

Article

Brief Version of the Frankfurt Emotional Work Scale and Gender Difference in Emotional Labour

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Abstract: This study was designed to assess the psychometric properties of a brief version of the Frankfurt Emotion Work Scale (FEWS) adapted to Spanish in a sample of teachers, taking into consideration gender differences. Method: The sample consisted of 9020 teachers of public education in the Valencian Community ($M_{\text{age}} = 45.33$ years, $SD = 9.15$; 72.5% female). Results: The psychometric properties are adequate. It consists of 12 items grouped into six factors that explain 79.54% of the variance. Cronbach's alpha and composite reliability coefficients (CRC) for the full scale are adequate: $\alpha = 0.79$; CRC = 0.90. Confirmatory Factorial Analyses also confirm the structure of the scale ($\chi^2 = 890.36$, S-B $\chi^2 = 747.38$, $df = 39$, NFI = 0.945, NNFI = 0.911, CFI = 0.947, IFI = 0.947, MFI = 0.925, and RMSEA = 0.069). Convergent and discriminant validity were also probed. Finally, a gender effect over Emotional labour was found, there was a difference between gender in the scale and all of the dimensions of the questionnaire, with higher values on women. Conclusions: according to the results of this study, the use of this diagnostic tool for Spanish non-university teachers appears to be justified.

Keywords: emotional labour; FEWS; non-university teachers; psychometric properties; gender effect



Citation: Llorca-Pellicer, M.; Gil-LaOrden, P.; Prado-Gascó, V.J.; Gil-Monte, P.R. Brief Version of the Frankfurt Emotional Work Scale and Gender Difference in Emotional Labour. *Sustainability* **2023**, *15*, 2925. <https://doi.org/10.3390/su15042925>

Academic Editor: Carlos Salavera

Received: 13 December 2022

Revised: 27 January 2023

Accepted: 1 February 2023

Published: 6 February 2023



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1. Introduction

Emotional labour (EL) is related to work that interacts directly with the customer, such as in the service sector [1], i.e., teachers. Hochschild [2] defined EL as “the management of feelings to create a publicly observable facial and bodily display”. The employee needs to show some emotions that agree with the display's rules for the company or situation and hide their real feelings [3]. Several studies researched how to manage the emotions that are needed to do the work tasks and found two ways to display emotions: firstly, surface acting that's it refers to when an employee externally expressed an emotion but it is not felt, and secondly, deep action refers to when the external emotion is internalized and the emotion felt is modified [4]. Some studies showed a correlation between surface acting and emotional dissonance [5].

EL can have a negative impact on workers' health and wellbeing [6], which can lead to negative effects on workers' families and organizations sustainability [7,8]. This situation is especially problematic in the case of teachers [9,10]. Several studies found a relation between EL and burnout [11,12], job dissatisfaction [11] and stress [13]. Zapf [14] explained it as a “quality of interaction between employees and clients”, defining a client as “any person who interacts with an employee”. However, some studies showed that EL can have a positive impact in terms of greater motivation, improved well-being and job satisfaction [15,16], self-efficacy, and work engagement [16].

Several studies showed that EL can cause different consequences for the employees, which can affect their levels of well-being [6,17]. However, the effect of EL can be different for each employee. Some studies emphasize the difference because of gender in EL [10–18], showing different consequences between them [10]. Some studies showed that women had more emotional dissonance and emotional exhaustion [19].

As the literature shows, EL still has an effect on employees and their companies [20], and it is important to evaluate it to improve employee health and well-being, and to improve productivity and the work environment. Several studies try to measure EL through questionnaires. Al-Serkal [21] collects some inventories that evaluate EL and highlights that FEWS is the most comprehensive measure for EL. It has been translated into several languages (created in German but translated into Spanish and English), and it has been used in several investigations in Spain [22]. The FEWS' scale is considered easier to apply in different occupations and cultures [21].

The first version of the FEWS questionnaire was in German, and it consisted of 53 items grouped into five dimensions (positive emotions, negative emotions, sensitivity requirement, interaction control, and emotional dissonance) [23]. In the Zapf et al. [23] study, three different samples were shown, and Cronbach's alpha ranged from 0.51 to 0.92.

The scale has been translated and validated in Spanish by Ortiz et al. [22]. This version has 21 items grouped in six dimensions (positive emotions, negative emotions, neutral emotions, sensitivity requirements, interaction control, and emotional dissonance). The Spanish version of the scale has been validated in the tourism sector [22]. The Cronbach's alpha for this 21-item version ranged from 0.33 to 0.82, and the factor loadings ranged from 0.47 to 0.99.

Some studies suggested the need for reduced instruments [24]. These kinds of questionnaires can be used together and with other scales, and they improve the quality of the answers [25]. Nevertheless, a brief version of FEWS has never been tested.

Currently, it seems that there are no studies that show the psychometric properties in a non-university sample of teachers. Furthermore, there are few studies about gender influence in EL. After reviewing the literature, no studies can be found with these goals using Spanish samples.

The purpose of this research was to adapt and validate a brief version of the Spanish version of the FEWS. In addition, this research analyses the difference according to gender and the invariance because of the gender over EL in a sample of non-university teachers. Furthermore, it proposes criteria to facilitate the interpretation and diagnosis of the scores obtained by the instrument.

2. Materials and Methods

2.1. Participants

A sample of 9020 Spanish teachers ($N_{\text{women}} = 6535$; 72.5% women) working in public education centres, aged 22 to 70 years ($M_{\text{age}} = 45.33$ years, $SD = 9.15$), participated in this study. The teachers were from different education stages: 14.9% kindergarten, 34.8% primary education, 26.7% secondary school, 10.7% trade education, 7.3% special education, and 5.6% education in other subjects (language, art, etc.). The population was 39,705 non-university teachers ($N_{\text{women}} = 28,787$; 72.5% women), and the only requirement to participate in the research was to not be on sick leave and be a non-university teacher.

The sample was split into two groups, each controlling school stage, gender, and age variables using non-probabilistic methods to perform exploratory factor analysis (Group 1) and confirmatory factor analysis (Group 2). Group 1 were 4523 teachers, with an age average of 45.34 years ($SD = 17.62$) and 72.5% of the sample were women. Group 2 was 4519 teachers with an age average of 45.25 years ($SD = 9.19$) and 72.6% were women.

2.2. Instrument

The Frankfurt Emotional Work Scale (FEWS) brief is a 12 items reduced version adapted from the Ortiz et al. [22] 21-item Spanish version, that evaluated six dimensions: (1) positive emotions (two items) (i.e., "Do you need to show agreeable emotions with students and their families?"), evaluates positive emotions display characterizes as kindness, happiness, etc. (2) negative emotions (two items) (i.e., "Do you need you show negative emotions towards students?"), evaluates the display negative emotions as anger, strict behaviour, etc. (3) neutral emotions (two items) (i.e., "Do you need to show a neutral

emotions towards students?”), evaluates no display of any kind of emotions. (4) sensitivity requirements (two items) (i.e., “Is important to know how students feel all the time?”), evaluates the behaviour of empathy with the pupils. (5) interaction control (two items) (i.e., “Do you need to suppress your emotions to show calm or neutrality?”), evaluated the capacity to hide emotions or display emotions that they are not feeling so they can control the interaction with the pupil. (6) emotional dissonance (two items) (i.e., “Is your job let you finish a conversation with students if you think it is necessary?”), evaluates the dissonance between the emotional display and emotions felt. These items were answered by a frequency scale on which the participants are required to rate the frequency that it happens (0 = never and 4 = very frequently: every day).

2.3. Procedure

This study respected the fundamental principles of the Declaration of Helsinki [26], with particular emphasis on the anonymization of the collected data and the confidentiality and non-discrimination of participants. The study was defined by INVASSAT (Valencian Health & Safety at the Workplace Institute, Generalitat Valenciana, Government of Valencian Community). Before the data collection, a committee was created with administration workers and the unions to check the procedure to collect the data in accordance with Spanish laws with regard to data protection and ethics issues.

All participants were of legal age and voluntarily agreed to participate in the study. The data collection took place between October 2015 and December 2019 by the Health & Safety employees of the INVASSAT. They went to every school and informed the head-teacher, union, and teachers of each school of the procedure, including the confidentiality, anonymity, and privacy of the study. Furthermore, the employees of INVASSAT gave each teacher a questionnaire and an envelope, members of the Health and Safety team were on hand to answer any questions with regard to the questionnaire or the procedure. The teachers were given privacy to complete the questionnaire. When the teacher finished, they returned the questionnaire in an envelope.

To carry out the descriptive statistics, reliability, psychometric properties, and differences between gender and correlations SPSS was used, Exploratory Factorial Analysis was carried out by Factor (version 10.7), and Confirmatory Factorial Analysis and gender invariance by EQS Structural Equation Modeling Software (Version 6.4). Furthermore, G* power (version 3.1) was used to calculate Cohen *d* effect size, and the SBDIFF program was used to calculate the Satorra-Bentler test for a difference between the fit of the two competing confirmatory factor analyses.

3. Results

3.1. Item Analysis

Descriptive statistical analyses are shown in Table 1. The highest mean value was reached by item 7 ($M = 3.47$), which belongs to sensitivity requirements. In addition, some items had values higher than 2.5: both positive emotions items (item 1, $M = 3.17$; and item 2, $M = 2.73$); item 6 ($M = 2.63$), which belongs to neutral emotions; item 9 ($M = 3.45$), which belongs to interaction control; and item 11 ($M = 2.91$), which belongs to emotional dissonance.

In addition, all of the values of the item-total scale correlation were higher than 0.40, except the values in item 11 ($r = 0.20$) and item 12 ($r = 0.05$), belonging both items to emotional dissonance dimension. Regarding skewness values, all the results showed negative values, except for item 4 ($Sk = 0.14$) and item 10 ($Sk = 0.27$). All skewness values were between ± 1 , except for items 1 ($Sk = -1.35$), 7 ($Sk = -1.61$), and 8 ($Sk = -1.64$). The higher values were for item 8 ($Sk = -1.64$) and item 7 ($Sk = -1.61$), both belonging to sensitivity requirements. Kurtosis results, showed negative results, except item 1 ($k = 1.26$), item 7 ($k = 2.77$), item 8 ($k = 2.76$) and item 11 ($k = 0.14$). The higher values were for items 7 ($k = 2.77$) and 8 ($k = 2.76$), which belong to sensitivity requirements. In addition, the scale showed adequate Cronbach's alpha (>0.70) [27]. The scale then showed adequate reliability

(Table 1). Furthermore, the above items were deleted and checked using Cronbach's alpha and found to be above 0.70.

Table 1. Descriptive Statistics ($n = 9020$).

		<i>M</i>	<i>SD</i>	<i>rjx</i>	<i>Sk</i>	<i>Ku</i>	α Item Deleted
Positive emotions	Item 1	3.17	1.05	0.52	−1.35	1.26	0.77
	Item 2	2.73	1.24	0.56	−0.73	−0.49	0.77
Negative emotions	Item 3	2.07	1.14	0.48	−0.15	−0.64	0.77
	Item 4	1.80	1.06	0.43	0.14	−0.53	0.78
Neutral emotional	Item 5	2.20	1.04	0.57	−0.56	−0.44	0.77
	Item 6	2.63	1.25	0.58	−0.61	−0.63	0.76
Sensitivity requirements	Item 7	3.47	0.79	0.42	−1.61	2.77	0.78
	Item 8	2.31	1.15	0.55	−1.64	2.76	0.77
Interaction control	Item 9	3.45	0.80	0.46	−0.22	−0.65	0.78
	Item 10	1.71	1.12	0.47	0.27	−0.55	0.77
Emotional dissonance	Item 11	2.91	0.95	0.20	−0.69	0.14	0.80
	Item 12	2.21	1.16	0.05	−0.12	−0.74	0.81
Whole questionnaire		A = 0.79 (0.79–0.80); CRC: 0.90; AVE: 0.50					

In addition, in Table 2, the difference between gender in descriptive statistics is shown. These results showed that women had higher means than men. The skewness results showed higher levels in women than men, except in items 4 ($M = 0.23$, $W = 0.11$), 10 ($M = 0.34$, $W = 0.25$), and 12 ($M = -0.15$, $W = -0.11$), where the values were higher in men. For kurtosis, women's values are higher than men's values, except in item 2 ($M = -0.69$, $W = -0.35$) and item 3 ($M = -0.70$, $W = -0.60$). Furthermore, Cronbach's alpha for the deleted item was above 0.70 for each item. In addition, the t-student of the whole questionnaire showed a difference between genders ($M_{\text{women}} = 2.60$ and $SD = 0.58$; $M_{\text{men}} = 2.43$ and $SD = 0.60$; $t = -12.24$, $p < 0.001$) and the effect size of the sample was 0.29 with a power of 1.

Table 2. Descriptive Statistics Taking into Consideration Variable gender.

		<i>Mean</i>	<i>SD</i>	<i>rjx</i>	<i>Sk</i>	<i>Ku</i>	α Item Deleted	F	t	Effect Size
		M/W	M/W	M/W	M/W	M/W	M/W			
Positive emotions	Item 1	2.96/3.26	1.12/1.01	0.52/0.50	−1.02/−1.50	0.38/1.79	0.78/0.77	28.08 **	−12.02 **	0.30
	Item 2	2.52/2.81	1.24/1.23	0.55/0.56	−0.53/−0.82	−0.69/−0.35	0.77/0.76			
Negative emotions	Item 3	1.94/2.12	1.13/1.14	0.47/0.48	−0.06/−0.19	−0.70/−0.60	0.78/0.77	0.991	−5.80 **	0.13
	Item 4	1.40/1.83	1.04/1.06	0.44/0.44	0.23/0.11	−0.47/−0.54	0.78/0.77			
Neutral emotional	Item 5	2.00/2.27	1.01/1.05	0.55/0.56	0.04/−0.10	−0.34/−0.44	0.77/0.76	4.74 *	−6.38 **	0.14
	Item 6	2.61/2.64	1.24/1.26	0.59/0.58	−0.59/−0.62	−0.61/−0.64	0.77/0.76			
Sensitivity requirements	Item 7	3.25/3.53	0.90/0.74	0.49/0.44	−1.20/−1.80	1.25/3.74	0.78/0.78	147.89	−13.83 **	0.33
	Item 8	3.31/3.53	0.88/0.75	0.42/0.41	−1.31/−1.79	1.56/3.42	0.78/0.78			
Interaction control	Item 9	2.21/2.35	1.12/1.16	0.55/0.55	−0.16/−0.25	−0.62/−0.65	0.77/0.76	2.80	−6.21 **	0.14
	Item 10	1.60/1.76	1.09/1.13	0.47/0.47	0.34/0.25	−0.48/−0.57	0.78/0.77			
Emotional dissonance	Item 11	2.82/2.94	0.97/0.94	0.24/0.17	−0.64/−0.71	0.05/0.17	0.80/0.80	1.45	−2.54 *	0.06
	Item 12	2.22/2.21	1.15/1.17	0.06/0.05	−0.15/−0.11	−0.72/−0.75	0.82/0.81			

Note. M: Men; W: Women. * $p \leq 0.01$; ** $p \leq 0.001$.

3.2. Factor Analysis

To proceed with factor analysis, firstly, the sample was split randomly into two samples, controlling the variables school stage, gender, and age. Secondly, Group 1 ($n = 4523$) was used for Exploratory Factor Analysis (EFA). Thirdly, Group 2 ($n = 4519$) was used for Confirmatory Factor Analysis (CFA).

Before proceeding with the factorial analysis, the adequacy of the different groups was tested by means of the Kaiser-Meyer-Olkin (KMO) and Barlett's sphericity tests. The results seem to confirm the adequacy of the samples in each group (KMO test > 0.75 and Barlett's statistics $p < 0.001$), thus, EFA was tested. Specifically, in both groups, the results were $p < 0.001$ and the KMO results were higher than 0.76 (Group 1, KMO = 0.784; Group 2, KMO = 0.783).

3.2.1. Exploratory Factor Analysis on Group 1 ($n = 4523$)

The EFA was performed according to the procedure recommended by Lloret-Segura et al. [28], using the Robust Unweighted Least Squares, the application of the method of parallel analysis, and the Varimax using the FACTOR program. The Parallel Analysis suggested six dimensions (Table 3). The scale grouped into the six theoretical dimensions a good fit RMSEA value of 0.025 (<0.06) [29] and a GFI index of 0.999 [30]. The variance explained by these six dimensions was 79.54%. The variance explained by each of these six dimensions was 48.47% for the first factor (positive emotion, items 1 and 2), 17.98% for the second factor (sensitivity requirements, items 7 and 8), 13.09% for the third factor (negative emotion, items 3, 4, and 5 evaluating neutral emotions), 9.48% for the fourth factor (neutral emotion, item 6), 6.13% for the fifth factor (emotional dissonance, items 11 and 12) and 5.15% for the sixth factor (interaction control, items 9 and 10). Items loading were higher than 0.70, except for items 5 (item loading = 0.51) and 12 (item loading = 0.44) (Table 3).

Table 3. Factorial Loading of Group 1 ($n = 4523$).

	Group 1 ($n = 4523$)					
	F1	F2	F3	F4	F5	F6
Item 1	0.79	0.23	0.15	0.07	0.08	0.09
Item 2	0.71	0.15	0.17	0.21	0.03	0.26
Item 3	0.18	0.07	0.70	0.06	−0.03	0.18
Item 4	0.03	0.01	0.81	0.06	−0.06	0.16
Item 5	0.19	0.18	0.51	0.22	−0.01	0.25
Item 6	0.25	0.17	0.22	0.85	0.01	0.26
Item 7	0.17	0.86	0.10	0.11	0.12	0.05
Item 8	0.16	0.72	0.05	0.06	0.13	0.10
Item 9	0.15	0.13	0.21	0.18	−0.01	0.73
Item 10	0.14	0.03	0.26	0.07	−0.03	0.72
Item 11	0.06	0.17	−0.000	0.03	0.80	0.002
Item 12	0.02	0.03	−0.04	−0.01	0.44	−0.02
Eigenvalues after rotation	5.82	2.16	1.57	1.10	0.73	0.62
Proportion variance cumulated	48.47	17.98	13.09	9.48	6.13	5.15

3.2.2. Confirmatory Factor Analysis on Group 2 ($n = 4519$)

Analysis was conducted by EQS in both cases, ML was used with Satorra-Bentler's robust correction, to control for possible non-normality data [31]. Firstly, the goodness-of-fit was calculated with and without Satorra-Bentler robust correction, although each result presented will be with Satorra-Bentler robust correction. The S-B χ^2 (S-B $\chi^2 = 747.38$, $p < 0.01$) was calculated to analyze the fit of the model. The result of Group 2 ($n = 4519$) showed that the model didn't have an adequate fit. However, χ^2 is a very susceptible statistic with the sample size; therefore, other goodness-of-fit indices were applied. The indices applied were the Normed Fit Index (NFI) with a result of 0.945, Non-Normed Fit Index (NNFI) with a result of 0.911, the Comparative Fit Index (CFI) with a result of 0.947, and the Root Mean-Square Error of Approximation (RMSEA) with a result of 0.063 (0.059–0.067). The index values recommended should be above 0.90 [32] and the RMSEA values recommended should be below 0.06 [33], and then the results obtained seem to justify the adequacy of the model.

The loading of each dimension was lower than the values recommended (>0.70) [34], apart from items 2 ($\lambda = 0.82$) (belong to emotional dissonance dimension), item 5 ($\lambda = 0.70$) and 6 ($\lambda = 0.68$) (belongs to neutral emotions) (Table 4). The factorial loading with higher levels were: item 11 ($\lambda = 0.97$) (belong to emotional dissonance, item 7 ($\lambda = 0.87$) (belongs to sensitivity requirement) and item 9 ($\lambda = 0.84$) (belongs to interaction control).

Table 4. Factorial Loading of Group 2 ($n = 4519$).

	Dimension	Factor Loading	r Group 2
Item 1	Positive emotion	0.76	0.63 **
Item 2		0.82 *	
Item 3	Negative emotions	0.77	0.62 **
Item 4		0.81 *	
Item 5	Neutral emotions	0.70	0.47 **
Item 6		0.68 *	
Item 7	Sensitivity requirement	0.87	0.68 **
Item 8		0.78 *	
Item 9	Interaction control	0.84	0.62 **
Item 10		0.74 *	
Item 11	Emotional dissonance	0.97	0.39 **
Item 12		0.40 *	

Note. r Group 2: r Pearson between items of Group 2. * $p \leq 0.01$; ** $p \leq 0.001$.

Confirmatory factor analysis showed six dimensions with two items in each dimension with an adequate fit that replicated the original structure [22]. However, Exploratory Factor Analysis placed the data in six dimensions with two items per dimension.

3.3. Reliability and Discriminant Validity ($n = 9020$)

The reliability results (Table 5), calculated by Cronbach's alpha and composite reliability coefficients (CRC) values for the whole questionnaire, showed adequate results because they are above 0.70, as the literature suggests [27], except for the variables neutral emotion (CRC = 0.63, $\alpha = 0.63$) and emotional dissonance (CRC = 0.68, $\alpha = 0.53$), which are below 0.70. Furthermore, the CRC for the scale was above 0.70 (CRC = 0.90, $\alpha = 0.79$) [20], showing adequate results. The average variance extracted (AVE) values were between 0.50 and 0.68; also, the AVE of the whole questionnaire was 0.50, recommending values above or equal to 0.50 [28], except neutral emotion (AVE = 0.46) that is below 0.50. Likewise, the result for the scale was above 0.50 (AVE = 0.50), showing adequate value. In addition, Pearson correlation (Table 6) was performed to verify the correlation between the dimensions. However, for the whole sample, the results of CRC, AVE, and Cronbach's alpha showed results higher than the recommended value. In addition, the results showed, in all the cases, a positive correlation.

The discrimination validity was tested by correlating each dimension (Table 6), with all of them < 0.85 [32], and it complied with these criteria. The scale's dimensions were significantly correlated (<0.01), so convergent validity seems to be adequate, except for the relationship between the dimensions of interaction control and emotional dissonance, which were not significant ($r = 0.01$). Similarly, the AVE (Table 5) had to be greater than the correlations between pairs of dimensions [35] (Table 6).

Table 5. Reliability ($n = 9020$).

Item	Dimension	CI Cronbach α	CRC	AVE
Item 1 Item 2	Positive emotion	0.78 (0.75–0.77)	0.77	0.63
Item 3 Item 4	Negative emotions	0.76 (0.75–0.77)	0.74	0.59
Item 5 Item 6	Neutral emotions	0.63 (0.61–0.64)	0.63	0.46
Item 7 Item 8	Sensitivity requirement	0.82 (0.80–0.81)	0.81	0.68
Item 9 Item 10	Interaction control	0.76 (0.74–0.77)	0.75	0.50
Item 11 Item 12	Emotional dissonance	0.53 (0.51–0.55)	0.68	0.56

Note. CI Cronbach α : Confidence interval of Cronbach's alpha; CRC: composite reliability coefficients.

Table 6. Factor correlation matrix.

Item	F1	F2	F3	F4	F5	F6
Positive emotions (F1)	1					
Sensitivity requirement (F2)	0.38 **	1				
Negative emotions (F3)	0.29 **	0.17 **	1			
Neutral emotions (F4)	0.49 **	0.36 **	0.51 **	1		
Emotional dissonance (F5)	0.10 **	0.22 **	0.41 **	0.03 **	1	
Interaction control (F6)	0.37 **	0.21 **	−0.04 **	0.51 **	0.01	1

** $p \leq 0.001$.

3.4. Gender Invariance

Afterward, the invariance of the questionnaire between genders was calculated. To analyze the factorial invariance (Table 7), first, the whole sample was split in two considering men ($n = 2485$) and women ($n = 6535$), and CFA for both samples was performed; then, two multigroups depending on gender with whole sample analysis were calculated adding constraints, firstly, the equal variance between factors, and secondly, the invariance of the loadings. In addition, the changes in model fit with the inclusion of constraints were tested by a significance test on the difference among the Satorra-Bentler scaled chi-square statistics using SBDIFF [36]. The results of the different analyses (Table 7) showed adequate fit in all the cases (NFI, CFI, and IFI should be > 0.90 and RMSEA should be ≤ 0.06), on the other hand, the results of the S-B Scaled Difference (20.81, $df = 6$, $p = 0.01$) allow us to assume equal form invariance but not equal factor loadings invariance considering gender.

Table 7. Goodness-of-fit.

Item	χ^2 (df)	S-B χ^2 (df)	NFI	CFI	IFI	RMSEA
Men	508.82 (39)	414.20 (39)	0.944	0.949	0.949	0.062
Women	889.79 (39)	765.87 (39)	0.942	0.945	0.945	0.064
Multigroup (equal variances)	1865.91 (84)	26732.78 (132)	0.941	0.944	0.944	0.063
Multigroup (invariance loading)	1890.15 (90)	26732.78 (132)	0.941	0.944	0.944	0.061

Note. χ^2 : Chi-square; (df): degrees of freedom of Chi-square; NFI: Normed Fit Index; CFI: Comparative Fit Index; IFI: Bollen's Fit Index; RMSEA: Root Mean-Square Error of Approximation.

3.5. Influence of Gender in the Questionnaire Dimensions

Following, regarding the gender effect on EL, t-student test was used to confirm if there is a difference between genders in the different dimensions of the questionnaire. SPSS was used to calculate the t-test, and g-power was used to calculate the effect size.

The results (Table 2) showed that there were differences between genders in all of the dimensions of the questionnaire, with the women’s mean always being higher than the men. In addition, the effect size was small for all of the results apart from the dimensions Sensitivity requirement and Positive emotions that are moderations, so the difference between gender was significant. In addition, t-test results showed a difference between genders ($M_{\text{women}} = 2.60$ and $SD = 0.58$, $M_{\text{men}} = 2.43$ and $SD = 0.60$; $t = -12.24$, $p < 0.001$), and the effect size of the sample was 0.29 with a power of 1.

Additionally, Pearson correlations (Table 8) were performed depending on gender. The results were similar between genders. They showed a positive relationship, except for the relationship between negative emotions and emotional dissonance in both genders. Furthermore, in both genders, the relationship between emotional dissonance and interaction control was not significant.

Table 8. Factors correlation matrix depending on gender.

	Women						Men					
	F1	F2	F3	F4	F5	F6	F1	F2	F3	F4	F5	F6
Positive emotions (F1)	1	0.28 **	0.49 **	0.37 **	0.37 **	0.08 **	1	0.30 **	0.48 **	0.37 **	0.36 **	0.12 **
Sensitivity requirement (F2)		1	0.51 **	0.16 **	0.40 **	−0.05 **		1	0.50 **	0.15 **	0.43 **	−0.04 **
Negative emotions (F3)			1	0.35 **	0.51 **	0.02 **			1	0.38 **	0.52 **	0.06 **
Neutral emotions (F4)				1	0.20 **	0.21 **				1	0.23 **	0.26 **
Emotional dissonance (F5)					1	−0.001					1	0.01
Interaction control (F6)						1						1

** $p \leq 0.001$ Comparative.

3.6. Centiles

To interpret the scores of the instrument, in Table 9 there is the scale depending on centiles 10, 25, 33, 50, 66, 75 and 90.

Table 9. Centile values.

		Whole Sample	Women	Men
Mean		2.56	2.60	2.43
SD		0.59	0.58	0.60
	10	1.83	1.83	1.67
	25	2.17	2.25	2.08
	33	2.33	2.42	2.17
Percentile	50	2.58	2.67	2.50
	66	2.83	2.83	2.67
	75	3.00	3.00	2.83
	90	3.25	3.33	3.17

4. Discussions

Despite the importance of EL, there are no studies that show psychometric properties in Spanish non-university teachers, nor are there any that use a brief version of the FEWS questionnaire. Furthermore, there are no studies that add the influence of gender in EL using a brief version of the FEWS questionnaire. This study added the gender influence in EL. Thus, this study adapts and validates a brief Spanish version of FEWS and analyses the difference between gender and the invariance because of gender.

The first objective of this study was to examine the psychometric properties of the brief Spanish version of FEWS in a Spanish teacher’s sample. The different results proved that this scale is valid to use on this population.

The brief scale contains 12 items grouped into six dimensions: positive emotions, negative emotions, neutral emotions, sensitivity requirement, interaction control, and emotional dissonance. All dimensions showed adequate reliability. The AVE results also

showed adequate results with the exception of neutral emotions. Likewise, each item seems to contribute adequately to the whole scale.

These results were similar to the original Spanish version of 21 items [22] and the original German version [37]. Furthermore, the results improve reliability in almost all the dimensions, apart from neutral emotions, which were not in the original version, and emotional dissonance, which had results that were lower than the originals. Additionally, the results were similar to other studies such as Kovács et al. [38].

Subsequently, the results of the validity test showed in CFA a model of six dimensions with two items in each dimension with an adequate fit that replicates the original structure [22]. All of them seem to be positively and significantly correlated ($p < 0.05$). The invariance of the scale according to gender was also performed. The results obtained seem to justify the internal validity of the questionnaire and its invariance according to gender for the teacher's sample.

The second objective of this study was to analyze the effect of the gender variable on EL. The descriptive results showed that women have higher levels of mean than men. These results show that women need to show more positive emotions, negative emotions and neutral emotions and have more sensitivity requirements, control interaction, and emotional dissonance. The results of the t-test showed significant differences between genders, with higher values for women than men in all cases. These results are in line with previous studies [19,39] suggesting higher levels of emotional levels in women than men.

In conclusion, the psychometric properties and invariance of the questionnaire were proven. As well as differences in EL expression according to gender. These results justified the utility of the questionnaire as a diagnostic tool for Spanish teachers and the improvement of the questionnaire when it was reduced.

Although, with reference to the interest of this study, there are some limitations. Firstly, no probabilistic method was used to obtain the sample, so it is difficult to generalize these results. However, the sample size of 9020 teachers can give a first approximation to EL in this study. Furthermore, the results of this study were obtained through self-report, which can introduce some bias into the results. Future studies should consider these limitations and apply the scale in another context, mixing self-report measures with another hetero-inform considering systemic procedures to obtain the sample.

Finally, despite this limitation, it is necessary to emphasize the importance of this study, as it provides a brief and reliable instrument that could help increase the number of studies on the field and help diagnose employee situations. It would help to modify policy to improve the health and well-being of teachers, pupils, and families. New studies could focus on the psychometric properties of this questionnaire in different cultures and languages.

Author Contributions: Conceptualization, V.J.P.-G. and P.R.G.-M.; formal analysis, V.J.P.-G.; investigation, M.L.-P.; resources, M.L.-P.; data curation, M.L.-P.; writing—original draft preparation, M.L.-P. and P.G.-L.; writing—review and editing, M.L.-P., V.J.P.-G., P.R.G.-M. and P.G.-L.; visualization, V.J.P.-G.; supervision, P.R.G.-M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of INVASSAT.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data for this study are not available due to their proprietary nature.

Acknowledgments: The data collect to carry out this research was supported for the non-profit Collaboration Agreement between University of Valencia and the INVASSAT (Government of Valencian Community) (Ref: OTR2017-18246COLAB).

Conflicts of Interest: The authors declare no conflict of interest.

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