales in the study were calculated. The results evidenced that, regarding exhaustion, the dimensions of the engagement scale showed moderate to low negative correlations (emotional engagement: r = - 0.31; social engagement with the colleagues: r = - 0.09; cognitive engagement: r = - 0.17; social engagement with the students: r = - 0.15). As for work engagement, the dimensions presented high to moderate positive correlations (emotional engagement: r = 0.54; social engagement with the colleagues: r = 0.31; cognitive engagement: r = 0.45; social engagement with the students: r = 0.46), besides low to moderate positive correlations with affective organizational commitment (emotional engagement: r = 0.30; social engagement with the colleagues: r = 0.30; cognitive engagement: r = 0.27; social engagement with the students: r = 0.29).

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Table 3.4. Instrument invariance analysis.

Model	X^2	gl	RMSEA	GAMA – McD	CFI	TLI
Male X female						
Configural	363.037	190	0.066	0.951–0.811	0.923	0.903
Metric	370.380	202	0.063	0.952–0.816	0.925	0.911
Scalar	380.029	214	0.061	0.952–0.819	0.926	0.918
Residual covariance	388.014	221	0.060	0.952–0.818	0.926	0.920
In-class X online						
Configural	366.655	190	0.067	0.949–0.808	0.920	0.899
Metric	386.161	202	0.066	0.947–0.801	0.917	0.901
Scalar	430.165	214	0.070	0.939–0.770	0.902	0.891
Partial Scalar	406.214	213	0.066	0.945–0.792	0.913	0.902
Residual covariance	410.328	216	0.066	0.945–0.791	0.912	0.903
Age ranges (1=up to 34 years; 2=between 35 and 46 years; 3=more than 46 years)						
Configural	571.040	285	0.087	0.917–0.697	0.876	0.843
Metric	606.675	309	0.085	0.915–0.688	0.871	0.849
Scalar	652.133	333	0.085	0.908–0.669	0.861	0.850
Residual covariance	656.234	339	0.084	0.909–0.670	0.862	0.854
Ranges of teaching experience (1=up to 9 years; 2=between 10 and 20 years; 3=more than 21 years)						
Configural	493.001	285	0.075	0.937–0.766	0.906	0.881
Metric	530.314	309	0.074	0.934–0.753	0.900	0.883
Scalar	563.634	333	0.073	0.931–0.744	0.896	0.887
Residual covariance	568.786	339	0.072	0.931–0.745	0.896	0.890

4. Discussion

The aim of this study was to investigate the initial evidence of internal structural validity, of invariance in terms of sex, data collection modality, age range and length of teaching experience, and the correlations with external variables, as well as the internal consistency of the ETS (Klassen et al., 2013) in Brazilian samples. After the confirmatory factor analysis, it was observed that the model with the best fit index was the first-order model with four dimensions. Therefore, these results confirm the multiple-factor model proposed by Klassen et al. (2013).

The internal consistency indexes of all scale dimensions were good (0.82; 0.66; 0.85; 0.80), except for the social engagement with the colleagues' dimension (Alpha = 0.66). These results are partially in line with the findings by Klassen et al. (2013), which found 0.84; 0.87; 0.83 and 0.79 as coefficients for the cognitive engagement, emotional engagement, engagement with the students and engagement with the colleagues' dimensions, respectively. This result can be due to the fact that the engagement with the colleagues dimension has not yet been sufficiently tested in the wide range of social contexts the teachers interact in, and which differ, for example, in function of the number of students in the classroom and the number of teachers working at the school (Guvenc, 2015).

Concerning the correlation between the scale and external variables, overall, the dimensions of the ETS presented low negative correlations with emotional exhaustion, partially going against hypothesis 1, which puts forward moderate and negative relationships between these two constructs. This finding also goes against the findings by Høigaarda, Giskeb and Sundsli (2012), whose correlation coefficients ranged from moderate to high. One possible explanation for these discrepancies can be that the study participants in Høigaarda et al.'s (2012) were full-time teachers (as opposed to this sample, in which the majority were part-time teachers), which probably made them experience cognitively and emotionally more burdened situations, a condition that tends to make them more vulnerable to stress (Rudow, 1999). In addition, the fact that Brazilian schools tend to present a history of students with behavioral problems (Ramos, 1999) can make their teachers turn more frequently to strategies intended to fight the stress such situations provoke. This would also contribute to their lesser vulnerability to stress.

Regarding work engagement, the correlations of the ETS were moderate to high, partially confirming hypothesis 2. These results are in accordance with earli-

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er findings (Klassen et al., 2013), which also concluded that moderate to high positive correlations exist between these variables. These results can be because the teachers' engagement varies somewhat over time, depending on when the study was developed. This variation can entail differences in terms of motivation, cognitive and emotional engagement, which would result in more unstable feelings and positive attitudes towards work (Klassen et al., 2012).

Finally, the dimensions of the ETS presented low to moderate positive correlations with affective organizational commitment, which partially confirmed hypothesis 3, as it was expected that the correlation between these constructs would only be moderate. Anyway, this finding is in line with the results found by Hakanen et al. (2006), who found moderate correlations between these two variables. One possible reason for this result can be that, although the teachers like their work, which grants them social engagement and gratification, they feel neither acknowledged nor valued by the teaching institutions (Klassen et al., 2013), as they do not receive the necessary resources to develop their teaching activities, reducing their commitment to these institutions (Hakanen et al., 2006).

The results found here indicate, therefore, that the ETS presented initial validity evidence in Brazilian samples. It should be registered, however, that a convenience sample of mainly teachers from one specific region of the State of Rio de Janeiro (Lake Region) was used, which is why the results found should only be generalized with caution, as the psychometric indexes presented here are restricted to this type of sample. Another limitation refers to the lack of scalar invariance between the online and in-class samples, which may be due to the sample size, as the number of online participants was much smaller than that of the printed questionnaire respondents. Therefore, this question needs further investigation in future studies. Furthermore, the broad variation in the participants' age range and length of teaching experience could represent a limitation in this research. Nevertheless, the invariance analyses demonstrated that the scale was invariant for these two aspects.

Concerning future studies, it would be interesting to deepen the nomological network of the teacher engagement construct in Brazilian samples, especially concerning its impact on wellbeing at work. Preferably, longitudinal designs should be adopted for such research, which would permit a further understanding of these relationships. The association between teacher engagement, and socio-

demographic and professional variables, such as the level of the school where the teacher is active and the teacher's wages, for example, could be a source of future research, in as much as these variables can influence the teachers' energy, dedication and involvement in the accomplishment of their tasks (Klassen et al., 2013). Anyway, the initial validity evidence found recommends the future use of the ETS in Brazilian studies that aim to assess the degree of teacher engagement and its implications for these individuals' wellbeing and quality of life in the job context.

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