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PRACTICE**

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# VALIDATION OF AN ORGANIZATIONAL CLIMATE SCALE IN A MILITARY HIGHER EDUCATION INSTITUTION: IMPLICATIONS FOR RESEARCH AND PRACTICE

## VALIDACIÓN DE UNA ESCALA DE CLIMA ORGANIZACIONAL EN UNA INSTITUCIÓN DE EDUCACIÓN SUPERIOR MILITAR: IMPLICACIONES PARA LA INVESTIGACIÓN Y LA PRÁCTICA

### ABSTRACT

The evaluation of organizational climate is a critical factor in business management, and its importance is even greater in military higher education institutions, due to the high motivation and commitment expected from their members. However, research on this topic in Ecuador is scarce. The present study validates a scale to measure organizational climate in Ecuadorian military higher education institutions. The instrument proposed by Hernández, Garrido & Rico (2016) was applied to an intentional sample of 44 Military Engineering School (ESINGM) members. Its reliability was evaluated using Cronbach's alpha coefficient, obtaining values above 0.960, indicating high internal consistency. The dimensions of the organizational climate present in the institution were identified, and the results of the first-level statistical validation were presented. It is concluded that the scale is valid and reliable for measuring the organizational climate in this institution. In addition, this study contributes to the understanding of the organizational climate in military higher education institutions in Ecuador and may have implications for the management and improvement of educational quality in the context of higher education in Ecuador.

**KEYWORDS:** Organizational climate, higher military education, measurement scale, Ecuador.

### RESUMEN

*La evaluación del clima organizacional es un factor crítico en la gestión empresarial, y su importancia es aún mayor en instituciones de educación superior militares, debido a la alta motivación y compromiso esperado por parte de sus miembros. Empero, en Ecuador la investigación sobre este tema es escasa. El presente estudio valida una escala para medir el clima organizacional en instituciones de educación superior militar de Ecuador. Se aplicó el instrumento propuesto por Hernández, Garrido & Rico (2016) a una muestra intencional de 44 miembros de la Escuela de Ingeniería Militar (ESINGM) y se evaluó su confiabilidad mediante el coeficiente alfa de Cronbach, obteniendo valores superiores a 0.960, indicando una alta consistencia interna. Se identificaron las dimensiones del clima organizacional presentes en la institución y se mostraron los resultados de la validación estadística de primer nivel. Se concluye que la escala es válida y confiable para medir el clima organizacional en esta institución. Además, este estudio aporta a la comprensión del clima organizacional en instituciones de educación superior militar en Ecuador y puede tener implicaciones en la gestión y mejora de la calidad educativa en el contexto de la educación superior en Ecuador.*

**PALABRAS CLAVE:** *Clima organizacional, educación superior militar, escala de medición, validación, Ecuador.*

## INTRODUCTION

Organizational climate is a widely studied concept in the organizational literature and has been shown to have a considerable influence on employee performance and satisfaction in diverse types of organizations, including military higher education institutions. The organizational climate is a concept that belongs to the field of organizational psychology and refers to the psychological environment that is generated in an organization and that influences the attitudes and behaviors of its members (Schneider et al., 2013; Hernández et al., 2020).

A positive organizational climate has been associated with improved employee performance and job satisfaction (Hakanen et al., 2006). In addition, a healthy organizational climate can also reduce absenteeism, turnover, and job stress (Lee & Jang, 2020) job stress, and fatigue (explanatory power = 56.7%. Therefore, measuring and understanding the organizational climate in military higher education institutions is important to promote a healthy work environment and improve employee performance and satisfaction.

The measurement of organizational climate in military higher education institutions is a relevant topic in current literature. Piotrowski et al. (2020) carried out a study on the organizational climate in the Armed Forces, and it demonstrated the importance of the organizational climate in the behavior of the citizens of the army, pointing out that “The Armed Forces, like any other organization, are subject to the same rules that govern behaviors organizational” (p. 706). In addition, it highlights the particularities of the study of the organizational climate in a military institution.

In this sense, the validation of an organizational climate scale adapted to the particularities of military higher education institutions can have important implications for research and practice. For example, it may provide a useful tool for

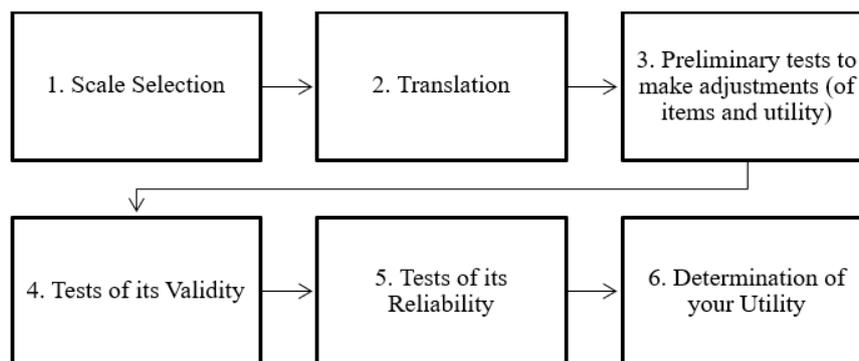
assessing the organizational climate in these institutions, identifying areas for improvement, and developing strategies to promote a healthy work environment and improve employee performance and satisfaction.

In summary, organizational climate is an important construct in military higher education institutions and its measurement is essential to understand its impact on employee performance and job satisfaction. The validation of an organizational climate scale tailored to the particularities of these institutions may have important implications for research and practice in the field of human resource management, as it can provide valuable information for the management and leadership of the institution, as well as for future research in this field. By validating an organizational climate scale at a military higher education institution, this study may contribute to the understanding of organizational climate in similar organizations and provide valuable information for decision-making and productivity improvement.

## METHODOLOGY

The research is framed as a research study within the positivist paradigm, based on Hernández, Fernández & Baptista (2014) and employs a quantitative approach. The type of research is descriptive, as it seeks to validate an organizational climate scale in a specific institution. The research design is based on a cross-sectional approach, where data is collected at a single point in time. It followed the stages proposed by Sanchez & Echeverry (2004), as indicated in Figure 1.

First, an exhaustive review of the scientific literature and the scales available to measure the organizational climate in the field of higher education was carried out. Several relevant scales were identified and their characteristics, psychometric properties, and their adequacy to the context of the institution were evaluated. Once the most appropriate scale was selected,



**Figure 1:** Validation process of the organizational climate scale of a military higher education institution based on Sanchez & Echeverry (2004)

it was translated into the language used in the institution, to guarantee precision and semantic equivalence.

Pre-tests were then conducted to assess their understanding and usefulness in the specific context of the institution. The object of study was the Military Engineers School “Gral. Guillermo Rodríguez Lara,” located in the province of Santo Domingo de los Tsachilas in Ecuador. This institution was selected due to the particularity of being a military educational institution intended for the training of Army military personnel, and which is led by members of this institution.

An intentional non-probabilistic result was shown for convenience in the selection of study participants. That is, those members of the institution who were available at the time of the study and who voluntarily agreed to participate in it were selected. Even though a specific selection of the sample was not made, participants from different areas and hierarchical levels of the institution were excluded, which allowed for obtaining a sample with a certain heterogeneity and diversity of perspectives.

However, it is important to note that an intentional non-probabilistic demonstration for convenience has limitations in terms of representativeness and generalization of the results to the general population. Therefore, it is advisable to be cautious when interpreting the results obtained and consider carrying out subsequent studies with more representative samples for greater validity and generalization of

the results (Hernández, Fernández, & Baptista, 2014).

The final sample consisted of 44 participants. It is worth mentioning that, although the total population in the institution is 65 members, approximately 20% do not perform specific functions within the institution, since they are assigned to other military divisions as service providers, therefore that they are excluded from this research, due to the bias that can be generated by not being in the institution.

To guarantee the confidentiality of the data, a unique code was used to identify each questionnaire and the participants were assured that the information collected would be used solely for research purposes and would not affect their employment relationship with the institution.

The scale was applied, and comments and suggestions were collected from the participants on the clarity and relevance of the items, as well as on the usefulness of the scale to capture the organizational climate in the institution.

Subsequently, content, construct, and criterion validity tests were carried out (Salinas & Cárdenas, 2009). The content validity test involves evaluating whether the survey questions adequately cover the organizational climate construct. Therefore, a descriptive analysis of the answers to each question was carried out to determine if the items capture distinct aspects of the organizational climate.

Construct validity consisted of exploratory factor analysis to examine the underlying structure of the responses and determine if the questions clustered consistently with theoretical dimensions of organizational climate. This allowed us to identify the underlying factors and verify if they match the theory. The criterion validity consisted of using statistical techniques such as the correlation of the variable studied with an external one to compare the results of the survey.

Finally, a reliability analysis was carried out to assess the internal consistency of the scale. Cronbach's alpha coefficient was calculated to determine the reliability of the items and temporal consistency analyses were performed using a sample of participants to whom the scale was applied at two separate times (Oviedo and Campo, 2005).

In addition, opinions and comments were collected from potential users of the scale, such as managers, teachers, and administrative staff. An evaluation of its usefulness was made in terms of clarity, ease of administration, and relevance of the results for decision-making in the institution.

## RESULTS AND DISCUSSION

### DEFINITION AND CONCEPTUALIZATION OF ORGANIZATIONAL CLIMATE IN THE EDUCATIONAL CONTEXT

Organizational climate in the educational context refers to the work and to the learning environment experienced in an educational institution, including the perceptions, attitudes, values, and behaviors of the members of the educational community. It is a key concept to understand the functioning of educational organizations and their impact on the quality of education, the well-being of students, and the

performance of teachers (Rivera et al., 2016).

The organizational climate is:

The perception and appreciation of employees related to structural aspects (process and procedures), the relationships between people and physical environment (infrastructure and work elements), which affect relationships and influence the behavioral reactions of employees, both positively and negatively, therefore, they modify the productive development of their work and the work of the organization. (García, 2009, p. 48)

The organizational climate in educational institutions has a significant impact on teachers' motivation, commitment, and job satisfaction, which in turn influences their academic performance and students' well-being (Manla, 2021) teachers' commitment and school performance held by principals, teachers and parents and the relationship among these variables. Thirty elementary schools of the third congressional district of Bohol consisting of 200 teachers, 30 principals and 60 parents who were randomly sampled took part in the study. The teachers and parents completed two survey instruments: Organizational Health Inventory for elementary schools (OHI-E).

It has been found that a positive and healthy organizational climate can generate elevated levels of job satisfaction in employees, which is related to greater motivation, commitment, and loyalty towards the organization (Schneider et al., 2002; Pecino et al., 2015; Zambrano & Zambrano, 2022).

In summary, "the organizational climate constitutes a fundamental element for the efficient development of organizations, in the educational field, and in general terms." (Blanco et al., 2020, p. 1).

Its importance lies in the fact that it can influence the motivation, commitment, and job satisfaction of the members of the educational community, which in turn can have a significant impact on academic performance

and the learning environment (Pilligua & Arteaga, 2019). Therefore, researchers and educational practitioners need to understand the organizational climate in educational institutions and how it can be improved to enhance the quality of education and the well-being of the educational community (Rivera et al., 2016).

To Ucros (2011) this phenomenon has three components or factors: personal, group, and organizational, based on the approaches proposed by Brunet (1987). These factors are also studied by Hernández, Ponce, Garrido, Rico, Reveles & Lerma (2016), and the dimensions of these factors indicated by these authors will be taken as a reference since it is the organizational climate measurement instrument that will be used for this study.

Individual psychological factors or personal factors are related to the psychological processes that are generated in the relationship between people and organizations, and according to (Schneider & Bartlett, 1968), cited by Ucros (2011) include the individual's need to establish: social interaction and feelings of affinity towards the organization; in addition, the need to build a positive or negative feeling of belonging to the organization. This added to the feelings and the way people react to the characteristics of each organization and different situations, according to their constructions of meanings. Among the personal factors are:

1. Intrinsic Motivation: this is the level of interest that an academic feel towards his or her work because of factors internal to the activity itself.
2. Identity: the level of knowledge and connection that academics have with the organization, as well as the pride of belonging they feel towards it.
3. Autonomy: a person's perception of his or her ability to act and think independently, without depending on the desire or influence of others about work procedures, objectives, and priorities.

For Toro (2003) the organizational climate is built from the collective and shared perception

of the group's internal reality. Ucros (2011) points out that there are group factors, which originate from social aspects of the task that are a source of permanent satisfaction and personal growth, for example, the spirit of collaboration, trust, interpersonal relationships, teamwork, leadership, etc.

1. Teamwork: is the perception that individuals have about the commitment, collaboration, accountability, and skills shown by the members of the organization when working together.
2. Support: the perception that academics have about the support and tolerance they receive from the institution in which they work.
3. Conflict management: is the perception that academics have of the capacity of the institution's management to encourage the expression of different opinions on certain aspects of the work, and to adequately manage conflicts that may arise in the work environment.
4. Respect: this is the perception that academics have of the fair and dignified treatment they receive as individuals in their work environment.

Organizational factors are the objective factors or attributes of the organization that affect the organizational climate. For Hernández, Ponce, Garrido, Rico, Reveles & Lerma (2016) the analysis of these factors leads to the conceptualization of two types of factors, objective organizational factors, and subjective organizational factors.

Objective organizational factors are those that are expected to be perceived similarly under the same culture and context, and are as follows:

1. Vision: the perception that academics have of the organization's objectives and purposes, which can act as a motivational source for their work.
2. Communication: this is the perception that academics have of the information channels available in the institution

and how information flows through the different hierarchical levels.

3. Working conditions: the perception that academics have of the environment in which their daily work is carried out, and how this environment influences their ability to perform their tasks efficiently and comfortably.

4. Innovation: is the academics' perception of management's encouragement and incentive to foster creativity in individuals and motivate them to adopt new ways of performing their work tasks.

5. Perception of the organization: the image that academics believe the institution projects to others.

Subjective organizational factors are related to subjective perceptions, such as the following:

1. Recognition: is the academics' perception of being valued and appreciated for their successful work and receiving personal rewards such as congratulations and distinctions, as opposed to criticism and punishment.

2. Wages and salaries: Perception of fairness and equity in salary and compensation received.

3. Training and development: Perception that the members of the organization have about the real and permanent possibilities of continuing their personal and professional training, useful for the performance of their activities.

4. Promotion and career: Perception that academics have about the institution's system, for them to make a career in it.

5. Equity: Perception that academics have about the existence of equitable and clear policies and regulations within the institution.

6. Pressure: Perception that academics have about the work demand that the organization places on them (workload/

time).

## MEASURING ORGANIZATIONAL CLIMATE IN THE SCHOOL CONTEXT

The measurement of the organizational climate in the school context has been the object of study in several recent investigations, due to the multiple benefits that are achieved when carrying out this type of study.

Climate studies allow accurate interventions both at the level of design or redesign of organizational structures, strategic planning, changes in the internal organizational environment, management of motivational programs, performance management, improvement of internal and external communication systems, process improvement production, and improvement in remuneration systems. (Cota, 2017, p. 41)

In the case of educational institutions, the analysis of this variable also makes it possible to identify the factors that influence teacher performance and student satisfaction, which can contribute to improving the quality of education (Maraza et al., 2022).

In summary, the measurement of the organizational climate in the school context is a valuable tool to understand the dynamics of educational organizations and their impact on the academic performance and well-being of students and teachers. There are various instruments and methodological approaches to measuring the organizational climate in schools, which have been validated and used in previous studies to analyze the relationship between the organizational climate and various aspects of education.

The organizational climate is a topic of significant importance in the educational field since it directly influences the performance and satisfaction of workers and the quality of the

education offered. In general, it can be said that there are several instruments for measuring the organizational climate that have been validated in different contexts and that can be adapted and applied in educational institutions. However, specific studies must be carried out to design and validate measurement instruments adapted to the characteristics and particularities of each educational institution.

Several instruments have been developed and validated in the literature, among the most used are the Organizational Climate Questionnaire for Schools (COINTEC), the Organizational Climate Evaluation Instrument in higher-level schools, the Organizational Climate Scale in Institutions Education (ECOIE), and the Organizational Climate Scale for public universities (ECOUP).

1. Organizational Climate Questionnaire for Schools (COINTEC): This instrument was developed by Silvestre (2013), which is an organizational climate scale that was built and validated at a university in the Dominican Republic, based on an empirical model and that has good reliability and external and concurrent validity. In addition, norms were established to determine the positive and negative factors and items per labor unit. This scale can be used by other organizations to measure the organizational climate in their work units.

2. Organizational climate evaluation instrument in higher-level schools: This scale was developed by Salazar et al. (2015) and consists of 53 items that explore four dimensions of the organizational climate in the educational context: identification, interpersonal relationships, group cohesion, quality of work life, and motivation. The instrument has been shown to have good reliability and validity in educational contexts.

3. Organizational Climate Scale in Educational Institutions (ECOIE): The ECOIE was developed by Hernández, Méndez & Contreras (2014) and consists of 17 dimensions based on a model of

competing values. The scale has shown good reliability and validity in the educational context.

4. Organizational Climate Scale for public universities (ECOUP): The scale has shown good reliability and validity in the Mexican educational context. It is made up of 107 items, of which 62 are positive and 45 are reversed, structured by four dimensions: personal factors, group factors, extrinsic organizational factors, and intrinsic organizational factors. It has been shown to have a high internal consistency since the research was carried out to evaluate the factors and dimensions of the organizational climate of a public university in northern Mexico (Hernández, Garrido & Rico, 2016).

It is important to carefully choose the organizational climate measurement instrument that best suits the objectives of the research and the characteristics of the educational context in which it will be applied. Each instrument has its strengths and limitations, so it is important to evaluate these carefully before deciding.

In conclusion, there are several options for measuring organizational climate in the educational context that have been developed and validated in the literature. These instruments are useful for evaluating the organizational climate of educational institutions, allowing the identification of factors that can influence employee satisfaction and retention and, therefore, the organization's performance.

## SELECTION OF THE MEASURING INSTRUMENT

The instrument for evaluating teachers' perception of the organizational climate is the one proposed by Hernández, Garrido & Rico (2016). It is composed of 107 items, of which 62 are positive and 45 reverse, structured by four dimensions: personal factors, group factors, extrinsic organizational factors, and intrinsic

organizational factors.

Thus, the model of organizational climate in HEIs is made up of the personal, group, objective organizational, and subjective organizational factors, among which the following stand out: communication and dissemination of policies, decision-making model, organizational structure, hierarchical level and its influence on the position, occupational and institutional risks, physical infrastructure, technological equipment, and provision of teaching inputs.

It has proven to have a high internal consistency, since in the research conducted to evaluate the factors and dimensions of the organizational climate of a public university in northern Mexico, when applied to 1289 professors from different academic units and research centers, it reached a Cronbach's alpha reliability coefficient of 0.958 for the instrument, and for the factors: personal 0.823, group 0.868, objective organizational 0.868, and subjective organizational 0.876, so the instrument demonstrates high reliability.

## TRANSLATION

Before applying the survey, an adaptation of the instruments was carried out by presenting the instrument to ESINGM staff. Through this process, it was possible to identify some survey terms that were not understandable due to the origin of the assessment instruments, which use country-specific terms. However, these changes were minimal. In some questions, the term teachers were specifically mentioned, but for the specific context in which it will be applied, this term is not commonly used since they are referred to as instructors at ESINGM. Another specific case is the term university, which was replaced with institution for better understanding by the respondents.

## PRELIMINARY TESTS TO MAKE ADJUSTMENTS

Once the survey was defined, it was prepared through the google forms form, and the survey was applied in the ESINGM, with the staff that was working during the month of March, however, the survey was disseminated to all staff of the institution. In this way, a total of 44 ESINGM academics were able to answer, of which 98% were men and 2% were women. The age of the participants ranged from 25 to 50 years, with a mean of 38 years. Regarding work experience, most of the participants (70%) had more than 5 years of experience in the military institution where the study was carried out.

About the hierarchical levels, it was found that 4% of the participants were senior officers, 16% were junior officers, 20% were non-commissioned officers, and 60% belonged to enlisted personnel. Regarding work experience, 30.8% of the participants had between 10 and 15 years of service, followed by 24.4% who had between 5 and 10 years of service, while 19.6% had between 15 and 20 years of service. years of service. Other relevant aspects to consider are age, gender, and academic training, among others, which will be detailed below.

The information obtained was recorded in a database elaborated in the Excel program, and later the information was processed in the SPSS 22 program.

The organizational climate assessment instrument proposed by Hernández, Garrido, and Rico (2016) to evaluate how the organizational climate is perceived in ESINGM, allowed knowing the perception that ESINGM instructors have, through the 107 statements on organizational climate. The items with positive direction were scored as follows: TD= 1 point, D=2 points, N= 3 points, A= 4 points, and TA= 5 points. Items with negative direction were scored as follows: TA= 1 point, A= 2 points, N= 3 points, D= 4 points, and TD= 5 points.

During data collection, some questions were not answered, so the surveys were returned

to these people so that they could complete them again, and in the case of those who did not complete them again, a score of three was assigned to the unanswered questions, according to the application instructions of this evaluation instrument. Subsequently, each of the items corresponding to each dimension was added up and this sum was divided by the number of items in each dimension. The Organizational Climate scores are shown in Table 1.

**Table 1:** Scale for interpretation of organizational climate results

Evaluation	Value
Very bad	1.0 - 1.80
Malo	1.81 - 2.60
Regular	2.61 - 3.40
Good	3.41 - 4.20
Very Good	4.21 - 5.00

Source: Own elaboration based on Hernández, Garrido & Rico (2016)

In the personal factors dimension, it is observed that intrinsic motivation is the indicator that achieved the highest score, close to the identity indicator, these two indicators being interpreted as very good, and the autonomy indicator can be interpreted as good. In conclusion, the personal factors dimension is perceived as good (Figure 2).

In the group factors dimension, it is observed that in ESINGM the indicator of perception of the organization is perceived in the highest percentage, followed by the indicator of respect, both considered as very good. This is followed by the indicators of support and teamwork, perceived as good, and the indicator of conflict management, also perceived as good, but to a lesser extent. In conclusion, the group factors dimension is perceived as good (Figure 3).

In the dimension of objective organizational factors, it is observed that in ESINGM the visual indicator is perceived in the highest percentage, perceived as very good, followed by the

indicators of communication, innovation, and structure, and with a lower value the indicator of working conditions, however, all of these are perceived as good. In conclusion, the objective organizational factors dimension is perceived as good (Figure 4).

In the subjective organizational factors dimension, it is observed that in ESINGM the indicator of equity is perceived in the highest percentage, perceived as very good, followed by the indicators of training and development, promotion and career, salary and recognition perceived as good. Finally, the pressure indicator is the one that attracts attention, because it is perceived as regular. In conclusion, the subjective organizational factors dimension is perceived as good (Figure 5).

In conclusion, according to the perception of ESINGM instructors, it can be determined that personal factors, group factors, and objective organizational factors are perceived similarly, with close scores, followed by subjective organizational factors, although with a lower value, however, all these factors are perceived as good. In conclusion, the organizational climate is perceived as good (Figure 6).

When members of the institution were asked about improvements to the organizational climate, a variety of responses were found that were grouped into several thematic categories. Overall, the responses to this open-ended question suggest that the institution could benefit from greater attention to communication and collaboration, as well as improving working conditions and staff well-being. This contrasts with the quantitative data in that the working conditions factor was the lowest average, and the subjective organizational factors were the lowest average and are the most focused on staff wellbeing. This shows the importance of taking action to improve these factors in the institution.

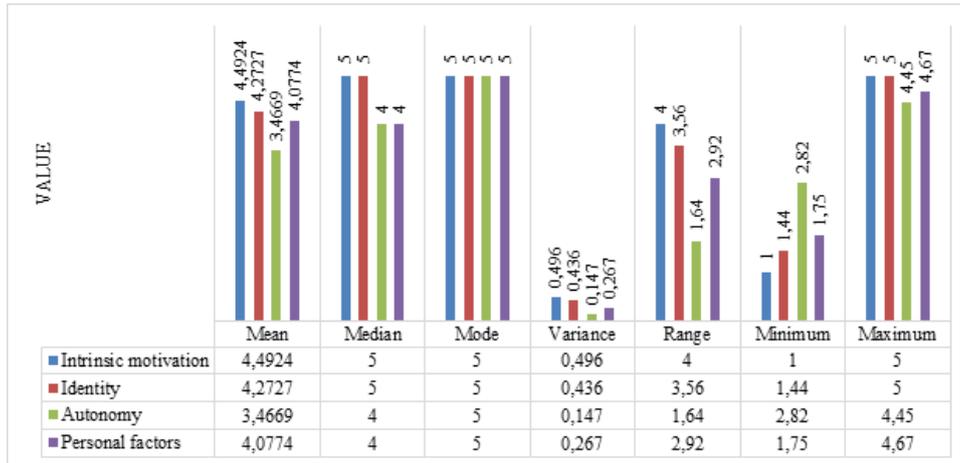


Figure 2: Personal factors dimension N=440

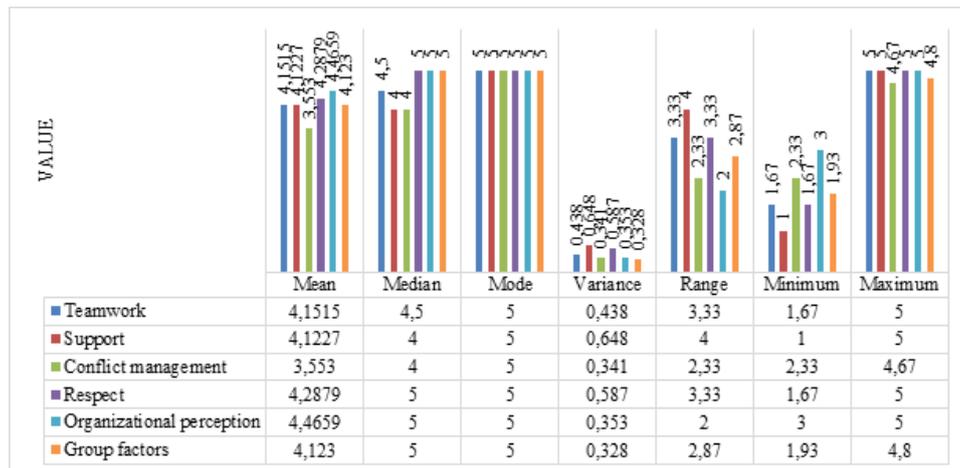


Figure 3: Group factors dimension N=44

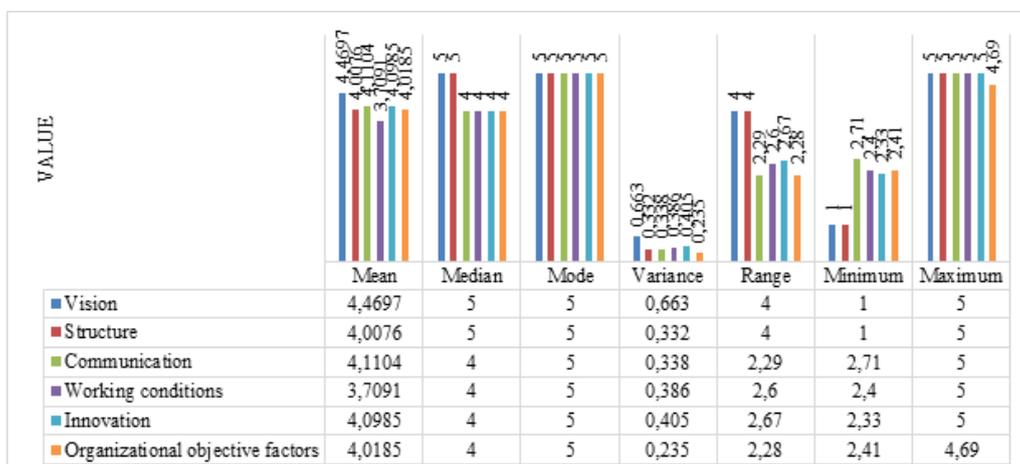


Figure 4: Organizational factors dimension objectives N=44

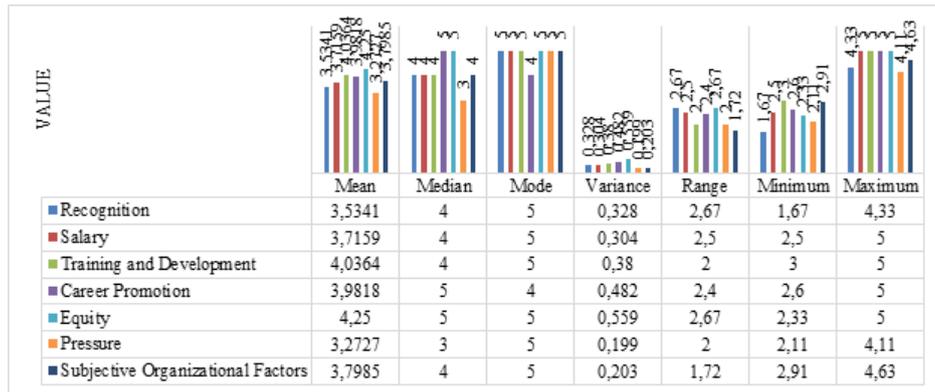


Figure 5: Subjective organizational factors dimension N=44

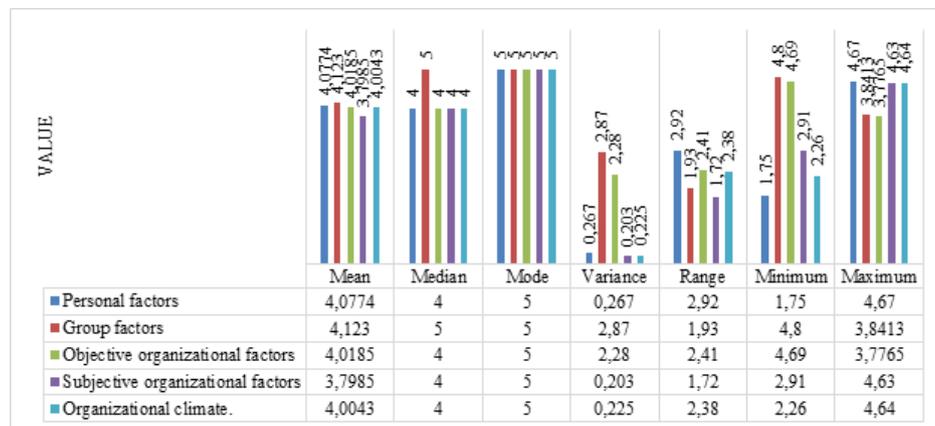


Figure 6: Organizational climate dimension N=44

## EVIDENCE OF ITS VALIDITY

The validity analysis of the organizational climate measurement instrument in the educational institution was carried out using various methods: content validity, construct validity, and criterion validity.

### CONTENT VALIDITY

A content validity analysis was performed using the data collected from the indicated procedure. The sample consisted of 44 items. No missing value was found for any of the items. The descriptive statistics reveal that the

mean of the scores in the items ranged between 1,455 and 5,000, with a standard deviation that varies from 0,674 to 2,558. The median was like the mode for most items, indicating that responses clustered around specific values.

The distribution of responses across the items indicates that there is considerable variability in the scores, as evidenced by the standard deviations. In addition, the items present a wide range of scores, which suggests that various levels of content are covered in the scale used.

These results support the content validity of the items used in the procedure. The data obtained show good variability and adequate coverage of the various aspects that were intended to be evaluated. However, additional analyzes are recommended to assess the construct validity and other psychometric properties of the scale.

## CONSTRUCT VALIDITY

Confirmatory factor analysis was used to assess the construct validity of the organizational climate scale for military higher education institutions. In this analysis, we examined whether the items on the scale clustered on the expected factors and whether there were no significant cross-loads between the items.

The results of the confirmatory factor analysis indicated that the scale items adequately loaded on the expected factors. This means that each item measured the organizational climate dimension for which it was intended and contributed significantly to the measurement of the said construct. For example, items related to communication were grouped with organizational factors, while items related to intrinsic motivation and teamwork were grouped with the corresponding factors.

Furthermore, no significant cross-loads were found between the items. This means that each item was more strongly associated with its corresponding factor and was not significantly influenced by other factors or dimensions. This lack of cross-loading indicates that the items are specific and representative of the dimension of organizational climate that was intended to be measured.

Additionally, the values of the model fit indices indicated a good fit of the data to the theoretical model. These indices assess how well the observed data fits the theoretical expectations of the proposed model. A good fit indicates that the theoretical model is an adequate representation of the data collected. In this case, the values of the adjustment indices provided evidence that the theoretical model of the organizational climate scale adjusted well to the data collected in military higher education institutions.

In summary, the confirmatory factor analysis showed that the items of the organizational climate scale for military higher education institutions adequately loaded on the expected

factors, without significant cross-loads. In addition, the model fit indices indicated a good fit of the data to the theoretical model. These findings support the construct validity of the scale and its ability to measure organizational climate in this specific context.

## CRITERION VALIDITY

The criterion validity of the organizational climate scale for military higher education institutions was evaluated through the analysis of its relationship with external variables, specifically the job satisfaction of the members of the institution. The objective was to determine if the scale is capable of effectively measuring the organizational climate and if it is related to a critical aspect such as job satisfaction.

To assess the validity of the criteria, the correlation between the organizational climate scale and the job satisfaction of the participants was analyzed. The results revealed a positive and significant correlation between both variables, indicating that a favorable organizational climate in military higher education institutions is associated with higher levels of job satisfaction (Table 2).

**Table 2:** Correlation between the organizational climate variable and job satisfaction N=44

		Organizational Climate	Work satisfaction
Rho the Spearman	Organizational climate	Correlation coefficient	1,000
		One. (bilateral)	,770**
	Work satisfaction	Correlation coefficient	,770**
		One. (bilateral)	,000

\*\* . The correlation is significant at the 0.01 level (2 tails).

These findings support the criterion validity of the organizational climate scale, demonstrating its ability to capture and measure relevant aspects of organizational climate in this specific context. The positive relationship between the scale and job satisfaction suggests that the

scale can be used as an effective tool to assess and understand the impact of the organizational climate on the job satisfaction of the members of the institution.

These results have important implications since job satisfaction is a crucial factor for the well-being and performance of individuals in the military educational environment. A positive organizational climate, characterized by effective communication, strong leadership, and a favorable work environment, can contribute to increasing the job satisfaction of the members of the institution and improve their performance and organizational commitment.

In conclusion, the criterion validity of the organizational climate scale for military higher education institutions is supported by the positive and meaningful relationship found with the job satisfaction of the participants. These findings reinforce the usefulness of the scale as a valid and reliable tool to assess the organizational climate and its impact on job satisfaction in the specific context of military higher education institutions.

## RELIABILITY ANALYSIS

The results of the reliability analysis indicate that the instrument for measuring organizational climate in educational institutions has high reliability. The Cronbach's alpha coefficient obtained was 0.961 (Table 3), suggesting a satisfactory internal consistency of the instrument.

**Table 3:** Reliability statistics of organizational climate data N=44.

Cronbach's alpha	N of elements
0,961	114

In addition, the internal consistency of each of the dimensions of the instrument was evaluated

using Cronbach's alpha coefficient. The results indicate that all dimensions have high internal consistency, with Cronbach's alpha coefficients ranging from 0.960 to 0.962 (Appendix B).

In summary, the results of the reliability analysis suggest that the instrument for measuring organizational climate in educational institutions is a reliable instrument for measuring organizational climate in the population studied.

## DETERMINATION OF ITS UTILITY

These findings suggest that the organizational climate measurement instrument used in this study is consistent with those of previous studies in terms of its reliability and validation.

In terms of research, it has been shown that the organizational climate measurement instrument used in this study is reliable and valid, which makes it a useful instrument for future research on organizational climate in other organizations and contexts. In addition, it is suggested that longitudinal studies be conducted to assess changes in organizational climate over time and its relationship with other relevant constructs.

In terms of practice, the results indicate that organizations can use the organizational climate measurement instrument to assess the work climate of their employees and detect areas for improvement in human resource management and organizational culture. A positive organizational climate has been related to higher job satisfaction, higher employee retention, and better organizational performance. Therefore, the results of this study can be of significant help to organizations seeking to improve their performance and their ability to retain their employees.

## CONCLUSIONS

In this study, the validation of an organizational climate scale was conducted in a military higher educational institution, and the implications of these results for research and practice were explored. The findings obtained provide a solid foundation for measuring and understanding organizational climate in this specific context.

The results suggest that the organizational climate scale used in this military higher education institution is a reliable and valid tool for assessing the climate perceived by organization members. This is of utmost importance, as organizational climate plays a crucial role in job satisfaction, employee engagement, and organizational performance.

These findings also have important implications for research in the field of organizational climate in military contexts. By validating this scale in a military higher educational institution, a useful and reliable tool is provided for future studies in this domain. Additionally, this study highlights the importance of considering the particularities of military institutions when investigating organizational climate, as factors such as hierarchy and authority structure can influence members' perceptions and experiences.

In terms of practice, this study offers a solid foundation for the development and implementation of interventions and policies aimed at improving the organizational climate in military higher education institutions.

In summary, this study has validated an organizational climate scale in a military higher educational institution and has highlighted the implications of these results for both research and practice. The findings obtained provide a solid foundation for future studies in the field of organizational climate in military contexts and offer practical guidelines for improving the organizational climate in military higher education institutions.

**DECLARATION OF CONFLICTS OF INTEREST:** The authors declare they have no conflicts of interest.

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The first author is the corresponding author of the article. The other authors have been ordered according to their participation. The contribution of each author is listed using the CRediT Taxonomy below.

- David Alexander Calderón Arregui: Formal analysis, Research, Methodology, Project management, Resources, Validation, Visualization, Writing - original draft, Writing – review, and editing.
- Marisol Josefina Godoy Mena: Research, Data Curation, Writing - original draft
- Adriana Marrero Fernández: Supervision, Formal analysis, Methodology, Writing-revision, and editing.

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