

VALIDATION OF THE E-WORK LIFE SCALE FOR THE PORTUGUESE POPULATION

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The E-Work Life Scale (EWLS), developed by Grant et al. (2019), is an instrument used to assess the quality of life when teleworking, regarding the interference between work and personal life domains, perceptions of productivity and effectiveness, flexibility, and organizational trust. This research aims to present the validation of the EWLS to the Portuguese population, through two different studies. The goal of the first study was to explore the factor structure of the scale through exploratory factor analysis ($N = 207$ teleworkers). The second study ($N = 272$) was intended to validate the scale factor structure and analyze its convergent validity, discriminant validity, and criterion validity. The findings from both studies showed that the scale had strong reliability, and a consistent factor structure, and demonstrated convergent, discriminant, and criterion validity. Thus, we conclude that the Portuguese version of the EWLS is a valid instrument to be used among teleworkers.

Keywords: Telework; E-work; Scale validation; Portuguese population; Telecommuting.

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Telework has been increasingly adopted by organizations since the COVID-19 pandemic crisis (Junça-Silva & Coelho, 2022), although it is not a recent strategy. The literature about telework identifies different terminologies and definitions (e.g., Allen et al., 2015; Grant et al., 2019). For instance, telework has been identified as telecommuting, remote work, e-work, flexible work, flexplace, virtual work, and distance work (Allen et al., 2015). These various concepts arise from the different disciplines having different theoretical backgrounds and research goals (e.g., information systems, management, communication, psychology).

Telework has been defined as a flexible work arrangement that allows employees to communicate with colleagues and supervisors, while performing their duties, from various locations, outside the employer's central premises, supported by electronic communication devices and networks (e.g., Bentley et al., 2016). It has been more often used by European and Australian scholars (Allen et al., 2015). Similarly, telecommuting is referred to as the work that is performed away from a central workplace (e.g., from home) using technology to interact with others (Allen et al., 2015; Pearce, 2009). Remote work and distributed work are more general terms than telecommuting and telework as are referred to as any form of work performed outside the office. Flexible work arrangements give a more general perspective of telecommuting, because they not only include telecommuting but also diverse flexible work programs such as flextime and compressed work weeks. Lastly, virtual work is referred to as the work activities performed by individuals, or teams,

who work together in a virtual environment using information and communication technologies, due to the geographic distance (Tworoger et al., 2013).

The investigation of telework has identified both positive and negative consequences (e.g., Junça-Silva et al., 2022). For instance, it has been associated with an increase in work overload, social isolation, and procrastination levels (e.g., De Carlo et al., 2022; Tavares, 2017). Notwithstanding, it has become an option for several companies because it also has several advantages for both employers and employees (Leung & Zhang, 2017), such as reduced stress, as well as increased productivity, and work-life balance (e.g., Fonner & Roloff, 2010; Grant et al., 2013).

Although the adoption of telework has been increasing in recent years, it was only after the COVID-19 outbreak, in which most companies around the world were forced to quickly adopt a telework regime to ensure their business continuity, that it experienced exponential growth. For instance, before the outbreak of the COVID-19 crisis, only a part of the working population occasionally worked from home. Telework ranged from 30% in Denmark, Sweden, and the Netherlands to 10% in Greece, Italy, and Poland. In Portugal, the percentage of teleworkers was around 6.5% before the pandemic crisis (Eurofound, 2017) and increased to 12% by the end of 2021 (Delicado & Ferrão, 2021). Currently, telework is a practice increasingly used by organizations, suggesting that it is very important to develop a valid and reliable instrument to measure the implications of telework on employees. Thus, this research aims to validate and adapt the E-Work Life Scale (EWLS; Grant et al., 2019) for the Portuguese population.

The EWLS is an instrument that assesses a set of theoretical aspects that are relevant to the quality of work-life, in telework. It not only allows employees to evaluate their effectiveness and well-being while teleworking, but also helps managers to develop strategies to support teleworkers' well-being, work-life balance, and productivity (Grant et al., 2013, 2019).

The scale is composed of 17 items and is divided into four dimensions: (a) effectiveness/productivity (four items) is related to the use of skills and strategies, such as self-management and the establishment of clear goals to achieve a better performance; (b) organizational trust (three items) is related with the level of autonomy and responsibility that is given, by the organization, to the teleworker, and the way he/she trusts in the skills and management practices of his/her superiors; (c) flexibility (three items) is related to an additional set of telework flexible practices that result in flexible work arrangements; and finally (d) work-life interference, including seven items, regarding the ability to effectively manage professional and nonprofessional demands, to switch between different roles, to establish clear boundaries between the personal and professional spheres, and to positively self-manage their health and well-being (Grant et al., 2013, 2019).

This research was divided into two studies. Study 1 aimed to analyze the instrument in terms of its reliability, by assessing Cronbach's alpha, and its validity, and by conducting an exploratory factor analysis. Study 2 aimed to confirm the factor structure found in the previous study, by conducting a set of confirmatory analyses. Furthermore, Study 2 aimed to analyze the convergent, discriminant, and criterion validity of the scale by relating it to other measures.

STUDY 1: INSTRUMENT'S RELIABILITY AND EXPLORATIVE TEST

The goal of the first study was to analyze the instrument reliability and its factor structure. First, we performed an exploratory factor analysis, and then examined Cronbach's alpha.

METHOD

Participants and Procedure

Data on the EWLS was collected through an online questionnaire. The scale was translated into Portuguese by following the translation/back-translation procedure. The first author translated the items into Portuguese which were then submitted to an English-Portuguese bilingual translator. The back-translation was then compared to assess the item-by-item consistency and both the second and third authors validated the translation process.

Then, participants from both personal and professional networks were invited to participate when and only if they were in telework. Firstly, we presented the main goals of the study, by email, and when a participant agreed to participate, we sent him/her the link to the survey. To ensure focus on the objective of the study, a minimum requirement was set that participants had to be exclusively teleworking. Thus, only the respondents who met this requirement were able to proceed with the questionnaire. Participants gave their informed consent, and we assured their anonymity and confidentiality of the data. The ethics committee of the researchers' university approved the study conduction.

From the 300 emails sent, we got 207 valid responses (response rate = 69%). Of the 207 participants, 69% were women ($n = 143$), the mean age was 37 years ($SD = 11.2$), and, on average, the individuals had 1.73 dependent children ($SD = 0.70$). The mean organizational tenure was 1.71 years ($SD = 1.22$); most of the participants were single (38.3%), 32.7% were married (29% did not provide the answer); 39% had a bachelor's degree. Participants were teleworking for an average of 8.15 hours per day ($SD = 2.16$) and most of them were in a social isolation condition, for a mean of 49 days ($SD = 13.56$) due to the mandatory confinement during the COVID-19 pandemic crisis.

Measures

We used the *E-Work Life Scale* (Grant et al., 2019) to assess the quality of life in telework. The scale encompasses 17 items that measure four dimensions: (a) work-life interference (seven items; e.g., "I am happy with my work-life balance when teleworking"; "I am happy with my work-life balance when e-working remotely"); (b) effectiveness/productivity (four items; e.g., "Teleworking makes me more effective to deliver against my key objectives and deliverables"; "My overall job productivity has increased by my ability to e-work remotely/from home"); (c) organizational trust (three items; e.g., "My organization trusts me to be effective in my role when I am teleworking"; "My organization provides training in e-working skills and behaviors"); and (d) flexibility (three items; e.g., "My line manager allows me to flex my hours to meet my needs, provided all the work is completed"; "My work is so flexible I could easily take time off e-working remotely, if and when I want to"). The items were answered on a 5-point Likert scale (1 = *strongly agree* and 5 = *strongly disagree*). The Portuguese version of the scale is available upon request from the authors.

Statistical Procedures

Firstly, descriptive statistics were used to understand participants' characteristics, followed by exploratory factor analysis (EFA) through SPSS, and then proceeded with the internal consistencies (Cronbach's alpha) verification.

RESULTS

Factor Analysis and Reliability

According to Kline (2011), it is possible to check the deviations from the normal distribution of multiple items if the following criteria are met: the mean values do not come too close to the minimum and maximum values, the skewness values are less than 3, and the flattening indices (kurtosis) do not exceed 7. Therefore, and as shown in Table 1, we conclude that none of the items present gross deviations from the normal distribution.

TABLE 1
Study 1: Items, means, standard deviations, Cronbach's alphas, and factor loadings
of the E-Work Life Scale ($N = 207$)

Items	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	α	Factor			
						1	2	3	4
<i>Work-life interference</i>						<i>.67</i>			
2.	3.13	1.35	-0.02	-1.20		.80	.04	.14	-.04
3.	2.68	1.43	0.33	-1.26		.77	.05	.02	.05
4.	3.43	1.25	-0.37	-0.83		.58	.53	.07	.11
5.	2.94	1.33	0.09	-1.18		.77	.14	.05	.10
12.	2.63	1.19	0.34	-0.97		-.66	-.15	-.29	-.05
15.	2.85	1.27	0.17	-0.92		.67	-.05	.16	.14
17.	2.89	1.41	0.13	-1.26		.71	.09	-.12	.03
<i>Effectiveness/productivity</i>						<i>.79</i>			
6.	3.37	1.15	-0.20	-0.80		.16	.81	-.06	.07
10.	3.34	1.11	-0.21	-0.68		.24	.83	.05	.12
11.	3.80	1.07	-0.89	0.35		.08	.54	.44	.15
16.	3.24	1.13	-0.12	-0.70		-.11	.83	.02	.03
<i>Flexibility</i>						<i>.71</i>			
7.	3.57	1.28	-0.55	-0.80		.06	.09	.57	.47
13.	3.24	1.27	-0.22	-1.02		.19	.02	.82	.01
14.	3.44	1.28	-0.44	-0.95		.05	.04	.82	.07
<i>Organizational trust</i>						<i>.70</i>			
1.	3.01	1.36	-0.20	-1.19		.06	.12	-.14	.78
8.	4.09	1.06	-1.20	0.96		.09	-.09	.45	.68
9.	3.74	1.14	-0.65	-0.37		.12	.22	.21	.80

Note. Factor loadings are in bold.

The factor analysis resulted in a 4-factor solution, as it was originally found in the original study of the scale development (Grant et al., 2019), explaining 63.14% of the variance (see Table 1). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .83, which indicated that the data was appropriate for the analysis (Kaiser, 1974).

The first factor (*work-life interference*; eigenvalue = 4.94) included seven items and explained 29.07% of the variance. The second factor (*effectiveness/productivity*; eigenvalue = 2.35) consisted of four items and explained 13.83% of the variance. The third factor, labeled *flexibility* (eigenvalue = 2.15) included three items and explained 12.62% of the variance. Finally, the fourth factor, called *organizational trust* (eigenvalue = 1.30), explained an additional 7.62% of the variance and comprised three items. The factor loadings of the items ranged between .50 and .76. Each dimension presented good reliabilities, with Cronbach's alphas ranging from .67 to .79 (Nunnally & Bernstein, 1994).

DISCUSSION

This first study provides initial evidence and support for the instrument validity and reliability demonstrated by exploratory factor analysis and Cronbach's alpha. Similar to the original authors' study (Grant et al., 2019), the results suggested that the scale is composed of four factors: flexibility (the level of flexibility associated with the working hours), organizational trust (the level of autonomy and responsibility prompted by the organization during telework), effectiveness/productivity (the ability to effectively use skills and competencies to self-manage telework), and work-life interference (the ability to integrate work and nonwork demands effectively, in a way that promotes balance and well-being). Likewise, the results demonstrate that each of these dimensions has good internal consistency indices, as the original study reported (Grant et al., 2019). Overall, these initial results suggest that the scale is a reliable and valid measure to assess the well-being of teleworkers and understand how they perceive e-work.

STUDY 2: CONFIRMATORY FACTOR ANALYSIS

This study aimed to validate the factor structure found in Study 1, by analyzing it through confirmatory factor analysis (CFA). Moreover, we also intended to analyze the scale validity (convergent, discriminant, and criterion-related). We followed the suggestions of Grant and colleagues (2019) to analyze the validity of the scale. Hence, to analyze its convergent validity, we correlated it with items related to telework (e.g., number of teleworking hours, telework-related satisfaction). To examine the discriminant validity, we correlated the EWLS with self-leadership, because it can be considered a personal resource that plays a central role within telework, and only few studies correlate these two variables (e.g., Müller & Niessen, 2019). Finally, to analyze the criterion validity, we correlated the EWLS with emotional exhaustion and performance, because (1) the original study of the scale development demonstrated significant associations between the scale and measures of health, including mental health and vitality (Grant et al., 2019), and (2) several studies also reported that telework contributes to improving teleworkers' mental health (Bailey & Kurland, 2002; Fonner & Roloff, 2010; Grant et al., 2013), well-being (e.g., Junça-Silva & Coelho, 2022), and performance (Eurofound & ILO, 2017; Gajendran et al., 2015; Kwon & Jeon, 2020).

METHOD

Participants and Procedure

Similarly to Study 1, we sent emails to individuals from our personal and professional networks asking them to participate in this study. We explained the goals of the study in advance and assured

anonymity and confidentiality. If they agreed to participate, we sent them the link to the online survey. All participants met the minimum requirement of being in an exclusive telework regime. The ethics committee of the researchers' university approved the conduction of the study.

From the 300 emails sent, we obtained 272 valid responses (response rate = 90.6%). Most of the participants were women (67%), and the mean age was 39 years. On average, participants reported having 1.68 dependent children ($SD = 0.68$). The mean organizational tenure was 1.55 years ($SD = 1.11$), and the mean function tenure was 1.74 years ($SD = 1.07$). Most participants were in a social isolation condition, on average, at 115 days ($SD = 134.45$). The mean hours of telework were 8.35 ($SD = 1.40$) and ranged between 2 and 12 hours. Most participating teleworkers were in a total telework regime (83%), had, at least, a graduate degree (78%), and most were married (46%), while 31% were single (23% did not provide the answer).

Measures

Telework. To measure telework we used the same scale as in Study 1 (E-Work Life Scale; Grant et al., 2019).

Emotional exhaustion. This was measured through the Maslach Burnout Inventory-General Survey (MBI-GS; Schaufeli et al., 1996). We used the Portuguese version of the MBI (Maroco & Tecedero, 2009). We used the six items regarding emotional exhaustion (e.g., "I feel emotionally drained from my work"). The items were answered on a 5-point Likert scale (1 = *never*, 5 = *daily*).

Performance. We measured performance with the Individual Work Performance Questionnaire (IWPQ; Koopmans et al., 2012), through five items related to task performance (e.g., "I managed to plan my work so that it was done on time") and eight items related to contextual performance (e.g., "I started new tasks myself when my old ones were finished"). We followed the procedure of translation and back-translation of the items. All the items were answered on a 5-point Likert scale (1 = *rarely*, 5 = *always*).

Self-leadership. This was assessed with four items adapted from Houghton and Neck's (2002) scale, which was validated for the Portuguese population by Marques-Quinteiro et al. (2012). Participants indicated their degree of agreement (e.g., "I set specific goals for my performance") on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*).

Telework-related measures. We asked the participants to report the number of working hours per day during telework. We also asked them to rate their perceived productivity during telework (1 = *less productive*, 5 = *more productive*), happiness (1 = *less happy*, 5 = *happier*), and telework-related satisfaction (1 = *less satisfied*, 5 = *more satisfied*). Moreover, participants identified the telework format (0 = *hybrid*, 1 = *full*), and the personal strategies used to work from home, such as defining a schedule (0 = *not at all*, 1 = *yes, definitely*), and whether they had a dedicated workspace (1 = *never*, 5 = *always*).

Statistical Procedures

The main analysis comprised CFA using the lavaan package in R software (Rosseel et al., 2014). We also used the maximum likelihood with robust standard errors (MLR). In line with the theoretical model of the LMS, we first tested a 4-factor model (work-life interference, organizational trust, flexibility, and effectiveness/productivity). Then, we tested three alternative models (1-, 2-, and 3-factor models).

To assess the fit of the models, we used the goodness-of-fit indices, such as the chi-square (χ^2) values, the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root-mean-square error of approximation (RMSEA). Values between .90 and .94 for both the CFI and the TLI indicate adequate fit, whereas values of .95 and higher indicate excellent fit (Browne & Cudeck, 1993). Values smaller than .10 for the RMSEA indicate acceptable fit, values smaller than .08 indicate good fit, and values lower than .05 indicate excellent fit. Lastly, we computed internal consistencies (Cronbach's alpha) and descriptive analysis through SPSS, and we tested convergent, discriminant, and criterion-related validity with other measures.

RESULTS

Descriptive Statistics

The mean value of the E-Work Life Scale was 3.33 ($SD = 0.53$). The factor with higher mean values was organizational trust ($M = 3.60, SD = 0.95$). Work-life interference was the factor with the lowest mean ($M = 3.04; SD = 0.70$), followed by effectiveness/productivity ($M = 3.49, SD = 0.87$), and flexibility ($M = 3.52, SD = 1.00$).

The internal consistency of the four dimensions was acceptable. The reliability coefficients were work-life interference: $\alpha = .81$; organizational trust: $\alpha = .72$; flexibility: $\alpha = .72$; and effectiveness/productivity: $\alpha = .80$. Results showed that the four dimensions presented significant and positive correlations between each other ($.19 > r < .46, p < .01$), except for work-life interference with organizational trust ($r = .06, p = .30$).

Confirmatory Factor Analysis

The standardized factor loadings were all statistically significant with a $p < .001$ and ranged from .45 to .92 (Figure 1).

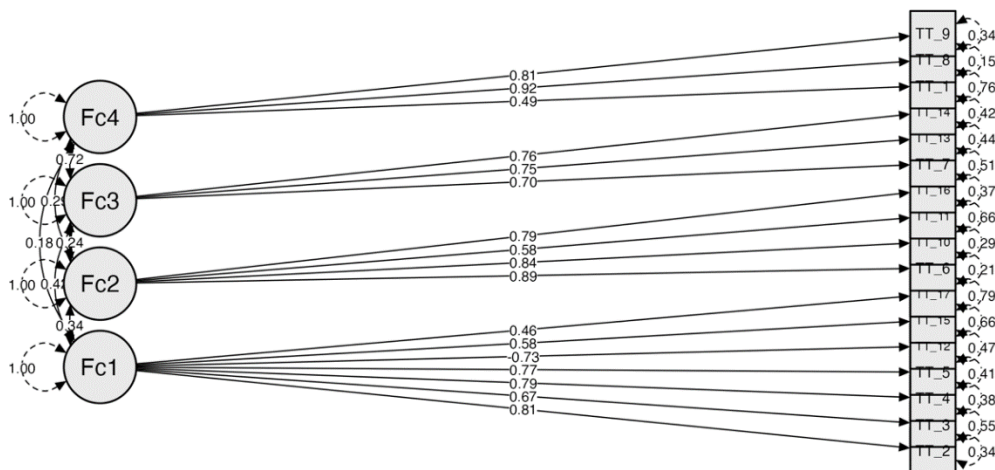


FIGURE 1
 EWLS — Factor structure (Study 2)
 Note. EWLS = E-Work Life Scale; Fc = factor; TT = telework.

First, we tested the 4-factor model, as proposed by Grant et al. (2019). Then, we tested a 3-factor model, in which we comprised organizational trust with flexibility (CFI = .93; TLI = .92; RMSEA = .13). Then, we performed a 2-factor model (CFI = .84; TLI = .82; RMSEA = .20), comprising a factor that encompassed both organizational trust, flexibility, and effectiveness/productivity, and a factor that included the work-life interference items. Lastly, we tested a 1-factor model, in which all items loaded onto a single dimension (CFI = .73; TLI = .69; RMSEA = .26). The 4-factor model was the one that best represented the data (CFI = .95; TLI = .93; RMSEA = .10; see Table 2).

TABLE 2
Study 2: The goodness-of-fit statistics of the E-Work Life Scale

Tested models	χ^2	<i>df</i>	CFI	TLI	RMSEA [95% CI]	SRMR
4-factor model	557.86	113	.95	.93	.11 [.10, .12]	.10
3-factor model	650.07	116	.93	.92	.13 [.12, .14]	.11
2-factor model	1359.45	118	.84	.82	.19 [.19, .21]	.16
1-factor model	2283.57	119	.73	.69	.26 [.25, .27]	.19

Note. *df* = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation; CI = confidence interval; SRMR = standardized root-mean-square residual.

Convergent Validity

To analyze the convergent validity, we examined its relationships with telework indicators. We found that the overall scale was negatively related with the number of daily hours in telework ($r = -.28, p = .00$) and positively related to telework productivity ($r = .38, p = .00$), happiness in telework ($r = .45, p = .00$), the format of telework ($r = .30, p = .00$), telework-related satisfaction ($r = .31, p = .00$), and personal strategies to work from home: having a dedicated workspace ($r = .19, p = .00$) and scheduling daily work ($r = .35, p = .00$; see Table 3).

Discriminant Validity

The discriminant analyses focused on the relationship between the E-Work Life Scale and self-leadership. We found that the E-Work Life Scale did not negatively correlate with self-leadership at $r = .10, p = .09$. Only the dimension of effectiveness/productivity presented a significant and positive association with self-leadership ($r = .28, p = .00$). These results supported the discriminant validity of the scale.

Criterion-Related Validity

To analyze the criterion validity of the scale, we related it to emotional exhaustion and performance. The findings showed that the E-Work Life Scale presents significant correlations with emotional exhaustion ($r = -.49, p = .00$), task performance ($r = .52, p = .00$), and contextual performance ($r = .33, p = .00$). Therefore, these results provide evidence for the criterion-related validity of the E-Work Life Scale.

TABLE 3
Study 2: Means, standard deviations, and correlations between the variables ($N = 272$)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
EWLS dimensions										
1. EWLS	3.33	0.53	–							
2. WLI	3.04	0.86	.69**	–						
3. Flexibility	3.52	1.00	.66**	.26**						
4. Productivity	3.49	0.86	.61**	.23**	.20**	–				
5. OT	3.60	0.95	.56**	.06	.46**	.19**	–			
Criterion-related validity										
	<i>M</i>	<i>SD</i>	EWLS	WLI	Flex	Prod.	OT			
Task performance	3.73	0.69	.50**	.20**	.31**	.48**	.34**			
Contextual performance	3.97	0.65	.34**	–.03	.23**	.48**	.30**			
Emotional exhaustion	2.62	1.00	–.49**	–.55**	–.30**	–.12*	–.16**			
Convergent validity										
	<i>M</i>	<i>SD</i>	EWLS	WLI	Flex	Prod.	OT			
Daily hours in telework	8.35	1.40	–.28**	–.42**	–.24**	.05	.01			
Telework productivity	0.69	0.47	.38*	.24**	.05	.56**	.07			
Happiness in telework	0.58	0.49	.45*	.43**	.13*	.43**	.04			
Telework format	0.03	0.18	.30*	.31**	–.01	.37**	–.06			
Telework-related satisfaction	2.71	1.06	.31*	.42**	.14*	.56**	.14*			
Dedicated workspace	3.91	1.38	.19**	.20**	.13*	.29**	.18**			
Daily work schedule	3.96	1.18	.35*	.15*	.02	–.01	.13*			
Discriminant validity										
	<i>M</i>	<i>SD</i>	EWLS	WLI	Flex	Prod.	OT			
Self-leadership	4.52	0.92	.10	–.04	.01	.28**	.04			

Note. EWLS = E-Work Life Scale; WLI = work-life interference; OT = organizational trust.
* $p < .00$; ** $p < .01$.

DISCUSSION

This study aimed to (1) analyze whether the 4-factor model was supported by an additional sample, and (2) test the convergent, discriminant, and criterion validity of the scale. Overall, the results, not only confirm the 4-factor structure found in Study 1 but also show that it meets the structure proposed by Grant et al. (2019). Furthermore, the scale appears to be a valid and reliable measure once it fulfills the convergent, discriminant, and criterion-related validity.

GENERAL DISCUSSION

Following the pandemic and the improvement of remote e-working, it is important to develop reliable measures in different countries. Before the pandemic crisis of COVID-19 started in 2020, Portugal had an incidence of telework of 6.5% (Eurofound & ILO, 2017), however, this modality duplicated after the crisis (Delicado & Ferrão, 2021), because a great number of organizations started to adopt telework as a strategy to improve commitment, well-being, and performance (Junça-Silva & Coelho, 2022). Hence, in the wake of that, this research aimed to validate the EWLS, originally proposed by Grant et al. (2019), for the Portuguese population. To that end, we conducted two studies.

First, the scale seems to present a good internal consistency, except for the item “When e-working from home I do know when to switch off/put work down so that I can rest,” which seems to lower the levels of internal consistency, both for the overall scale and for the work-life interference dimension. Then, we performed an exploratory factor analysis, which resulted in a 4-factor solution, suggesting that the scale is composed of four factors: flexibility, organizational trust, effectiveness/productivity, and work-life interference. The results presented in the original scale appear to be similar to those found for the Portuguese population at large.

For Study 2, we analyzed whether the 4-factor model was supported by an additional sample of teleworkers. The results show that the 4-factor structure is the one that best represents the data. This result was also in line with what Grant and colleagues (2019) found in their study. Hence, the EWLS is composed of four dimensions that serve to assess the workers’ perceived experience of telework (Grant et al., 2019) and their well-being (Junça-Silva, Almeida, et al., 2022; Junça-Silva & Coelho, 2022; Junça-Silva, Neves, et al., 2022). The four dimensions evaluate (1) the degree of flexibility that workers have to schedule, organize, and manage their work, (2) how they see their effectiveness/productivity when performing their tasks in telework, (3) the perceived organizational trust transmitted by the organization and perceived in forms of autonomy, and (4) the balance between work and nonwork domains that significantly affect how workers feel during telework (Grant et al., 2019; Junça-Silva, Almeida, et al., 2022; Junça-Silva & Coelho, 2022; Junça-Silva, Neves, et al., 2022).

We also tested the convergent, discriminant, and criterion validity of the scale. The results suggest that this scale is a reliable measure to assess the perceived quality of telework because it shows significant relationships with telework indicators (e.g., satisfaction during telework), which, in turn, proves that the scale has convergent validity. To support this information, we correlated telework with workers’ satisfaction (i.e., the extent to which the individual is satisfied with telework), happiness (i.e., the extent to which the individual is happy when in telework), and the individual’s perception of work, in a telework context (e.g., regarding the telework format, the number of daily working hours, the existence of a dedicated workspace, and the definition of a daily work schedule). The scale shows moderate to strong relations with these measures, supporting its convergent validity.

Regarding discriminant validity, we related the scale with a measure of self-leadership. Because self-leadership is a process of self-regulation that allows the individual to control their behaviors by leading themselves through a set of strategies used to increase personal effectiveness (Neck & Houghton, 2006), we consider it an important personal resource, specifically in the telework context (Müller & Niessen, 2019). The results show no significant relationships between the variables, which means that the scale discriminates well the concept it intends to measure (i.e., the quality of telework) and, therefore, the discriminant validity is proven.

Finally, the results also reveal that the scale meets the criterion validity, as it appears to be positively associated with measures of performance (task and contextual performance) and negatively associated with measures of emotional exhaustion. Recent studies have shown similar findings given that telework is a positive

predictor of performance (e.g., Junça-Silva, Almeida, et al., 2022; Junça-Silva & Coelho, 2022; Junça-Silva, Neves, et al., 2022), well-being (Blahopoulou et al., 2022), and health (Grant et al., 2019).

Overall, this research shows that the EWLS is a valid instrument, in psychometric terms, for the Portuguese population who is teleworking.

Limitations and Future Research

Despite the positive features of these two studies, they also have some limitations. First, although the internal consistency of the four EWLS dimensions is high, the fact that this is a self-report measure may represent a limitation, because the assessment of subjective experiences tends to lead to a common method bias, which, in turn, may influence the relationships between variables. Therefore, we suggest combining this self-report measure with other evaluation methods in the future.

Second, both studies used cross-sectional data, which does not allow for any cause-and-effect inferences. Moreover, the use of cross-sectional data precludes the assessment of longitudinal measurement invariance, which is a prerequisite for longitudinal investigations (Newsom, 2015). Several studies point out causal relations between telework and other constructs relevant to organizations and employees (e.g., burnout and performance), however, this research does not intend to establish those kinds of relationships between telework and other variables, but to validate and adapt a scale that allows measuring it. Future studies should focus on the psychometric properties of the EWLS, relating it to other constructs.

Third, in both studies, the mean organizational tenure was low, which may raise some issues regarding the sample itself, and the generalizability of the data. This low mean organizational tenure may indeed have influenced the results in some way, hence future studies should resort to a more heterogeneous sample regarding organizational tenure.

Finally, the period during which the data collection took place, more specifically, during the mandatory confinement due to the COVID-19 pandemic, may be considered a limitation of this research. Given that individuals were confined, it was difficult to reach most of the participants and, as such, the samples obtained were relatively small. In this sense, we suggest that future research focus on validating the psychometric properties of the EWLS with larger samples and in a period when, free of pandemic restrictions, companies have structurally implemented and evaluated the results of present telework policies.

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