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Portuguese version of Brown, Treviño and Harrison's Ethical Leadership Scale: Study of its psychometric properties

Vítor Hugo Silva[12]* and Ana Patrícia Duarte[13]

Abstract: This paper investigates the psychometric properties of a Portuguese version of the Ethical Leadership Scale across five field studies. The Portuguese ELS (P-ELS) was compared with subscales of a reduced version of the Ethical Leadership at Work questionnaire to check convergent validity (CFI = .95; TLI = .95; RMSEA = .06) and with subscales of organizational justice scale to confirm discriminant validity (all $r < .18$; $p < .05$). To assess criterion validity, the extent of the P-ELS's ability to predict organizational ethical climate was tested (all β coefficients $p < .01$, except for profit subscale). To check nomological validity, the relationship between ethical leadership and job-related affective well-being mediated by leader-member exchange quality was analyzed ($B_{indirect\ effect} = 0.21$; 95% CI = 0.02, 0.41). Results support P-ELS's unidimensional structure and suggest that it has good construct validity and reliability, therefore, being a useful tool to assess leaders' ethical behaviors in the workplace.

Subjects: Business, Management and Accounting; Leadership; Human Resource Management

Keywords: Ethical Leadership Scale; scale validation; construct validity; reliability; Portuguese version

Over the last two decades, many ethical problems involving well-known corporations have been associated with their leaders' ethical flaws. As a result, leadership has been placed under a moral spotlight, and the pressure on organizations and leaders to behave ethically has grown increasingly stronger (Brown et al., 2005; Treviño et al., 2014). This has been mirrored in the interest of organizational behavior and/or psychology researchers in this topic, and in the increasing number of studies on moral and ethical issues in leadership (Hartog, 2015; Ko et al., 2018).

Several definitions of and approaches to ethical leadership have been proposed since the 1990s, including differentiating this construct from other behavioral leadership styles (see, Brown et al., 2005 for a review). Treviño et al.'s (2000) seminal work proposed that ethical leadership implies being both a moral person and a moral manager. The first refers to the qualities of a leader inside and outside the workplace (e.g., honesty, fairness, and concern for others). The second denotes how leaders use their managerial roles and positions to promote ethics in the workplace. Perceptions of ethical leadership depend on the coherence between these two dimensions.

For instance, a strong focus on the ethical dimension of management without the same focus at a personal level may project an image of hypocrisy. Conversely, behavior strongly guided by moral values but passive regarding the ethical dimension of management can convey the idea that

leaders are silent when confronted by ethical issues or only slightly concerned about ethical issues. Individuals may behave ethically as a result of personal values without this implying that they are exercising ethical leadership. In other words, leaders can base their personal behavior on high ethical standards but become passive regarding their influence on the ethical conduct of their subordinates.

Following this line of thought, Brown et al. (2005) developed an influential definition of this construct, according to which ethical leadership is "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making" (p. 120). Thus, ethical leadership focuses on two main ideas. First, ethical leaders behave morally (e.g., they are trustworthy, fair, and consider others' interests). Second, these leaders facilitate an environment in which employees will also behave morally, for example, by role modelling ethical conduct, setting and communicating ethical standards, and using reward and/or punishment to ensure that ethical standards are followed.

Building on social learning theory (Bandura, 1969), the conceptualization of ethical leadership assumes that individuals develop their behavioral patterns by observing the behaviors and attitudes of those who, in their opinion, are reference points in terms of moral conduct (Treviño, 1986). In organizational contexts, leaders are—by the implicit value of the position they occupy and their status and power—a natural source of ethical and personal orientation (e.g., Adnan et al., 2020; Ahmad et al., 2021; Dang et al., 2022; Nemr et al., 2021).

Other approaches to ethical leadership have also been proposed. Some authors have argued that the ethical nature of leadership can be examined by considering social exchange relationships and the norms for reciprocity established between leaders and followers (e.g., Hansen et al., 2013). Still other researchers have suggested that ethical leadership can be seen simply as a result of the intentions behind leaders' behaviors and their effects (e.g., Turner et al., 2002). Another perspective advocates the need to include the macro-organizational effects of ethical leadership, arguing that ethical leadership can be viewed as the process of influencing groups' activities to achieve goals in socially responsible ways (Hoogh & Hartog, 2009; Marquardt et al., 2021). An additional approach focuses on leaders' entrepreneurial ability to engineer breakthroughs in organizational moral development by taking initiatives to broaden the horizons of stakeholders regarding new ethical domains of corporate behavior (Kaptein, 2017).

These different conceptualizations have been reflected in the measurement of ethical leadership, so several scales for measuring this behavior are available in the literature (e.g., Hassan et al., 2013; Kalshoven et al., 2011). Of these, the Ethical Leadership Scale (ELS) developed by Brown et al. (2005) is the scale most widely used to evaluate followers' perceptions of leaders' ethical behavior.[1] The ELS is a 10-item unidimensional measure that assesses different types of ethical leadership behaviors such as principled and fair decision-making, open two-way communication with followers, ethical role modeling, and punishment of unethical behavior.

Despite the importance of ethical leadership in preventing corporate misconduct and promoting organizational success, the existence of a measure in Portuguese has received little scholarly attention. This scale has been validated in other languages, but a Portuguese version is still not available in the literature. Besides Portugal (Europe), several other countries around the world have Portuguese as the official language. These include, for instance, Angola, Cape Verde, and Mozambique (Africa), Brazil (South America), Goa, Macau, and East Timor (Asia). Overall, a total of 257.7 million Portuguese native speakers has been estimated (Statista, 2022). The present paper, therefore, describes a set of studies designed to translate, adapt and study the psychometric properties of a Portuguese version of the ELS (P-ELS). Evidence on the psychometric properties of the P-ELS are provided, namely, information on factorial, convergent, discriminant, criterion, and nomological validity, as well as reliability. By studying the psychometric properties of the

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P-ELS, this research sought to contribute to the evidence on the utility and cross-cultural validity of the ELS scale (Brown et al., 2005). The present study thus is the first to make available an empirically validated Portuguese version of this important instrument for use in future research on ethical leadership with Portuguese-speaking samples.

1. Scale validation

1.1. Study one: Factorial validity
The aim of the first study was to translate, adapt and examine the factorial validity of the P-ELS. The translation of the ELS into Portuguese followed the standard procedures for translations of research instruments (Brislin, 1986). First, two bilingual translators made both forward and back translations of the 10 items. Then, the back-translated versions were compared with the original instrument. Finally, the translators compared the back translations to assess the consistency of the items. Differences were discussed and resolved by consensus, which produced a final version (see, Table 1). This procedure was also followed for the other measurement tools used in this research, except when otherwise indicated below.

The P-ELS was then administrated by means of an electronic survey to 372 employees recruited from a variety of public and private organizations operating in different business sectors (for further details about the sample used in this and the other studies, see, Table 2). Participants were asked to rate each item regarding their direct supervisor. Items were rated on a 5-point response scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree"). Higher scores reflect more positive ethical evaluations of leaders' actions and behaviors.

The data analyses proceeded through multiple stages using IBM SPSS 22.0 and AMOS 22.0 software. First, descriptive statistics were calculated. Second, confirmatory factor analysis (CFA) was conducted to confirm the unidimensional structure of the instrument. A single model was estimated with the maximum likelihood method. To evaluate the goodness of fit of the unidimensional structure, the chi square to degrees of freedom ratio (χ^2/df), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR) were calculated. Last, reliability analysis was performed, and internal consistency examined with Cronbach's alpha coefficients and composite reliability.

Table 3 presents the descriptive statistics of the P-ELS. All items show negative skewness, while the kurtosis values are close to those of a normal distribution. Given the sample size ($N > 300$) and skewness and kurtosis values between −1 and 1, deviations to normality that could affect the analysis results were thus not detected (Tabachnick & Fidell, 2014).

As previously reported by Brown et al. (2005), the CFA's results yield a unidimensional structure. All item loadings exceed 0.70 (Hair et al., 2014). The Cronbach's alpha for the overall ethical leadership measure is .95 (i.e., excellent internal consistency), and the item-total correlations range from .66 to .87, indicating that all items need to be retained for the single-factor model. Table 1 above presents the results of the CFA for study 1, as well as the findings of the CFA conducted in subsequent studies. The goodness-of-fit indices suggest that the data fit a single-factor model well (Hu & Bentler, 1999), thereby providing support for the unidimensional structure of the P-ELS.

2. Study two: Convergent validity
The second study assessed the convergent validity of the P-ELS by analyzing its relationship with the Ethical Leadership at Work (ELW) questionnaire (Kalshoven et al., 2011). This is a multidimensional measure of ethical leadership composed of 38 items and organized in seven subscales: leader integrity, fairness, ethical guidance, caring behavior, power sharing, concern for sustainability, and role clarification. In the initial validation of this scale, Kalshoven et al. (2011) demonstrated that these seven subscales are positively related to ELS, but later research revealed

Table 1. Items and item loadings from CFA					
English/Portuguese versions of items	**Study**				
	1	**2**	**3**	**4**	**5**
Listens to what employees have to say./ Ouve o que os empregados têm para dizer.	.76	.77	.77	.72	.63
Disciplines employees who violate ethical standards./ Disciplina os empregados que violam princípios éticos.	.79	.42	.42	.56	.53
Conducts his/her personal life in an ethical manner./ Conduz a sua vida pessoal de uma forma ética.	.83	.55	.55	.69	.70
Has the best interests of employees in mind./ Tem em mente os melhores interesses da organização.	.68	.70	.70	.67	.71
Makes fair and balanced decisions./ Toma decisões justas e equilibradas	.85	.83	.83	.81	.87
Can be trusted/ É uma pessoa de confiança.	.86	.80	.80	.84	.86
Discusses business ethics or values with employees./ Discute valores éticos com os empregados.	.90	.68	.68	.79	.74
Sets an example of how to do things the right way in terms of ethics./ Dá o exemplo em como fazer as coisas de forma mais ética.	.88	.81	.81	.84	.86
Defines success not just by results but also by the way they are obtained./ Define sucesso, não apenas pelos resultados em si, mas também pela forma como estes são obtidos.	.83	.72	.72	.80	.84
When making decisions, asks "what is the right thing to do?"/ Quando toma decisões questiona sobre "o que é mais correto fazer?"	.81	.77	.77	.75	.81
χ^2/df	4.54	20.41	10.61	30.32	10.03
CFI	.96	.97	.98	.94	.99
TLI	.95	.96	.99	.93	.99
RMSEA	.09	.06	.06	.10	.02
SRMR	.02	.03	.03	.04	.03
Cronbach's alpha	.95	.91	.94	.93	.93

Standardized item loadings reported for CFA. $p < .001$ for all loadings.

that only the first three subscales pertain directly to ethical leadership and show high validity (e.g., Agle et al., 2014).

Therefore, the present study used a reduced 10-item version of the ELW (i.e., the ELW-3) evaluating followers' perception of leaders' integrity, fairness, and ethical guidance (see Appendix). Ethical guidance in the form of leaders' communication about ethics and explanation of ethical rules was measured with four items (e.g., "Ensures that employees follow codes of integrity"; Cronbach's alpha [α] = .85). Integrity refers to leaders' consistently ethical words and acts and their ability to keep promises, which was measured with three items (e.g., "Always keeps his/her word"; α = .92). Fairness relates to leaders' ability to treat others correctly and equally, make principled and fair choices, and avoid favoritism, which was assessed with three items (e.g., "Holds me responsible for things that are not my fault"; reversed score item; α = .80).

Both the P-ELS and ELW-3 were administrated by means of an electronic survey to 329 employees (see, Table 2). Respondents were asked to rate each item with reference to their direct supervisor, on a 5-point response scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree").

A two-step procedure was used to examine the factor structures of the P-ELS and ELW-3. In the first step, the factor structures were assessed using principal axis EFA. This method can be applied to test for the best fitting model without a priori limitations regarding modelling. The sample size met the conservative 10:1 participant-to-item requirements for EFA. Following standard procedures, items were submitted to EFA if they met the standard criteria for item distribution. A quartimax rotation was used for the P-ELS because a single, orthogonal factor was expected, while a varimax rotation was used for the ELW-3 because an intercorrelated, multidimensional model was anticipated (Fabrigar et al., 1999). The number of factors to be extracted was determined by factor eigenvalues above 1.0. Factor loadings were interpreted according to Tabachnick and Fidell's (2014) recommendations.

The findings suggested that only one factor needed to be extracted from the P-ELS. The final result was that all items have good loadings (see, Table 1), and the items explain 51.4% of the total variance. The Cronbach's alpha is .91. As for the ELW-3, the results suggest a three-factor structure. All items have good loadings on the expected subscale, and no relevant cross-loadings were found (> .40). The variance explained by all the items together is 75.6% (ethical guidance = 27.8%; integrity = 25.8%; and fairness = 22%). The three subscales revealed good Cronbach's alphas (ethical guidance = .82; integrity = .92; and fairness = .80).

In the second step of the procedure, the data were subjected to CFA. The hypothesized model was based on the results of the earlier EFA, as well as the hypothesized models from earlier studies (Brown et al., 2005). CFA was conducted on all 10 items of the P-ELS, in which all items loaded onto a single latent variable. The fit indices suggest that the data fit a single-factor model well (see, Table 1 above for fit indices). Further CFA was done on the ELW-3 for two models: the three-factor correlated model suggested by the present EFA and previous studies (Kalshoven et al., 2011) and an alternative single-factor model. The fit indices suggest that the data fit a three-factor model better (χ^2(32) = 51.47; p < .001; χ^2/df = 1.61; CFI = .99; TLI = .99; RMSEA = .04; SRMR = .04) than the alternative single-factor model (χ^2(35) = 563.42; p < .001; χ^2/df = 16.01; CFI = .71; TLI = .63; RMSEA = .21; SRMR = .13).

To further demonstrate that the P-ELS scale is empirically distinct from the ELW-3 subscales, CFA including simultaneously the 10 items of P-ELS and the 10 items of ELW-3 was performed. As expected, the findings reveal that the P-ELS scale does not fully overlap any of the ELW-3 subscales. The four-factor model (i.e., one P-ELS factor and three ELW-3 factors) shows the best fit (χ^2(164) = 335.82; p < .001; χ^2/df = 2.05; CFI = .95; TLI = .95; RMSEA = .06; SRMR = .05). Thus, the results support making a distinction between the P-ELS and ELW-3 subscales.

Table 2. Summary of studies, procedures, and data and/or sample characteristics		
Study	**Procedure**	**Data/Sample**
Study 1	• CFA estimation of unidimensional structure of P-ELS • Reliability estimation	N = 372 employees M age = 32.1 years (SD = 9.74) Job tenure = 50% between 1 and 5 years 51.3% men 55.7% private sector organizations
Study 2	• Correlational analysis, CFA, and reliability estimation • Convergent validity: P-ELS and ELW-3 (Kalshoven et al., 2011)	N = 329 employees private sector organizations M age = 32.7 years (SD = 9.17) Job tenure = 33.7% less than 1 year 72.4% women
Study 3	• Correlational analysis, CFA, and reliability estimation • Discriminant validity: P-ELS, OJ (Niehoff & Moorman, 1993), gender, and age	N = 165 employees M age = 33.5 (SD = 11.4) Job tenure = 32.7% between 1 and 5 years; 66% women 84.6% private sector organizations
Study 4	• Linear regression • Correlational analysis, CFA, and reliability estimation • Criterion validity: P-ELS and organizational ethical climate (Rego, 2001; Rego, 2002)	N = 233 employees M age = 38.9 (SD = 10.8) Job tenure = 49.1% more than 10 years 55% women 63.2% private sector organizations
Study 5	• Linear regression • Correlational analysis and reliability estimation • Nomological validity: P-ELS, LMX (Scandura & Graen, 1984), and job-related affective well-being (Warr, 1990)	N = 130 employees M age = 37.5 (SD = 12.3) Job tenure = 44.8% between 1 and 5 years; 70% women 71.1% private sector organizations

All respondents were from organizations operating in Portugal. Convenience sampling method was used in the multiple studies.

Table 3. Descriptive statistics of P-ELS				
Item	**M**	**SD**	**Sk**	**Ku**
Item 1	4.57	1.50	−0.50	−0.14
Item 2	4.60	1.50	−0.41	−0.39
Item 3	4.34	1.57	−0.22	−0.77
Item 4	4.86	1.35	−0.54	0.04
Item 5	4.54	1.46	−0.55	−0.34
Item 6	4.64	1.41	−0.32	−0.28
Item 7	4.28	1.50	−0.29	−0.51
Item 8	4.51	1.52	−0.36	−0.52
Item 9	4.42	1.52	−0.56	−0.30
Item 10	4.34	1.50	−0.35	−0.41

M = mean; SD = standard deviation; Sk = skewness; Ku = kurtosis.

Finally, to gather evidence of convergent validity, the correlations between the P-ELS and ELW subscales were estimated. As expected, the ELW-3 subscales are significantly and positively correlated with the P-ELS, with values ranging from .32 to .57 (see, Table 4). As shown previously by Kalshoven et al.'s (2011) results, the two instruments evaluate similar but not identical constructs, supporting the convergent validity of the P-ELS.

2.1. Study three: Discriminant validity

This study sought to evaluate the discriminant validity of the P-ELS by analyzing its relationship with followers' perceptions of organizational justice (OJ). Discriminant validity is based in the idea that a focal construct needs to be distinct to dissimilar or non-overlapping constructs (Schwab, 1980). The literature suggests that leaders play a primary role in shaping perceived OJ at different levels of organizations and that ethical leadership is particularly important to creating and perpetuating a perception of OJ (Demirtas, 2015). However, the constructs are conceptually distinct since OJ refers to employees' perceptions of fair treatment by their organization and its agents (Niehoff & Moorman, 1993). OJ has three components: distributive justice (i.e., fair allocation of outcomes—rewards and punishments), procedural justice (i.e., perceived fairness of procedures and policies), and interactional justice (i.e., fair interpersonal treatment in the workplace).

To assess the relationship between followers' perceptions of ethical leadership and OJ, data were collected from a sample of 165 employees from different organizations (see, Table 2 above) using an electronic survey. The variables in question were measured using the P-ELS and the OJ scale developed by Niehoff and Moorman (1993). The latter is a 20-item scale that measures employee perceptions regarding the three components of OJ (see Appendix).

Distributive justice was measured using five items assessing the fairness of different work outcomes, including work schedule, pay level, workload, rewards, and job responsibilities (e.g., "I feel my job responsibilities are fair"; α = .78). Procedural justice was assessed using six items. These measured the degree to which job decisions include mechanisms that ensure the organization encourages unbiased, accurate, and complete employee voice and appeals processes (e.g., "Job decisions are made by my supervisor in an unbiased manner"; α = .83). Interactional justice was evaluated using nine items regarding the degree to which followers feel they are taken into consideration and respected by their supervisor. These items also assessed whether employees receive adequate and clear explanations concerning job decisions (e.g., "When decisions are made about my job, my supervisor treats me with kindness and consideration"; α = .94). The respondents were asked to rate each item on a 5-point response scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree").

In the data analysis, CFA was first conducted on the 10 items of the P-ELS. The results reveal that all items load onto a single latent variable and that the data fit a single-factor model well (see, Table 3 for fit indices). Further CFA was done on the OJ data regarding the three-factor correlated model suggested by Niehoff and Moorman (1993) and a single-factor alternative model. The fit indices suggest that the data fit a three-factor model slightly better ($\chi^2(167)$ = 377.86; $p < .001$; χ^2/df = 2.26; CFI = .90; TLI = .89; RMSEA = .09; SRMR = .06) than the single-factor alternative model ($\chi^2(170)$ = 429.96; $p < .001$; χ^2/df = 2.53; CFI = .88; TLI = .87; RMSEA = .10; SRMR = .06).

Table 4 presents the correlations between the P-ELS and the OJ scales, which were used to evaluate discriminant validity. As can be seen, the pattern of correlations reveals weak correlations between the P-ELS and OJ's dimensions (all $r < .18$; $p < .05$). OJ's dimensions show moderate to strong intercorrelations (all $r > .68$; $p < .001$). Since these correlations are aligned with what was expected, P-ELS can be said to present discriminant validity, based on Schwab's (1980) suggestions. Additionally, a CFA for both OJ's dimensions and P-ELS was performed. The fit indices suggest that the data fit a four-factor model better (i.e., three OJ's dimensions and P-ELS; χ^2 (399) = 678.45; $p < .001$; χ^2/df = 1.70; CFI = .92; TLI = .91; RMSEA = .07) than the alternative two-

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Table 4. Means, standard deviations, and correlations for studies two, three, four, and five

	Variables	M	SD	1	2	3	4	5
Study 2	1. P-ELS	3.34	0.81					
	2. ELW-3: Ethical guidance	3.32	0.78	.48**				
	3. ELW-3: Integrity	3.40	0.98	.57**	.62**			
	4. ELW-3: Fairness	3.37	0.91	.32**	.28**	.46**		
Study 3	1. P-ELS	3.60	0.87					
	2. OJ: Distributive	3.08	0.83	.18*				
	3. OJ: Procedures	3.06	0.76	.16*	.68**			
	4.OJ: Interactional	3.12	0.90	.17*	.75**	.84**		
Study 4	1. P-ELS	3.61	0.76					
	2. EC: Benevolence	4.32	0.72	.44**				
	3. EC: Self-interest	4.18	0.98	−.25**	−.18**			
	4. EC: Laws	4.55	0.78	.41**	.51**	−.11		
	5. EC: Rules	4.47	0.72	.51**	.56**	−.27**	.66**	
	6. EC: Profit	4.26	0.90	−.00	−.01	.47**	−.03	−.09
Study 5	1. P-ELS	3.55	0.80					
	2. LMX	3.60	0.85	.78**				
	3. Job-related affective well-being	3.97	0.89	.46**	.46**			

* *p* < .05. ** *p* < .01. EC = ethical climate.

factor model (i.e., OJ versus P-ELS; $\chi^2(404) = 730.97$; $p < .001$; $\chi^2/df = 1.81$; CFI = .91; TLI = .90; RMSEA = .07) or the single-factor model (i.e., all items together; $\chi^2(405) = 1934.18$; $p < .001$; $\chi^2/df = 4.77$; CFI = .56; TLI = .53; RMSEA = .15).

2.2. Study four: Criterion validity

The fourth study sought to analyze to what extent ethical leadership is a predictor variable for an organizational ethical climate. Organizational ethical climate is the set of "prevailing perceptions of typical organizational practices and procedures that have ethical content" (Victor & Cullen, 1988, p. 101). In other words, individuals know what type of behavior is expected, valued, and encouraged by their organization—and act accordingly. The literature suggests that leadership works as an interpretative filter for organizational practices and procedures (e.g., Kozlowski & Doherty, 1989; Treviño et al., 2000). In addition, leaders can influence subordinates' perceptions of an ethical climate through ethical leadership behavior (e.g., Mayer et al., 2010). Accordingly, this study explored how followers' perceptions of leaders' ethical behaviors influence these employees' perceptions of ethical practices and procedures in their organization.

The data were gathered from a sample of 233 employees (see, Table 2) using an electronic survey. The variables were measured using the P-ELS and the 17-item ethical climate scale from Rego (2001, 2002) based on Cullen et al.'s (1993) Ethical Climate Questionnaire. This questionnaire assesses organizational ethical climate in five dimensions (see Appendix).

The self-interest subscale with three items refers to the perception that individuals act only to further their own interests and personal goals in an organization (e.g., "In this organization, everyone protects, above all, their own interests."; α = .80). The rules and procedures subscale measures a climate in which people shape their behavior to follow organizational rules and procedures. This scale comprises four items (e.g., "It is considered very important to strictly follow the organization's own rules and procedures; α = .69). The laws subscale refers to another dimension of ethical climate in which individuals' behavior considers legal requirements that override any personal considerations about ethics. This scale encompasses three items (e.g., "In this organization, people are above all concerned with the law and codes of ethics"; α = .66). The profit subscale is related to the perception that an organization especially values results, and the scale is composed of three items (e.g., "Decisions are expected to contribute, above all, to the organization's profits"; α = .78). Finally, the benevolence subscale refers to employees' perception of their organization as a caretaker of employees' interests and welfare, including four items (e.g., "Decisions are expected to be in line with what is globally best for employees"; α = .66). The respondents rated their ethical climate perceptions on a 6-point response scale ranging from 1 ("Totally false") to 6 ("Totally true").

As expected, the P-ELS shows significant correlations with the organizational ethical climate subscales—except for the profit subscale (see, Table 4). In addition, the linear regression model generated provides support for organizational ethical climate as an ethical leadership outcome variable (see, Table 5). More specifically, good ethical leadership appears to predict an organizational ethical climate based on benevolence, laws, and rules. This finding presents ethical leaders as concerned about subordinates' well-being and focused on the promotion of ethical behavior by communicating ethical standards. As expected, the P-ELS negatively predicts an organizational ethical climate of self-interest.

2.3. Study five: Nomological validity

The fifth study sought to assess the nomological validity of the P-ELS by exploring its relationship with followers' job-related well-being (Warr, 1990) and perceptions of the quality of their relationships with leaders (LMX; Graen & Uhl-Bien, 1995). Well-being refers to a combination of arousal and pleasure at work (Warr, 1990), and several studies have confirmed that employee well-being is significantly connected to ethical leadership (Bedi et al., 2016; e.g., Kalshoven & Boon, 2012; Sarwar et al., 2020).

Table 5. Regression analyses for study four

	Organizational Ethical Climate Subscales									
	Benevolence		**Self-interest**		**Laws**		**Rules**		**Profit**	
	β		β		β		β		β	
(Constant)	2.82		5.35		3.06		2.73		4.27	
P-ELS	.44***		−.25**		.41***		.51***		−.01	
$R^2_{adj.}$	.19		.06		.17		.26		.00	
$F_{(1,232)}$	54.64***		15.49***		45.99***		79.76***		0.01	

** $p < .01$. *** $p < .001$.

Ethical leaders can impact followers' well-being appreciably by defending them, protecting them from unfairness, and mobilizing the necessary job-related resources (Kalshoven & Boon, 2012). Because these behaviors increase the degree to which leaders develop high-quality relationships with followers (Bedi et al., 2016), LMX has been proposed as a mediator between ethical leadership and several follower outcomes (Engelbrecht et al., 2017; Kalshoven et al., 2011). Therefore, this research tested a model proposing that ethical leadership predicts followers' affective well-being through the mediating effect of LMX.

Data were gathered from a sample of 130 employees (see, Table 2) by means of an electronic survey. In addition to the P-ELS, the survey included the job-related affective well-being scale developed by Warr (1990) and the LMX-7 scale developed by Scandura and Graen (1984). The affective well-being scale is a 12-item measure that asks respondents to report how they have felt at work in the past few weeks (e.g., "relaxed" or "worried"; α = .94). Responses were given on a 6-point scale ranging from 1 ("Never") to 6 ("All the time"). The LMX-7 has seven items (e.g., "Do you usually know how satisfied your leader is with what you do?"; α = .92). Each item has five response choices with unique anchors that are appropriate for the item (e.g., 1 ["Rarely"] to 5 ["Very often"]) (see Appendix).

The survey results reveal that ethical leadership is significantly correlated both with LMX and job-related affective well-being (see, Table 4). PROCESS Macro for IBM SPSS version 27 software (Hayes, 2013) was used to evaluate the mediation effect. The results showed that ethical leadership predicts followers' affective well-being and that this effect is partially mediated by the quality of leader-follower relationships (see, Table 6). The model explained 24% of the unique variance of job-related affective well-being. Overall, the results support the nomological validity of the P-ELS.

3. Discussion and conclusions

The purpose of this research was to contribute to the literature on ethical leadership by translating and adapting the ELS for the Portuguese context and assessing its psychometric properties. In line with what was found by Brown et al. (2005) for the ELS, the five studies described in this paper revealed that the P-ELS has good psychometric properties. Namely, the unidimensionality of the scale was stable across the five independent samples, and the internal consistency was shown to be quite good.

Moreover, the scale under study revealed adequate convergent validity with reference to the ELW-3 (i.e., ethical guidance, integrity, and fairness subscales). The results show that the two instruments have a moderate positive correlation but, as already reported by Kalshoven et al. (2011), evaluate similar but not identical constructs. Future studies could further assess the convergence of the P-ELS with other measures such as the Ethical Leadership Questionnaire (ELQ) developed by Yukl et al. (2013). The latter is a multidimensional 15-item measure that evaluates four aspects of ethical leadership (i.e., task-oriented behavior, relations-oriented behaviors, change-oriented behaviors, and ethical leadership). A positive relationship should be expected between P-ELS and ELQ scores, especially for the latter tool's ethical leadership subscale.

In addition, evidence of adequate discriminant validity was obtained by analyzing the P-ELS's relationship with employees' perceptions of fair treatment in their organizations. As expected, the results indicate that ethical leadership has a significant but small correlation with respondents' perceptions of distributive, procedures, and interactional justice. Despite fairness being an important aspect of ethical leadership behavior (Brown et al., 2005; Kalshoven et al., 2011; Treviño et al., 2000), the employees surveyed clearly distinguish between these constructs, thus supporting the discriminant validity of the P-ELS. Future studies can explore its discriminant validity further by using other variables. For instance, Brown et al. (2005) demonstrated that ethical leadership is distinct from followers' perceived similarity with their leader, which could be a useful variable to include in future assessments of discriminant validity.

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Table 6. Regression coefficients, standard errors, model summary information, total and indirect effect for the mediation model

	LMX			Job-related affective well-being		
	b	**SE**	**95% CI (LL, UL)**	**b**	**SE**	**95% CI (LL, UL)**
(Constant)	0.69***	0.21	0.27, 1.11	1.98***	0.32	1.34, 2.62
P-ELS	0.82***	0.06	0.70, 0.94	0.30***	0.14	0.03, 0.57
LMX				0.27***	0.13	0.00, 0.51
R^2	0.61***			0.24***		
F (df)	196.85 (1, 128)***			19.63 (2, 127)***		
Total effect	**b**	**SE**	**95% CI (LL, UL)**		**95% LLCI**	**95% ULCI**
	0.51	0.09			0.34	0.68
R^2	0.21***					
F (df)	34.53 (1, 128)***					
Indirect effect	**Effect**	**BootSE**			**BootLLCI**	**BootULCI**
	0.21	0.10			0.02	0.41

n = 130. Unstandardized regression coefficients are reported. Bootstrap sample size = 5.000. *SE* = standard error; CI = confidence intervals; LL = lower limit; UL = upper limit.

* *p* < 0.05, ** *p* < 0.01, *** *p* < 0.001.

By analyzing the P-ELS's relationship with organizational ethical climate, the present research was also able to gather evidence of the criterion validity of the P-ELS. The results indicate that respondents' perceptions of ethical leadership significantly predict their perceptions regarding the existence of four dimensions of organizational ethical climate in their organization, namely, benevolence, laws, self-interest, and rules. Further evidence of the predictive ability of P-ELS scores could be obtained in future studies, especially given that the outcomes of ethical leadership are so diverse (Brown et al., 2005; Hartog, 2015; Treviño et al., 2014). For example, job-related attitudes and behaviors such as job satisfaction and turnover intentions can be used to this end. By defending and protecting their followers from unfairness and mobilizing the job-related resources employees need to fulfill their functions, ethical leaders can promote higher work satisfaction and decrease intentions to leave their organization.

Finally, evidence of nomological validity was also collected by exploring the P-ELS's relationship with LMX and job-related affective well-being. Regression analyses revealed that, as suggested in the literature, ethical leadership contributes to explaining employees' feelings at work in the sense that more ethical leadership increases followers' well-being (Bedi et al., 2016; e.g., Kalshoven & Boon, 2012; Sarwar et al., 2020). This effect is partially mediated by the quality of leader-follower relationships. Therefore, perceptions of leaders' ethical behavior enhance employees' positive evaluations of the relationships established with supervisors, and, consequently, these help to improve well-being at work. The present study was only a modest attempt to examine and accumulate evidence of the P-ELS's nomological validity. Future research could analyze more complex networks as more empirical studies are needed to understand ethical leadership's theoretical foundations and its connections to related constructs and outcomes (Brown & Treviño, 2014; Brown et al., 2005; Hartog, 2015; Ko et al., 2018; Treviño et al., 2014).

3.1. Contributions to research and practice

In order to provide a consistent and reliable measure to be used with Portuguese-speaking samples, the present research has conducted systematic procedures to support factorial, convergent, discriminant, criterion and nomological validity of the P-ELS. The findings of the five studies conducted altogether indicate that the P-ELS has psychometric proprieties similar to the original ELS and, therefore, that the P-ELS can be used in research on ethical leadership with Portuguese-speaking samples. Despite its worldwide interest, ethical leadership might be a particularly relevant topic in countries where ethical misconduct is a documented major social problem. This is the case of some of the Portuguese-speaking regions mentioned before.[2] The availability of a Portuguese version of ELS hopefully will encourage studies with more diverse samples and increment international research on the topic. Moreover, the P-ELS is a relatively short and time-efficient scale that can be particularly useful in field studies with large sets of variables where instruments' length needs to be limited (Hartog, 2015). This is frequently the case in organizational behavior and/or psychology research. Also, this scale can be used by organizations as a reliable tool to internally assess their members' perception of their leaders' ethical behavior.

Additionally, this study reinforces the importance of interpersonal relations in fostering ethical behavior, as well as of the role ethical leaders can play in increasing subordinates' perceptions of OJ and their affective well-being.

3.2. Limitations and research directions

The present findings need to be interpreted considering some limitations, most notably, common method bias (Bozionelos & Simmering, 2022; Podsakoff et al., 2003) associated with collecting data from a single source. The results of the CFAs, as well as the diverse magnitude of the correlations obtained between the P-ELS and the other instruments used in this research, suggest that common method bias is not a serious threat to the validity of the results. Yet, future studies could address this limitation by collecting data at different times and from multiple sources. Moreover, sample characteristics (mostly female employees from private sector organizations)

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can limit the generalizability of the findings, so future studies could also invest in collecting data with more diverse samples.

As Brown et al. (2005) have argued, establishing the validity of a measurement tool is an ongoing process, so further studies of this matter will be necessary. Besides addressing the above-stated limitations, future research can further assess the nomological validity of the P-ELS by exploring its relationship with other followers' attitudinal and behavioral outcomes. This may include positive outcomes such as work engagement (Adnan et al., 2020; Bhatti et al., 2020) or less positive ones such as subordinates' unethical pro-organization and pro-leader behaviors or acceptance of unethical practices (e.g., Mesdaghinia et al., 2019; Mishra et al., 2021; Simões et al., 2019, 2020). Also, future research should consider studying ethical leadership antecedents in order to develop a more comprehensive perspective of its nomological network. Given the multi-determined nature of human behavior, both individual (e.g., personality attributes, Sharma et al., 2019) and contextual variables (e.g., role modelling, Brown & Treviño, 2006; societal, industrial, and intra-organizational characteristics; Eisenbeiß & Giessner, 2012; top management ethicality, Mayer et al., 2009) should be explored. As mentioned above, the availability of a Portuguese version of ELS hopefully will encourage international research on the topic, thereby contributing for increasing current understanding on ethical leadership's role in promoting ethical business conduct and more positive work experiences.

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2. https://www.transparency.org

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Appendix 1. English/Portuguese version of items used in the studies

Study 2
Ethical leadership at work questionnaire[a] (10-item reduced version)
(1 = Totally disagree; 5 = Totally agree)
Subscale: **Integrity**
Keeps his/her promises./Cumpre as suas promessas.
Can be trusted to do the things he/she says/É confiável. Faz o que diz.
Always keeps his/her word./Cumpre sempre a sua palavra.
Subscale: **Fairness**
Holds me accountable for problems over which I have no control./Responsabiliza-me por problemas sobre os quais não tenho controlo.*(i)*
Holds me responsible for work that I gave no control over./Atribui-me responsabilidade por trabalhos sobre os quais não tenho controlo.*(i)*
Holds me responsible for things that are not my fault./Responsabiliza-me por coisas que não são culpa minha.*(i)*
Subscale: **Ethical guidance**
Clearly explains integrity related codes of conduct./Indica o que é esperado dos empregados em termos de comportamento ético.
Explains what is expected from employees in terms of behaving with integrity./Indica o que é esperado dos empregados em termos de comportamento ético.
Ensures that employees follow codes of integrity./Assegura-se que os empregados seguem os códigos de ética.
Clarifies the likely consequences of possible unethical behavior by myself and my colleagues./Clarifica quais as consequências mais prováveis de possíveis comportamentos não éticos levados a cabo por mim e pelos meus colegas.
Study 3
Organizational justice scale[b]
1 = Strongly disagree; 5 = Strongly agree
Subscale: **Distributive justice**
My work schedule is fair./ O meu horário de trabalho é justo.
I think that my level of pay is fair./ Penso que a minha retribuição é justa.
I consider my work load to be quite fair./ Considero que a minha carga de trabalho é justa.
Overall, the rewards I receive here are quite fair./ De forma global, as recompensas que recebo no trabalho são justas.
I feel that my job responsibilities are fair./ Sinto que as minhas responsabilidades no trabalho são justas.
Subscale: **Procedural justice**
Job decisions are made by the general manager in a unbiased manner./ O responsável pela empresa toma decisões de trabalho de forma imparcial.
My general manager makes sure that all employee concerns are heard before job decisions are made./ Os responsáveis pela empresa asseguram-se de que todas as preocupações dos colaboradores são escutadas antes de as decisões de trabalho serem tomadas.
To make job decisions, my general manager collects accurate and complete information./ O responsável pela empresa recolhe informações precisas e completas para tomar decisões de trabalho.
My general manager clarifies decisions and provides additional information when requested by employees./ Quando solicitado pelos colaboradores, o responsável pela empresa esclarece decisões tomadas e disponibiliza informações adicionais.
All job decisions are applied consistently across all affected employees./ Todas as decisões de trabalho são aplicadas de forma consistente aos colaboradores afetados pelas mesmas.

(Continued)

(Continued)

Study 2
Ethical leadership at work questionnaire[a] (10-item reduced version)
(1 = Totally disagree; 5 = Totally agree)

Employees are allowed to challenge or appeal job decisions made by the general manager./ Os colaboradores têm liberdade para contestar ou recorrer das decisões de trabalho tomadas pelo responsável pela empresa.

Subscale: **Interactional justice**

When decisions are made about my job, the general manager treats me with kindness and consideration./ Quando são tomadas decisões sobre o meu trabalho, o responsável pela empresa trata-me com amabilidade e consideração.

When decisions are made about my job, the general manager treats me with respect and dignity./ Quando são tomadas decisões sobre o meu trabalho, o responsável pela empresa trata-me com respeito e dignidade.

When decisions are made about my job, the general manager is sensitive to my personal needs./ Quando são tomadas decisões sobre o meu trabalho, o responsável pela empresa é sensívels às minhas necessidades pessoais.

When decisions are made about my job, the general manager deals with me in a truthful manner./ Quando são tomadas decisões sobre o meu trabalho, o responsável pela empresa lida comigo de forma honesta.

When decisions are made about my job, the general manager shows concern for my rights as an employee./ Quando são tomadas decisões sobre o meu trabalho, o responsável pela empresa revela preocupação com os meus direitos enquanto colaborador.

Concerning decisions made about my job, the general manager discusses the implications of the decisions with me./ O responsável pela empresa discute comigo as implicações das decisões tomadas sobre o meu trabalho.

The general manager offers adequate justification for decisions made about my job./ O responsável pela empresa apresenta justificações adequadas para as decisões tomadas sobre o meu trabalho.

When making decisions about my job, the general manager offers explanations that make sense to me./ Quando são tomadas decisões sobre o meu trabalho, o responsável pela empresa apresenta justificações que me fazem sentido.

My general manager explains very clearly any decision made about my job./ O responsável pela empresa explica de forma clara qualquer decisão relacionada com o meu trabalho.

Study 4
Organizational ethical climate scale[c]
1 = Totally false; 6 = Totally true

Subscale: **Self-interest**

Most of the time, people are mainly interested in seeking to satisfy their own interests./ Na maioria das vezes, as pessoas interessam-se sobretudo em procurar satisfazer os seus próprios interesses.

In this organization, everyone is concerned, above all, with what is best for him/herself./ Nesta organização, cada um preocupa-se, acima de tudo, com o que é melhor para si próprio.

In this organization, everyone protects, above all, their own interests./ Nesta organização, cada um protege acima de tudo, os seus próprios interesses.

Subscale: **Rules and procedures**

People are faithful to the organization's own rules and procedures./ As pessoas são fiéis às regras e procedimentos da própria organização.

It is considered very important to strictly follow the organization's own rules and procedures./ Considera-se que é muito importante seguir rigorosamente as regras e procedimentos da própria organização.

The organization's rules and procedures are always present when decisions are made./ As regras e procedimentos da organização estão sempre presentes quando se tomam decisões.

Subscale: **Laws**

In this organization, compliance with the law comes first./ Nesta organização, o cumprimento das leis está em primeiro lugar.

When making a decision, people try above all not to break the law./ Quando tomam uma decisão, as pessoas procuram sobretudo não violar a lei.

(Continued)

Study 2
Ethical leadership at work questionnaire[a] (10-item reduced version)
(1 = Totally disagree; 5 = Totally agree)

In this organization, people are above all concerned with the law and codes of ethics./ Nesta organização, as pessoas preocupam-se acima de tudo, com a lei e os códigos de ética.
No decision is made without respecting the organization's own rules and procedures./ Nenhuma decisão é tomada sem o respeito pelas regras e procedimentos da própria organização.

Subscale: **Benevolence**

Whenever someone makes a decision, their main concern is to do what is best for everyone working in this organization./ Sempre que alguém toma uma decisão, a sua principal preocupação é fazer o melhor para cada um que trabalha nesta organização.
Decisions are expected to be in line with what is globally best for employees./ Espera-se que as decisões estejam de acordo com o que é globalmente melhor para os empregados.
Above all, decisions are expected to respect each person working in this organization./ Espera-se sobretudo que as decisões respeitem cada pessoa que trabalha nesta organização.
When making decisions, people primarily defend the interests of all members of the organization./ Quando tomam decisões, as pessoas defendem sobretudo o interesse de todos os membros da organização.

Subscale: **Profit**

Decisions are expected to contribute, above all, to the organization's profits./ Espera-se que as decisões contribuam, acima de tudo, para os lucros da organização.
Decisions are considered correct when they contribute to increasing the organization's profits./ As decisões são consideradas corretas quando contribuem para aumentar os lucros da organização.
Above all, it is considered incorrect for a decision to harm the organization's profits./ Considera-se sobretudo incorreto que uma decisão prejudique os lucros da organização.

Study 5
Job-related affective well-being (IWP Multi-affect Indicator)[d]
1 = Never; 6 = All the time

Tense./ Tenso.
Uneasy./ Ansioso.
Worried./ Preocupado.
Contented./ Confortável.
Calm./ Calmo.
Relaxed./ Descontraído.
Depressed./ Deprimido.
Gloomy./ Melancólico.
Miserable./ Infeliz.
Cheerful./ Motivado.
Enthusiastic./ Entusiasmado.
Optimistic./ Otimista.

Leader-member exchange measure[e]

Do you know where you stand with your leader … do you usually know how satisfied your leader is with what you do?/ De uma forma geral, conhece o grau de satisfação da sua chefia relativamente ao trabalho que executa? (1 = rarely; 5 = Very often)
How well does your leader understand your job problems and needs?/ A sua chefia compreende os seus problemas e necessidades na função? (1 = Not a bit; 5 = A great deal)
How well does your leader recognize your potential?/ A sua chefia reconhece o seu potencial na função? (1 = Not at all; 5 = Fully)
Regardless of how much formal authority he/she has built into his/her position, what are the chances that your leader would use his/her power to help you solve problems in your work?/ Qual a possibilidade de a sua chefia usar o poder que detém para ajudá-lo a resolver os seus problemas? (1 = None; 5 = Very high)

(Continued)

(Continued)
Study 2   **Ethical leadership at work questionnaire[a] (10-item reduced version)**   **(1 = Totally disagree; 5 = Totally agree)**
Again, regardless of the amount of formal authority your leader has, what are the chances that he/she would "bail you out," at his/her expense?/ Qual a possibilidade da sua chefia o defender? (1 = None; 5 = Very high)
I have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so?/ Confio na minha chefia o suficiente para achar que ela defenderia e justificaria uma decisão minha na minha ausência. (1 = Strongly disagree; 5 = Strongly agree)
How would you characterize your working relationship with your leader?/ Como caracteriza a sua relação de trabalho com a sua chefia? (1 = Extremely ineffective; 5 = Extremely effective)

(i) reversed items. [a] (Kalshoven et al. 2011); [b] (Niehoff and Moorman 1993); [c] (Rego 2002, 2011); [d] (Warr 1990); [e] (Scandura and Graen 1984).

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