



ORIGINAL

Validation of an Organizational Climate Scale in health workers

Validación de una Escala de Clima Organizacional en trabajadores de salud

Flor Damiano-Aulla¹, Jeydi Raqui-Rojas¹, Víctor D. Álvarez-Manrique¹  , Liset Z. Sairitupa-Sanchez²  ,
Wilter C. Morales-García^{3,4}  

¹Escuela Profesional de Administración, Facultad de Ciencias Empresariales, Universidad Peruana Unión, Tarapoto, Perú.

²Escuela Profesional Psicología, Facultad de Ciencias de la Salud, Universidad Peruana Unión, Lima, Perú.

³Sociedad Científica de Investigadores Adventistas, SOCIA, Universidad Peruana Unión, Lima, Perú.

⁴Escuela de Posgrado, Universidad Peruana Unión, Lima, Perú.

Cite as: Damiano-Aulla F, Raqui-Rojas J, Álvarez-Manrique VD, Sairitupa-Sanchez LZ, Morales-García WC. Validation of an Organizational Climate Scale in health workers. Data and Metadata. 2024;3:257. <https://doi.org/10.56294/dm2024257>

Submitted: 14-09-2023

Revised: 19-12-2023

Accepted: 12-03-2024

Published: 13-03-2024

Editor: Adrián Alejandro Vitón Castillo 

ABSTRACT

Introduction: organizational climate is a key factor in employee performance and satisfaction. In this study, the validity and reliability of an organizational climate scale in agroindustrial companies in Peru was examined.

Objective: to analyze the psychometric properties of an organizational climate scale adapted to Peruvian Spanish. **Methods:** A methodological study was carried out. Demographic data were collected, as well as responses to an organizational climate questionnaire.

Results: the data were analyzed using confirmatory factorial analysis (CFA). The reliability of the instrument was high ($\alpha = 0,92$). However, the factor loadings of several items were not adequate, so a unidimensional model was tested, then a model with adequate factor loadings, and finally an optimal model. In this last 9-item model, the fit was optimal, and the factor loading was adequate for all items.

Conclusion: overall, the organizational climate scale demonstrated good reliability and validity in this context of agroindustrial companies in Peru. However, some items needed to be revised to improve the scale's accuracy. These findings provide a valuable tool for measuring the organizational climate in these types of companies and pave the way for future research in this field.

Keywords: Organizational Climate; Agroindustrial Companies; Confirmatory Factor Analysis; Validity; Reliability.

RESUMEN

Introducción: el clima organizacional es un factor clave en el rendimiento y la satisfacción de los empleados. En este estudio, se examinó la validez y la confiabilidad de una escala de clima organizacional en empresas agroindustriales en Perú.

Objetivo: analizar las propiedades psicométricas de una escala de clima organizacional adaptada al español peruano.

Métodos: se realizó un estudio metodológico. Se recopilaron datos demográficos, así como respuestas a un cuestionario de clima organizacional.

Resultados: los datos se analizaron utilizando análisis factorial confirmatorio (CFA). La confiabilidad del instrumento fue alta ($\alpha = 0,92$). Sin embargo, las cargas factoriales de varios ítems no fueron adecuadas, por lo que se probó un modelo unidimensional, luego un modelo con cargas factoriales adecuadas y, finalmente, un modelo óptimo. En este último modelo de 9 ítems, el ajuste fue óptimo y la carga factorial fue adecuada para todos los ítems.

Conclusión: en general, la escala de clima organizacional demostró buena confiabilidad y validez en este

contexto de empresas agroindustriales en Perú. Sin embargo, algunos ítems necesitaban ser revisados para mejorar la precisión de la escala. Estos hallazgos proporcionan una herramienta valiosa para medir el clima organizacional en este tipo de empresas y abren el camino para futuras investigaciones en este campo.

Palabras clave: Clima Organizacional; Empresas Agroindustriales; Análisis Factorial Confirmatorio; Validez; Confiabilidad.

INTRODUCTION

Organizational climate is understood as the internal environment of the organization experienced and perceived by employees that influences their behavior, constituting an institutional value system.^(1,2) Organizational climate is defined as a set of attributes of the work environment,⁽³⁾ in terms of values,⁽⁴⁾ a key factor,⁽⁵⁾ intervening in the system and individual behavior,^(6,7) as well as in the organization's processes⁽⁸⁾ providing a culture⁽⁹⁾ and a global institutional vision⁽¹⁰⁾ fundamental for development that acts on the behavior of its members,⁽⁵⁾ through shared knowledge, experiences and procedures⁽⁸⁾ perceived,⁽¹¹⁾ related to its internal environment^(12,13) that impacts the work environment,^(14,15) also configures the personality and character of the organization⁽¹⁶⁾ to facilitate the achievement of proposed goals⁽¹⁷⁾ based on the link between the organizational situation and its members. Such perception of the climate is not only more descriptive, independent of individuals, but also affective,⁽¹⁸⁾ this is individual as psychological climate⁽¹⁹⁾ and shared as aggregate climate.⁽²⁰⁾

Organizational climate has been a construct seriously investigated, in the last three decades due to its importance for the company,⁽²¹⁾ to know for the individual and organizational results both in the internal structure and in the environmental context.⁽²²⁾ The findings confirm that the organizational climate plays a primary function in organizations,⁽²³⁾ as a critical variable to improve individual and team effectiveness, therefore the institutional efficiency⁽²⁴⁾ that builds the context to study organizational behavior from individual and group behaviors^(25,26) and their respective expectations.⁽²⁷⁾ In this sense, the climate, a construct that explains various business variables, has allowed to show effects on important results at the individual, group and organizational level.⁽²⁸⁾ Climatic perceptions have positive consequences that impact performance and other attitudinal and behavioral outcomes.⁽²¹⁾ The organizational climate has also been measured as an effective resource to recover from adverse situations, as it promotes resilience and adaptability in the work environment.⁽²⁹⁾

The measurement of the organizational climate has motivated the construction of various scales, because the measurement of a variable is deduced from intertwined theoretical assumptions that imply the verification of its correlate in reality through dimensions or not, because when the instruments obeyed to social or environmental environments, the climate was characterized by few dimensions, however when the evaluative or subjective approach predominated, the number of climate dimensions proliferated.⁽¹⁸⁾ A positive organizational climate can lead to an increase in job satisfaction, commitment and employee loyalty, as well as higher productivity and better performance. (Schneider et al., 2013) In addition, when employees perceive a favorable work climate, they are more likely to be motivated to collaborate and share information with their peers, which can result in greater innovation and problem-solving in the company.^(30,31) On the other hand, a negative organizational climate can have detrimental effects on employees, leading to a decrease in job satisfaction, increased employee turnover, internal conflicts and ultimately a decline in productivity and the company's overall performance.⁽³²⁾

One of the first is the Organizational Climate Questionnaire OCQ with nine dimensions and 50 items,⁽³³⁾ which recorded little reliability subsequently proposing six factors.⁽³⁴⁾ Campbell et al.⁽³⁵⁾ determined four dimensions: individual autonomy, degree of structure imposed on the situation, reward orientation and consideration, warmth and support, just like.⁽²²⁾ Koys & Decotiis(1991) proposed 8 dimensions (autonomy, cohesion, trust, pressure, support, recognition, equity, innovation). A Subjective Work Environment Organizational Climate Scale (ECALS) was also developed with five dimensions and bifactorial of individual and group manifestations of 38 items with adequate psychometric properties.⁽³⁷⁾ The HDR climate instrument of Rao & Abraham⁽³⁸⁾, validated by Chaudhary et al., (2014) obtained for a 5-factor scale, with an alpha of 0,952. The successive instruments of the organizational climate with dimensions have been reporting some difficulties. Such as ambiguity when respondents answer about the work experience of the specific area or department when the questionnaire requests perception of the organization,⁽⁴⁰⁾ and even when it is required to apply to representatives of departments/divisions⁽⁴¹⁾ and, sometimes, only applies to managerial employees.⁽⁴²⁾ In addition to the proliferation of climate dimensions, this trend has generated confusion, slowing down the theoretical confirmation,⁽¹⁸⁾ for these reasons if a multidimensional approach does not obey and differs for each criterion of interest, the dimensions are irrelevant⁽⁴³⁾ with little validity information.⁽⁴¹⁾ For these reasons, unidimensional instruments such as Clor were proposed, with 50 items(with values less than 0,40) and a short form of 15 items was proposed.⁽⁴⁴⁾ The

smallest scale allows better evaluation of the construct, since it does not overload the concentration of the participants.⁽⁴⁵⁾ In this sense, the instrument proposed by Koys & Decotiis, (1991), receives a low alpha for pressure (0,57) with 40 items that was adapted to Spanish by Chiang et al.⁽⁴⁶⁾ who report 25 items with the pressure dimension without statistically significant relationship (0,338).

Given the importance of having adequate instruments to measure the organizational climate and the limitations observed in existing instruments, the objective of this study is to evaluate the psychometric properties of a short organizational climate scale in Peruvian workers, based on the instrument developed by Koys & Decotiis.⁽³⁶⁾

METHODS

Design and participants

A validation study was carried out.⁽⁴⁷⁾ The sample selection was carried out through an electronic calculator⁽⁴⁸⁾, taking into account various factors, such as the number of observed and latent variables in the model, the anticipated effect size ($\lambda = 0,10$), the desired statistical significance ($\alpha = 0,05$) and the level of statistical power ($1 - \beta = 0,90$). A total of 418 workers from agro-industrial companies in the Junín region, Peru, were recruited. The majority of participants in the sample were women (56,2 %) with a secondary level of education (51,7 %) and working in the cutting and selection area (28,9 %).

Instruments

Demographic questionnaire. The demographic characteristics of the agro-industrial workers were gender, level of instruction in basic, secondary and higher education, and the area of work identified in administrative positions, logistics, cutting and selection, reception, washing and packing.

Organizational Climate Questionnaire. We used the organizational climate instrument of Koys & Decotiis,⁽³⁶⁾ adapted into Spanish and validated by Chiang et al.⁽⁴⁶⁾ It consists of 40 items which measure the dimensions of autonomy, cohesion, trust, pressure, support, recognition, equity and innovation. It is assessed using the Likert scale where: Very much agree = 5; Agree = 4; Not sure = 3; Disagree = 2; Totally disagree = 1.

Work engagement: To assess work engagement, the brief version of the work engagement scale, known as UWES-9, will be utilized. This instrument has been validated in the Peruvian context. It comprises 9 items rated on a Likert scale ranging from "Never" (0) to "Always" (5). The scale is structured around three core dimensions: vigor (items 1, 2, and 3), dedication (items 4, 5, and 6), and absorption (items 7, 8, and 9), thus facilitating a comprehensive evaluation of work enthusiasm. Regarding the reliability of this tool, it has been verified through the Cronbach's Alpha coefficient, yielding satisfactory results for each dimension: vigor ($\alpha = 0,77$), dedication ($\alpha = 0,74$), and absorption ($\alpha = 0,61$). These outcomes indicate an adequate reliability of the instrument for this study.⁽⁴⁹⁾

Procedure

We contacted the manager or the human resources chief of the agro-exporting companies in the Junín-Peru region: La Grama (Pichanaki), Hamilton S.A.C (Perené), Cooperativa Agraria Cafetalera (Pangoa), Apromac (Valle del Mantaro) Agropia cooperative Sapallanga (Huancayo) Agroindustry JAS E.I.R.L. (Rio Negro) to explain the purpose of the research study, obtaining the corresponding permission. The questionnaires were sent to the human resources departments, from where the survey was administered in person to staff and also through WhatsApp, following an internet-based methodology. Data were collected from November 2021 to February 2022. Participants were informed about the purpose, the process, and the results would be used in this research, all questionnaires would be anonymous and confidential, and they could withdraw at any time. The study protocol was reviewed by the ethics committee of a Peruvian university with code CEUPeU-023 and following the principles established in the Helsinki Declaration.

Data analysis

A descriptive analysis of the scale was conducted, calculating the mean, standard deviation, skewness, kurtosis, and corrected inter-test correlation analysis. Adequate values of skewness (g1) and kurtosis (g2) were considered between $\pm 1,5$.⁽⁵⁰⁾ In addition, the corrected item-test correlation analysis was used to eliminate items if $r(i-tc) \leq ,2$ or in case of multicollinearity ($i-tc) \leq ,2$.⁽⁵¹⁾ Cronbach's alpha coefficient was also used to estimate internal consistency.

A confirmatory factorial analysis (CFA) was carried out using the maximum likelihood method with robust standard errors (MLR) due to the categorical nature of the items and its ability to detect structural relationships with slight or moderate skewness.^(52,53) To assess the model fit, the following criteria were used: chi-square test (χ^2), confirmatory fit indexes CFI and Tucker-Lewis (CFI $\geq 0,95$), root mean square error of approximation (RMSEA $\leq 0,05$) and standardized mean deviation (SRMR $\leq 0,05$).⁽⁵¹⁾ The first model included the magnitude of the factor loadings (λ), which were considered adequate when they were greater than 0,70. To assess internal

validity through convergent validity, the average variance extracted (AVE) was calculated per factor ($AVE > 0,50$). Interfactor correlations (φ) were also calculated according to their conceptual affinity, expecting discriminant validity to be evidenced through empirical differentiation between AVE and the square of the interfactor correlations (φ^2), with the former being greater than the latter ($AVE > \varphi^2$).⁽⁵⁴⁾

Reliability was estimated through Cronbach's alpha, McDonald's Omega ω ,⁽⁵⁵⁾ expecting high magnitudes ($> 0,70$).⁽⁵⁶⁾ The statistical analysis was carried out using the free R 4.1.1 software. (R Foundation for Statistical Computing, Vienna, Austria; <http://www.R-project.org>).

RESULTS

Descriptive statistics of items

The data shows a normal distribution for most items, with skewness and kurtosis values within the $\pm 1,5$ range. The items with the highest mean are 1 ($M = 4,58$, $SD = 0,56$) and 40 ($M = 4,57$, $SD = 0,56$), while the item with the lowest mean is 23 ($M = 3,79$, $SD = 1,30$). The item with the highest standard deviation is 25 ($SD = 1,40$), while the item with the lowest standard deviation is 7 ($SD = 0,54$). The Cronbach's alpha coefficient is high ($\alpha = 0,92$), indicating good reliability of the instrument. The correlation between items is generally moderate to high, with values ranging from 0,21 to 0,68. The items with the highest correlations are 1 and 40, while the item with the lowest correlation is 18 (table 1).

Items	M	sd	g1	g2	r.cor
1	4,58	0,56	-1	0,43	0,52
2	4,38	0,59	-0,36	-0,7	0,33
3	4,37	0,59	-0,41	-0,3	0,25
4	4,49	0,59	-0,7	-0,49	0,4
5	4,5	0,57	-0,57	-0,69	0,38
6	4,54	0,57	-0,81	-0,35	0,48
7	4,51	0,54	-0,43	-1,06	0,24
8	4,45	0,61	-0,64	-0,55	0,33
9	4,5	0,56	-0,58	-0,7	0,31
10	4,46	0,62	-0,72	-0,48	0,46
11	4,49	0,6	-0,72	-0,47	0,4
12	4,51	0,61	-0,97	0,55	0,35
13	4,39	0,63	-0,66	0,01	0,38
14	4,38	0,64	-0,7	0,22	0,48
15	4,46	0,64	-0,75	-0,47	0,6
16	4,29	0,64	-0,44	-0,16	0,27
17	4,3	0,62	-0,32	-0,67	0,34
18	4,29	0,62	-0,29	-0,66	0,21
19	4,27	0,64	-0,41	-0,19	0,31
20	4,31	0,6	-0,24	-0,64	0,29
21	3,97	1,34	-1,11	-0,12	0,64
22	3,84	1,24	-0,97	-0,18	0,61
23	3,79	1,3	-0,98	-0,26	0,64
24	3,9	1,34	-1,07	-0,15	0,64
25	3,9	1,4	-1,06	-0,34	0,68
26	4,45	0,65	-0,78	-0,47	0,59
27	4,28	0,65	-0,41	-0,5	0,45
28	4,38	0,63	-0,58	-0,34	0,37
29	4,49	0,56	-0,61	-0,18	0,32
30	4,41	0,64	-0,61	-0,61	0,51
31	4,53	0,59	-1,05	1,16	0,43

32	4,48	0,63	-0,85	-0,05	0,47
33	4,42	0,61	-0,52	-0,64	0,29
34	4,42	0,66	-0,76	-0,32	0,46
35	4,44	0,66	-0,79	-0,25	0,45
36	4,45	0,64	-0,78	-0,17	0,53
37	4,43	0,58	-0,39	-0,77	0,36
38	4,37	0,62	-0,5	-0,34	0,4
39	4,45	0,63	-0,74	-0,17	0,55
40	4,57	0,56	-0,89	0,24	0,44

Note: M = Mean, SD = Standard Deviation, g_1 = skewness, g_2 = kurtosis

Validity Based on Internal Structure

Subsequently, a CFA was performed considering a first model (M1) with all items, as suggested by Koys and DeCotiis(1991). Although the goodness-of-fit index was adequate ($\chi^2 = 270,17$, $df = 76$; $p < ,001$; CFI = 0,96, TLI = 0,96, RMSEA = 0,04 [90 % CI 0,03 - 0,04], SRMR = 0,06), the factor loadings of various items were not adequate ($\lambda > 0,50$). Additionally, the reliability of factors 1, 2, 3, 4, 6, 7, and 8 were lower than recommended (α , $\omega > 0,70$). Therefore, a second unidimensional model (M2) was tested, but the model did not present an adequate fit ($\chi^2 = 2052,20$, $df = 740$; $p < ,001$; CFI = 0,86, TLI = 0,86, RMSEA = 0,07 [90 % CI 0,06 - 0,07], SRMR = 0,09). In the second model (M2), it was found that the factor loadings of items 1, 6, 14, 15, 21, 22, 23, 24, 25, 26, 30, 34, and 36 were adequate ($\lambda > 0,50$). In addition, reliability reached recommended values (α , $\omega > 0,70$). Therefore, a third model (M3) was conducted with the adequate loadings of the second model, in which the fit was adequate ($\chi^2 = 695,27$, $df = 77$; $p < ,001$; CFI = 0,93, TLI = 0,92, RMSEA = 0,14 [90 % CI 0,13 - 0,15], SRMR = 0,13), despite the RMSEA and SRMR values being higher than recommended ($<0,80$). However, the factor loadings of items 1, 14, 30, 34, and 39 were lower than recommended ($\lambda > 0,50$), so they were eliminated for a fourth model. In the fourth model (M4), an adequate fit was obtained ($\chi^2 = 45,574$, $df = 14$; $p < ,001$; CFI = 0,98, TLI = 0,97, RMSEA = 0,13 [90 % CI 0,12 - 0,15], SRMR = 0,95), although the RMSEA and SRMR obtained values higher than recommended ($<0,80$). The items 6, 26, and 36 did not reach an adequate load. A fifth model (M5), excluding these loads, presented an optimal fit ($\chi^2 = 23,21$, $df = 9$; $p < ,001$; CFI = 0,99, TLI = 0,99, RMSEA = 0,06 [90 % CI 0,03]. In addition, the factor loadings (λ) of items 6 and 8 were lower than 0,50. Also, the AVE value was acceptable (AVE = 0,81) being lower than 0,50 (table 2).

Table 2. "Confirmatory Factor Analysis (CFA) reliability and Average Variance Extracted (AVE)"

Items	M1								M2	M3	M4	M5	M6
	F1(λ)	F2(λ)	F3(λ)	F4(λ)	F5(λ)	F6(λ)	F7(λ)	F8(λ)	F1(λ)	F1(λ)	F1(λ)	F1(λ)	F1(λ)
1	0,61								0,55	0,42			
2	0,37								0,36				
3	0,27								0,26				
4	0,45								0,44				
5	0,46								0,43				
6		0,56							0,54	0,52	0,47		
7		0,28							0,28				
8		0,36							0,35				
9		0,36							0,35				
10		0,52							0,49				
11			0,47						0,44				
12			0,39						0,37				
13			0,42						0,38				
14			0,53						0,5	0,45			
15			0,69						0,64	0,59	0,53	0,49	
16				0,25					0,28				
17				0,32					0,37				
18				0,19					0,22				
19				0,29					0,33				
20				0,28					0,34				
21					0,98				0,94	0,97	0,97	0,97	0,97

22					0,86				0,78	0,84	0,86	0,87	0,87
23					0,83				0,73	0,79	0,82	0,82	0,82
24					0,91				0,85	0,89	0,9	0,91	0,91
25					0,91				0,84	0,88	0,9	0,91	0,91
26						0,7			0,61	0,52	0,44		
27						0,53			0,47				
28						0,41			0,38				
29						0,38			0,34				
30						0,61			0,54	0,46			
31							0,49		0,47				
32							0,52		0,48				
33							0,33		0,28				
34							0,52		0,5	0,42			
35							0,52		0,48				
36								0,66	0,58	0,51	0,39		
37								0,48	0,39				
38								0,48	0,41				
39								0,67	0,57	0,49			
40								0,57	0,47				
AVE													0,81
α	0,42	0,41	0,57	0,24	0,96	0,59	0,52	0,63	0,90	0,88	0,89	0,93	0,96
ω	0,44	0,42	0,54	0,22	0,93	0,58	0,51	0,62	0,92	0,92	0,92	0,93	0,93

Note: F= Factor, α: Cronbach's Alpha, λ = Factor loading, AVE: average variance extracted

Convergent Validity and Reliability

Also, considering the literature review, a SEM model was proposed for latent evaluation between the CFA and a model with 2 latent variables was considered: Organizational Climate and Work Commitment. The model had a good fit: $\chi^2 = 278$, $df = 76$; $p < ,001$; CFI = 0,98, TLI = 0,97, RMSEA = 0,08 (90 % CI: 0,07 - 0,09), SRMR = 0,07 (Figure 2). Organizational commitment positively predicts the work climate (0,65; $p < 0,001$). Considering the results, it is concluded that the scale has convergent validity based on the relationship with another construct (figure 1).

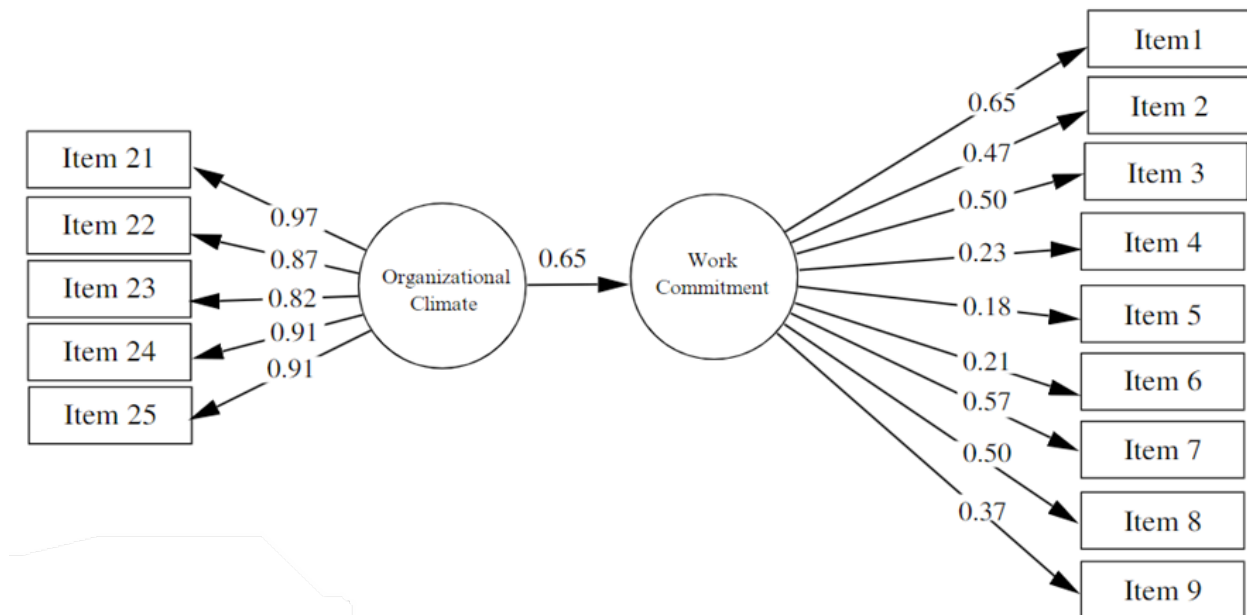


Figure 1. Factorial model

DISCUSSION

Organizational climate is a fundamental construct in the study of the work environment, as it influences employee behavior and performance, ultimately affecting the effectiveness and efficiency of organizations.

Despite the proliferation of instruments to measure this construct, challenges persist in terms of validity and reliability. This study addresses the need to evaluate an organizational climate scale in Peruvian workers, based on the instrument by Koys & Decotiis.⁽³⁶⁾ Given that previously developed instruments have presented limitations in terms of the number of dimensions as well as the validity and reliability of the measurements obtained.^(18,44) the main objective of this study was to validate an organizational climate scale in Peruvian workers.

The first model, according to the findings of the confirmatory factor analysis, displayed a factorial structure with eight dimensions, similar to that suggested by Koys & Decotiis,⁽³⁶⁾ including autonomy, cohesiveness, trust, pressure, support, recognition, fairness, and creativity. These results are in line with other studies^(36,46), which established an eight-dimension structure for assessing organizational climate. It is crucial to note that while there are parallels between the factorial structure identified here and that presented by Koys & Decotiis, Koys & Decotiis, (1991), there are also significant variances that may be traced to the unique cultural and economic environment of Peru.⁽⁵⁷⁾ The "support" dimension, in this regard, demonstrated adequate levels of internal consistency, with a Cronbach's alpha above the advised threshold of 0,70,⁽⁵⁸⁾ whereas the other dimensions did not reach these values, indicating that there may be reliability issues in some areas of the instrument. A lack of item homogeneity, the small number of items per dimension, problems with translation, or cultural adaptation are only a few reasons why certain dimensions have dependability values below 0,70.^(59,60) The capacity of the scale to accurately evaluate the aspects of the organizational environment can also be impacted by the existence of factor loadings below 0,50 in some items of the dimensions.⁽⁶¹⁾ The reasons for these low values may include a variety of things, including the unclearness or lack of applicability of specific items in the Peruvian context, problems with translation and cultural adaptation, or an inadequate depiction of the relevant characteristics.^(62,63) These issues may have affected the internal consistency of these dimensions and, therefore, their ability to reliably measure the organizational climate in Peruvian workers. Also, certain aspects of organizational climate may be more relevant or present in Peruvian organizations compared to those in other countries, which could explain certain differences in the obtained factorial structure.^(64,65) Therefore, a second unidimensional model was decided upon, which did not present adequate fit values, and a third, fourth, and fifth model were analyzed, which, despite having an adequate fit, the factor loadings of various items were less than 0,50. Thus, the sixth model with 5 items presented appropriate values and factor loadings greater than 0,50. Despite the reliability issues, the sixth model showed adequate levels of internal consistency. Furthermore, the results in terms of convergent validity showed that the items had values greater than 0,50 (AVE > 0,50), so the brief 5-item scale may be useful for measuring the organizational climate in the Peruvian work context.

Moreover, the instrument proved effective in relating to other tools. This is because job resources, as well as job demands, motivate and facilitate work goals, their direct effect commits workers to their workplace,⁽⁶⁶⁾ and buffers the effect of demands. If the organization provides conditions of a high climate, it can provide enough job resources,⁽⁶⁷⁾ characteristic of management concerned with the needs of its employees⁽⁶⁸⁾ so that their commitment is evidenced in their motivational potential,⁽⁶⁹⁾ inferring that resources are important both for the employee and for the organization.⁽⁷⁰⁾ Employee commitment to the organization is the effect of job design as a resource of a favorable environment or climate.⁽⁷¹⁾ For all these reasons, managers are called upon to improve the commitment of collaborators, this implies that the climate must be designed⁽⁷²⁾ so that the environment, management style, and leadership promote commitment and, thus, good performance⁽⁷³⁾ through the relational (alter interactions) and cognitive (elaborate the meaning and importance of work) elaboration of tasks (modifying them).⁽⁷⁴⁾ When workers perceive an organization that invests in resources by improving its climate, it generates proactive behavior towards working conditions.⁽⁷⁵⁾ This implies that the climate affects job behavior and performance through commitment,^(76,77) which enables task creation,⁽⁷⁵⁾ assigning resources effectively to previously coordinated activities.^(78,79) The demand and resource theory assumes that the behavior and mindset of the leader as a social resource of the climate⁽⁷⁵⁾ leads to a return of desirable work behaviors, generating trust.⁽⁸⁰⁾

Implications

The organizational climate scale for Peruvian workers has important implications for human resources management and organizational development in this context. By having an adapted and validated tool, professionals can more accurately assess the organizational climate in their companies and design specific interventions to improve key aspects of the work environment, such as satisfaction, commitment, and employee performance.

Furthermore, this study adds data to the body of knowledge on organizational climate. The theoretical understanding of this construct and its ramifications in various situations can be enhanced by conducting future studies that compare organizational climate scales across different nations and cultures. In this way, employers can use the short scale to identify areas where improvements in the workplace atmosphere are needed and create specialized training and development initiatives to address these issues. It can also be used as a component of a system for the ongoing assessment and monitoring of the organizational environment,

allowing companies to track their progress and adjust their plans in light of the outcomes.
Principio del formulario

Limitations

Despite these encouraging findings, it's crucial to remember that the current study has several limitations. It's possible that the study's sample of Peruvian workers is not typical of the total labor force. Results may have been impacted by the choice of participants from particular sectors or geographical areas. To increase the generalizability of the results, future study might use larger and more diverse samples, including people from other industries and places. The cross-sectional methodology of this study makes it difficult to draw conclusions about the causes of the organizational environment and other pertinent factors. Future studies might make advantage of longitudinal designs to assess how organizational climate changes over time and how it affects things like performance and job satisfaction. Self-reported measures used in this study may have added biases like social desirability or participant perception. To develop a more impartial picture of the organizational environment, future study might make use of a variety of data sources, including direct observations, supervisor assessments, and organizational records.

CONCLUSIONS

Organizational climate is a fundamental construct in the study of the work environment, as it influences employee behavior and performance, and ultimately, the effectiveness and efficiency of organizations. Therefore, this study has made a significant contribution to the field of organizational climate research by presenting the validation of a short scale that assesses the organizational climate in Peruvian workers. Despite limitations such as the sample and cross-sectional design, this study offers important practical and theoretical implications for the management of organizational climate and its impact on work performance and employee satisfaction.

REFERENCES

1. Randhawa G, Kaur K. An Empirical Assessment of Impact of Organizational Climate on Organizational Citizenship Behaviour. *Paradigm* 2015; 19: 65-78.
2. Quinteros-Durand R, Almanza-Cabe RB, Morales-García WC, et al. Influence of servant leadership on the life satisfaction of basic education teachers: the mediating role of satisfaction with job resources. *Front Psychol*; 14. Epub ahead of print 2023. DOI: 10.3389/fpsyg.2023.1167074.
3. Hall RH. *Organizaciones: estructura y proceso*. 3rd ed. España: Editorial Dossat, 1983.
4. Tagiuri R, Litwin GH. *Organizational climate: explorations of a concept*. California: Boston Mass: Division of Research, Graduate School of Business Administration, Harvard University, 1968.
5. García Solarte M. Clima organizacional y su diagnóstico: Una aproximación conceptual. *Cuadernos de Administración* 2009; 43-61.
6. Martínez R, Ramírez M de J. La motivación y el clima organizacional en la Facultad de Contaduría Pública de la Benemérita Universidad Autónoma de Puebla. *Revista Internacional Administración y Finanzas* 2010; 3: 39-48.
7. Cayupe JC, Bernedo-Moreira DH, Morales-García WC, et al. Self-efficacy, organizational commitment, workload as predictors of life satisfaction in elementary school teachers: the mediating role of job satisfaction. *Front Psychol* 2023; 14: 1066321.
8. Schneider B, Ehrhart MG, MacEy WH. Organizational climate and culture. *Annual Review of Psychology* 2013; 64: 361-388.
9. Ouchi W. *Teoría Z, cómo las empresas americanas pueden cumplir con el desafío de japonés*. España: Orbis, 1984.
10. Díaz M, Rodríguez A, Balcindes S, et al. Clima organizacional: Percepción por enfermeras del nivel primario de atención. *Rev Cubana Enferm* 2016; 32: 364-376.
11. Massie JL. *Essentials of Management*. New Jersey: Prentice-Hall International, 1987.

12. Calderón-Hernández G, Álvarez-Giraldo C, Naranjo-Valencia J. Estrategia competitiva y desempeño organizacional en empresas industriales colombianas. *Administrativas y Sociales* 2010; 20: 13-26.
13. Iglesias A, Sánchez Z. Generalidades del clima organizacional. *MediSur* 2015; 13: 455-457.
14. Jones AP, James LR. Psychological climate: dimensions and relationships of individual and aggregated work environment perceptions. *Organizational Behavior and Human Performance* 1979; 201-250.
15. Joyce WF, Slocum JW. Collective climate: agreement as a basis for defining aggregate climates in organizations. *Management Journal* 1984; 27: 721-742.
16. McKnight DH, Webster J. Collaborative insight or privacy invasion? Trust climate as a lense for understanding acceptance of awareness systems. In: Cooper GL, Cartwright S, Earley PC (eds) *The International handbook of organizational culture and climate*. John Wiley & Sons Ltd, 2001, pp. 533-555.
17. Brito-Carrillo C, Pitre-Redondo R, Cardona-Arbeláez D. Clima organizacional y su influencia en el desempeño del personal en una empresa de servicio. *Información Tecnológica* 2020; 31: 141-148.
18. Patterson M, Warr PB, West MA. Organizational climate and company productivity: the role of employee affect and employee level. London: Centre for Economic Performance, April 2004.
19. James LR, Jones AP. Organizational climate: a review of theory and research. *Psychol Bull* 1974; 81: 1096-1112.
20. Schneider B, Bowen DE, Ehrhart MG, et al. The climate for service. In: Ashkanady NM, Wilderom CPM, Peterson F (eds) *Handbook of organizational culture and climate*. Thousand Oaks: C.A: Sage, 2000.
21. Dawson J, González-Romá V, Davis A, et al. Organizational climate and climate strength in UK hospitals. *European Journal of Work and Organizational Psychology* 2008; 17: 89-111.
22. Campbell JP, Dunnette MD, Arvey RD, et al. The Development and Evaluation of Behaviorally Based Rating Scales. *Journal of Applied Psychology* 1973; 57: 15-22.
23. Wu M, Kader Cassim FA, Priambodo A, et al. Psychological Capital's impact on the leadership-organizational climate preference relationship in potential leaders ~ A study comparing teachers and sportsmen~. *Heliyon*; 8. Epub ahead of print 1 May 2022. DOI: 10.1016/j.heliyon.2022.e09310.
24. Hui CH, Chiu WCK, Yu PLH, et al. The effects of service climate and the effective leadership behaviour of supervisors on frontline employee service quality: A multi-level analysis. *J Occup Organ Psychol* 2007; 80: 151-172.
25. Asif F. Estimating the impact of Denison's (1996), 'What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars'. *J Bus Res* 2011; 64: 454-459.
26. Denison DR. What is the Difference between Organizational Culture and Organizational Climate? A Native's Point of View on a Decade of Paradigm Wars, <https://www.jstor.org/stable/258997> (1996).
27. Chirinos YDV, Meriño VH, Martínez C. El clima organizacional en el emprendimiento sostenible. *Revista Escuela de Administración de Negocios*. Epub ahead of print 16 April 2018. DOI: 10.21158/01208160.n84.2018.1916.
28. Patterson M, West MA, Shackleton VJ, et al. Validating the organizational climate measure: links to managerial practices, productivity and innovation. *J Organ Behav* 2005; 26: 379-408.
29. Luthans F, Avolio BJ, Avey JB, et al. Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology* 2007; 60: 541-572.
30. Xu X, Jiang L, Wang HJ. How to build your team for innovation? A cross-level mediation model of team

- personality, team climate for innovation, creativity, and job crafting. *J Occup Organ Psychol* 2019; 92: 848-872.
31. Huaman N, Morales-García WC, Castillo-Blanco R, et al. An Explanatory Model of Work-family Conflict and Resilience as Predictors of Job Satisfaction in Nurses: The Mediating Role of Work Engagement and Communication Skills. *J Prim Care Community Health*; 14. Epub ahead of print 1 January 2023. DOI: 10.1177/21501319231151380.
32. Ostroff C, Kinicki AJ, Muhammad RS. Organizational Culture and Climate. In: *Handbook of Psychology, Second Edition*. John Wiley & Sons, Inc., 2012. Epub ahead of print 26 September 2012. DOI: 10.1002/9781118133880.hop212024.
33. Litwin G, Stinger H. Organizational climate. Simon & Schuster, 1978.
34. Rogers ED, Miles WG, Biggs W. The factor replicability of the Litwin and Stringer organizational climate questionnaire: an inter-and intra. *Journal of Management* 1980; 6: 65-78.
35. Campbell JP, Dunnette MD, Lawler EE, et al. *Managerial behavior, performance and effectiveness*. New York: McGraw-Hill Book Company, 1970.
36. Koys DJ, Decotiis TA. Inductive measures of psychological climate. *Human Relations* 1991; 44: 265-285.
37. Barría-González J, Postigo Á, Pérez-Luco R, et al. Title: Assessing organizational climate: Psychometric properties of the ecals scale. *Anales de Psicología* 2021; 37: 168-177.
38. Rao T v., Abraham E. Human resource development: Practices in Indian industries: A trend report. *Management & Labour Studies* 1986; 11: 73-85.
39. Chaudhary R, Rangnekar S, Barua MK. Organizational climate, climate strength and work engagement. *Procedia Soc Behav Sci* 2014; 291-303.
40. Rousseau DM. The construction of climate in organizational research. In: Cooper C. L, Robertson IT (eds) *International review of industrial and organizational psychology*. John Wiley & Sons., 1988.
41. Wilderom CPM, Glunk U, Maslowski R. Organizational culture as a predictor of organizational performance. In: Ashkanasy NM, Wilderom C.P.M, Peterson MF (eds) *Handbook of Organizational Culture and Climate*. Sage, 2000.
42. Gordon GG, di Tomaso N. Predicting corporate performance from organizational culture. *Journal of Management Studies*; 29.
43. Schneider B. Organizational climates: an essay. *Pers Psychol* 1975; 447-479.
44. Peña-Suárez E, Muñoz J, Campillo-Álvarez Á, et al. Assessing organizational climate: psychometric property of the CLIOR Scale. *Pscothema* 2013; 25: 137-144.
45. Peng J, Zhang J, Zhou X, et al. Validation of the occupational self-efficacy scale in a sample of chinese employees. *Front Psychol*; 12. Epub ahead of print 1 November 2021. DOI: 10.3389/fpsyg.2021.755134.
46. Chiang MM, Fuentealba I, Nova R. Relación entre clima organizacional y engagement en dos fundaciones sociales sin fines de lucro de la Región del Bio Bio. *Ciencia & Trabajo* 2017; 19: 105-112.
47. Ato M, López JJ, Benavente A. Un sistema de clasificación de los diseños de investigación en psicología. *Anales de Psicología* 2013; 29: 1038-1059.
48. Soper DS. A-Priori Sample Size Calculator for Structural Equation Models.
49. Flores C, Fernández M, Juárez A. Entusiasmo por el trabajo (engagement): Un estudio de validez en profesionales de la docencia en Lima, Perú. *Liberabit* 2015; 2: 195-206.

50. Pérez ER, Medrano L. Análisis Factorial Exploratorio: Bases Conceptuales y Metodológicas Artículo de Revisión. *Rev Argent Cienc Comport* 2010; 2: 58-66.
51. Kline RB. *Principles and Practice of Structural Equation Modeling*. New York: Guilford Press, 2011.
52. Brown TA. *Confirmatory Factor Analysis for Applied Research*. 2nd ed. United States of America: The Guilford Press, www.guilford.com/MSS (2015).
53. Lao T, Takakuwa R. Análisis de confiabilidad y validez de un instrumento de medición de la sociedad del conocimiento y su dependencia en las tecnologías de la información y comunicación. *Revista de Iniciación Científica* 2016; 2: 64-75.
54. Fornell C, Larcker DF. *Structural Equation Models With Unobservable Variables and Measurement Error: Algebra and Statistics*. 1981.
55. McDonald RP. *Test Theory: A Unified Treatment*. New York: Routledge. Taylor & Taylor Group, 2017.
56. Raykov T, Hancock GR. Examining change in maximal reliability for multiple-component measuring instruments. *British Journal of Mathematical and Statistical Psychology* 2005; 58: 65-82.
57. Hofstede G. *Culture and Organizations*. *International Studies of Management & Organization* 1980; 10: 15-41.
58. Nunmally JC, Bernstein IH. Psychometric theory. *J Psychoeduc Assess* 1999; 17: 275-280.
59. Raykov T, Marcoulides GA. Bayesian decision analysis : principles and practice. *International Statistical Review* 2011; 79: 272-301.
60. Henson RK. *The effects of participation in teacher research on teacher efficacy*. 2001.
61. Hair JF, Black WC, Babin BJ, et al. *Multivariate data analysis*. 7th ed. New York: Pearson Prentice Hall, 2010.
62. Bagozzi RR, Yi Y. On the Evaluation of Structural Equation Models. *Academy of Marketing Journal*; 16.
63. Steenkamp JBEM, Baumgartner H. Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research* 1998; 25: 78-90.
64. Schwartz SH. A Theory of Cultural Values and Some Implications for Work. *Applied Psychology: an International Review* 1999; 48: 23-47.
65. Triandis HC. The many dimensions of culture. *Academy of Management Executive* 2004; 18: 88-93.
66. Balducci C, Fraccaroli F, Schaufeli WB. Workplace bullying and its relation with work characteristics, personality, and post-traumatic stress symptoms: An integrated model. *Anxiety Stress Coping* 2011; 24: 499-513.
67. Loh MY, Idris MA, Dollard MF, et al. Psychosocial safety climate as a moderator of the moderators: Contextualizing JDR models and emotional demands effects. *J Occup Organ Psychol* 2018; 91: 620-644.
68. Dollard MF, Tuckey MR, Dormann C. Psychosocial safety climate moderates the job demand-resource interaction in predicting workgroup distress. *Accid Anal Prev* 2012; 45: 694-704.
69. Borst RT, Kruyen PM, Lako CJ. Exploring the Job Demands-Resources Model of Work Engagement in Government: Bringing in a Psychological Perspective. *Rev Public Pers Adm* 2019; 39: 372-397.
70. Joiner TA, Bakalis S. The antecedents of organizational commitment: The case of Australian casual academics. *International Journal of Educational Management* 2006; 20: 439-452.
71. Gan KH, Kee DMH. Psychosocial safety climate, work engagement and organizational commitment in

Malaysian research universities: the mediating role of job resources. *Foresight* 2022; 24: 694-707.

72. Hirlak B, Balıkçı O, Çiftçi GE. The Effects of Organizational Climate on the Employee Performance: The Mediating Role of Employees' Creativity. Kraków, <https://www.researchgate.net/publication/330088816> (December 2018).

73. Tutar H, Altınöz M. Örgütsel iklimin işgören performansı üzerine etkisi: ostim imalât işletmeleri çalışanları üzerine bir araştırma. 2010.

74. Wrzesniewski A, Dutton J. Crafting a job: revisioning employees as active crafters of their work. *Academy of Management Review* 2001; 26: 179-201.

75. Shin Y, Hur WM. Do organizational health climates and leader health mindsets enhance employees' work engagement and job crafting amid the pandemic? *Int J Environ Res Public Health*; 18. Epub ahead of print 1 November 2021. DOI: 10.3390/ijerph182212123.

76. Bakker AB, Demerouti E. The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology* 2007; 22: 309-328.

77. Demerouti E, Nachreiner F, Bakker AB, et al. The job demands-resources model of burnout. *Journal of Applied Psychology* 2001; 86: 499-512.

78. Tims M, Bakker AB, Derks D. Job crafting and job performance: A longitudinal study. *European Journal of Work and Organizational Psychology* 2015; 24: 914-928.

79. Sonnentag S. Recovery, work engagement, and proactive behavior: A new look at the interface between nonwork and work. *Journal of Applied Psychology* 2003; 88: 518-528.

80. Efimov I, Harth V, Mache S. Health-oriented self- and employee leadership in virtual teams: A qualitative study with virtual leaders. *Int J Environ Res Public Health* 2020; 17: 1-19.

FINANCING

No financing.

CONFLICT OF INTEREST

None.

AUTHORSHIP CONTRIBUTION

Conceptualization: Flor Damiano-Aulla, Víctor D. Álvarez-Manrique.

Data curation: Liset Z. Sairitupa-Sanchez.

Formal analysis: Jeydi Raqui-Rojas.

Acquisition of funds: Wilter C. Morales-García.

Research: Jeydi Raqui-Rojas, Liset Z. Sairitupa-Sanchez.

Methodology: Víctor D. Álvarez-Manrique, Wilter C. Morales-García.

Project management: Wilter C. Morales-García.

Resources: Flor Damiano-Aulla.

Software: Liset Z. Sairitupa-Sanchez.

Supervision: Víctor D. Álvarez-Manrique.

Validation: Wilter C. Morales-García, Jeydi Raqui-Rojas.

Visualization: Flor Damiano-Aulla, Jeydi Raqui-Rojas.

Drafting - original draft: Víctor D. Álvarez-Manrique, Liset Z. Sairitupa-Sanchez.

Writing - proofreading and editing: Wilter C. Morales-García, Flor Damiano-Aulla.