




# Assessing Ethical Climate: Adaptation and Psychometric Properties in the Indonesian Context

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**Background:** Despite the importance of understanding ethical climates in Indonesian organizations, a standardized scale for measuring this is lacking. Therefore, this study aims to adapt, validate, and ensure the consistency of the Ethical Climate Questionnaire (ECQ) within Indonesia's cultural context.

**Methods:** Data were collected from 565 Indonesian individuals aged 18 or older, using an online survey and convenience sampling. To ensure accurate measurements, Beaton's guidelines were followed. Reliability was assessed using Cronbach's alpha and McDonald's omega, while validity was examined through various analyses including content validity index and confirmatory factor analysis.

**Results:** The Indonesian version of the ECQ measures egoist, benevolent, and principled ethical climates reliably (Cronbach's alpha: egoism=0.809, principle=0.920, benevolence=0.910). Validity analyses confirm the questionnaire's validity. Demographic analysis shows age impacts the principle dimension, while organizational type affects all dimensions.

**Conclusion:** The Indonesian version of the ECQ demonstrates strong psychometric properties and cross-cultural adaptability, making it a valuable tool for assessing ethical climates among Indonesian individuals aged 18 or older.

**Keywords:** ethical climate, Indonesian context, test validation, test adaptation

## Introduction

Extensive scholarly research has emphasized the significance of organizational ethics in meeting stakeholder expectations and promoting sustainable business practices. However, despite this body of research, unethical conduct remains prevalent and continues to have detrimental effects on organizations and stakeholders. These effects encompass potential legal liabilities and revenue losses,<sup>1</sup> as well as the erosion of public goodwill. In order to gain a deeper comprehension of the factors contributing to unethical behavior, researchers have investigated various facets of the organizational context. This includes the role played by the ethical climate.<sup>2,3</sup>

Research has consistently demonstrated that organizational climate plays a crucial role in influencing employee behavior.<sup>4</sup> Meta analysis by Kish-Gephart<sup>5</sup> revealed an organizations' ethical climate as a particularly relevant organizational factor explaining a wide range of unethical decisions of employees. Conceptually, ethical climate is categorized within the broader domain of organizational work climates, which has garnered significant attention in fields such as organizational behavior, sociology, and applied psychology. Ethical climate, as a subtype of work climate, can be best understood as a set of prescriptive climates that mirror the organizational procedures, policies, and practices with moral implications. These climates emerge when members believe that specific forms of ethical reasoning or behavior represent the expected standards or norms for decision-making within the organization.<sup>6</sup>

According to a meta-analysis conducted by Martin and Cullen,<sup>3</sup> the findings suggest that the exploration of contextual or external effects has been somewhat limited, despite the potential significance of such factors. Cross-cultural research has already indicated variations in managerial ethical decision-making across different national contexts due to cultural and institutional influences.<sup>7</sup> Cullen et al<sup>7</sup> prompts a need to investigate what social and cultural drivers might be linked

to the prevalence of various ethical climates in organizations within diverse countries and contexts. As ethical climate research using ethical climate theory expands globally, new challenges may arise. One such challenge is the limited adoption and usage of valid and reliable ethical climate questionnaires across different countries, including Indonesia.

Indonesia, being a prominent developing country in Southeast Asia, grapples with corruption as a significant challenge, reflected in its 115th ranking among the world's most corrupt countries.<sup>8</sup> Therefore, assessing the ethical climate is vital for understanding workplace ethics in Indonesia and fostering efforts to implement strong ethics at both individual and organizational levels. It is not surprising that research in Indonesia addressing the topic of ethical climate has experienced significant growth, exploring key variables such as whistleblowing intention,<sup>9</sup> counterproductive behavior,<sup>10</sup> and anticorruption intentions.<sup>11</sup> Despite this growth, there has been a notable absence of a suitable adaptation process for the ethical climate measurement tools for use in the Indonesian context.

Newman et al<sup>12</sup> highlight that quantitative studies conducted on ethical climate in the last decade have shown a lack of consistency in how ethical climates are measured. Their review also suggests that researchers should continue to use instruments that have been widely validated, so it can provide a basis for comparing findings between studies.<sup>13</sup> The Ethical Climate Questionnaire (ECQ), developed by Victor and Cullen<sup>2</sup> has been widely used to measure ethical climate. It is considered to be the most fully developed and accepted instrument for identifying the dominant ethical climate type to date.<sup>14</sup> Many researchers utilize ECQ and adhere to this original theoretical perspective. On their review, Newman<sup>12</sup> showed that 54 out of 91 studies have adopted the original or the modified version of the ECQ to measure ethical climate.

Previous studies have explored ethical climates and their implications across various contexts, but a standardized measurement tool tailored specifically to the Indonesian cultural context has been lacking. Therefore, the adaptation of the ECQ to the Indonesian context represents a distinctive endeavor in the field of organizational research. This research undertakes the translation, validation, and examination of the ECQ within the Indonesian organizational landscape. To the best of our knowledge, this study represents the first attempt to adapt and validate Ethical Climate scale, especially the ECQ in the Indonesian context.

This study not only addresses the imperative for a culturally relevant measurement instrument, but also bridges a critical gap in comprehending ethical climates within Indonesian organizations. This approach enables researchers and practitioners to obtain deeper insights into the ethical dynamics within Indonesian workplaces, consequently leading to more targeted interventions and an enhanced comprehension of organizational ethics in the local context.

## Literature Review

Ethical climate is categorized within the broader domain of organizational work climates, which has garnered significant attention in fields such as organizational behavior, sociology, and applied psychology. Work climates are expansively defined as the collective perceptions of organizational norms and conventions that individuals within the organization perceive to exist in its structure and procedures. More specifically, these climates encompass shared views on both formal and informal procedures, policies, and practices within the organization.<sup>15</sup> Ethical climate, as a subtype of work climate, can be best understood as a set of prescriptive climates that mirror the organizational procedures, policies, and practices with moral implications. These climates emerge when members believe that specific forms of ethical reasoning or behavior represent the expected standards or norms for decision-making within the organization.<sup>6</sup>

The ethical climate functions as a shared perception of morally right behavior within an organization, serving as a psychological mechanism to navigate and address ethical issues. It plays a pivotal role in influencing decision-making and subsequent behaviors when faced with ethical dilemmas. Notably, the ethical climate not only shapes the ethical issues considered relevant by organizational members but also establishes the moral criteria they employ to understand, assess, and resolve these issues.<sup>16</sup> This intricate process translates organizational values into actions, ultimately impacting various work outcomes. In summary, the ethical climate is a crucial factor determining how organizational ethics are perceived, applied, and integrated into daily practices, significantly influencing the overall ethical landscape of the organization.

The literature on ethical climate has evolved from robust theoretical foundations, leading to the establishment of consistent theory and measurement methodologies.<sup>3</sup> Among these frameworks, Ethical Climate Theory (ECT) stands out

as one of the most influential conceptual foundations in the field of business ethics. The inception of the ethical climate framework by Victor and Cullen<sup>17</sup> has sparked a proliferation of research in the business and ethics literature.

Victor and Cullen's<sup>2,17</sup> initial formulations suggested that ethical climate could be understood both at the individual (psychological) and organizational (group) levels. Their theoretical framework introduces three dimensions—egoism, benevolence (utilitarianism), and principle (deontology)—which serve as implicit guidelines framing ethical decisions. Notably, research indicates that a dominant criterion often emerges within an organization, ultimately defining its ethical climate. This theoretical underpinning has significantly contributed to the advancement of ethical climate research, providing a solid foundation for understanding the psychological and organizational dynamics that shape ethical decision-making within the business context.

From the ECT conceptual framework, Victor and Cullen<sup>2,17</sup> developed the Ethical Climate Questionnaire to measure types of ethical climates within organizations. Responses to the questionnaire have indicated the multidimensional nature of ethical climates and substantiated the existence of a number of hypothesized ethical climates.

## Material and Methods

### Research Procedures and Samples

In the process of adapting the ECQ into its Indonesian version, adherence to cross-cultural adaptation guidance, as proposed by Beaton,<sup>18</sup> Initial efforts involved establishing communication through Email with Victor Bart from Vanderbilt University, as one of the original developers of the ECQ.<sup>19</sup> The permission granted by Email at February 2nd, 2023. The subsequent phase centered on consisting initial translation, synthesis of translation, back translation, expert committee, test of pre final version, and documentation or appraisal.

The initial translation into Indonesian was executed by sworn translators within the language technical implementation unit of Universitas Negeri Jakarta (*UPT Bahasa UNJ*) and a psychology lecturer with an IELTS score of 6.5. Synthesis of translation was conducted in order to achieve semantic equivalence to ensure semantic translation method fulfilled. This translation method is chosen because the semantic approach tends to preserve the author's language expression by giving utmost importance to its peculiar content and meaning. Therefore, the author, along with Translator 1 and Translator 2, performed a comparative analysis of the translations produced by each translator individually. This step was taken to identify and resolve any inconsistencies in vocabulary and cultural concepts related to ethical climate items. Subsequently, a back-translation was carried out by different sworn translators from the same unit and another psychology lecturer with a TOEFL score exceeding 550. To ensure content validity, we sought expert reviews, employing Qualitative Content Analysis (QCA)<sup>20</sup> and the content validity index (CVI).<sup>21</sup> The expert team comprised two Psychology Professors and a Ph.D. holder in Psychology. Furthermore, a Professor of Language Education from Universitas Negeri Jakarta scrutinized the language aspects of the instrument. The conclusions and results of these expert reviews laid the foundation for the items used in subsequent trial studies.

Trial studies, incorporating cognitive interviews to delve into how participants perceived and processed each item before selecting their responses, were conducted with 30 participants – Indonesian individuals aged 18 and above – using verbal retrospective probing. Participants were instructed to answer the survey questions using the recommended technique. The interviewer then asked additional questions to gain a deeper understanding of the participants' thoughts and opinions before they made their final choice. The study's findings indicate that all participants understood the objectives of each item and did not encounter any difficulties during the test.

Furthermore, to conduct a documentation or appraisal stage, a psychometric analysis of the psychological scale adaptation was performed according to Gronier.<sup>22</sup> This analysis encompassed internal consistency, factor analysis, convergent validation, time consistency, and socio-demographic analysis.

Participants are selected using convenience sampling, where the researcher announces the search for research respondents with the characteristics of being 18 years old and above, and being a part of an organization. Researchers in the field of business ethics have largely relied on convenience sampling to select individuals for inclusion in research, and generalization of convenience samples to larger populations is quite common in this field of research.<sup>23</sup>

Individuals who are willing to become respondents and meet the specified characteristics are invited to participate in the study. Prior to their participation, all individuals were provided with information about the researcher, the study's purpose, and the anticipated duration of form completion. They were assured that their data would be confidential and anonymized, and they were given the option to withdraw from the research at any time. Participants were informed that there were no direct benefits to their participation and that there would be no harmful effects resulting from their involvement. After obtaining consent, participants could proceed to fill out all the questionnaires. This approach ensured transparency, ethical considerations, and the protection of participants' rights throughout the research process.

The participants in this adaptation research comprised 565 individuals aged between 18 and 45 years ( $M = 23$ ,  $SD = 4.28$ ), with 56.8% identifying as female and 43.2% as male. Even though the working age according to The Organisation for Economic Co-operation and Development (OECD) Data is 15 to 64,<sup>24</sup> the age range of 18–45 has optimum productivity based on the productivity index by Skirbekk.<sup>25</sup> The number of participants refers to the basis of Exploratory Factor Analysis (EFA), where a sample size of more than 500 is considered very good.<sup>26</sup>

Data for the trial study were collected from individuals in Indonesia aged 18 years or older, utilizing an online form from March 9th to December 12th, 2023. It was important to have representation from each type of organization to improve the generalizability and representativeness of the sample in relation to various organizations in Indonesia.

Therefore, the respondents represented diverse backgrounds, including those from formal companies (32.6%), academic institutions (27.3%), intra-campus organizations (23.9%), and informal organizations (16.3%).

## Research Instruments

The development of the ECQ aimed to capture individuals' perceptions of an organization's decision-making processes concerning various situations requiring ethical considerations.<sup>2</sup> To assess different forms of ethical reasoning, the questionnaire was tailored to identify organizational decision-making norms directly associated with supporting distinct ethical reasoning approaches. While an organizational norm might be perceived as the content of ethical reasoning, each question in the questionnaire explicitly relates to one of the ethical reasoning criteria. The criteria in use, such as considering the best for each person, adherence to rules, and the organization's interests, are observable outcomes of the organizational ethical reasoning process. The initial ECQ utilized in Victor and Cullen's 1987 and 1988 studies comprised 26 items. The latest version of ECQ scale comprised 36 items, each rated on a 6-point scale (0 = Completely False, 1 = Mostly False, 2 = Somewhat False, 3 = Somewhat True, 4 = Mostly True, 5 = Completely True), encompasses 36 items, featuring four items for each theoretical climate type (see Table 1).

In this research, self-developed ethical climate scales employed in recent ethical climate research in Indonesia were utilized to address convergent and discriminant validation. Among these scales, one was formulated by Asbari et al<sup>27</sup> specifically for assessing ethical climate in an academic context, drawing inspiration from the work of Schwepker.<sup>28</sup> A total of 117 school teachers participated as respondents, providing their perceptions of the ethical climate within their

**Table 1** ECQ Blueprint

No	Dimension	Locus of Analysis	Item number	Total item
1	Egoism	Self-interest	1, 6, 10, 33	4
		Company profit	4, 8, 17, 29	4
		Efficiency	2, 19, 25, 36	4
2	Benevolence	Friendship	5, 16, 27, 32	4
		Team interest	12, 21, 31, 35	4
		Social responsibility	26, 28, 30, 34	4
4	Principle	Personal morality	3, 9, 11, 22	4
		Rules, standard, operating procedures	7, 15, 18, 23	4
		Laws, professional codes	13, 14, 20, 24	4

respective organizations by utilizing a five-point Likert scale ranging from 1 (not suitable at all) to 5 (very suitable). The scale yielded a coefficient alpha of 0.847.

Two additional scales gauging the ethical climate of civil servants were also employed. One scale, constructed by Cucuani<sup>29</sup> based on Arnaud<sup>30</sup> ethical climate concept, consists of 18-item. The scale was tested on 404 civil servants, with a five-point interval scale, ranging from 1 (this statement does not describe my work unit at all) to 5 (really describes my work unit), yielding a coefficient alpha of 0.861. Last ethical climate scale, constructed by Fathiyah<sup>11</sup> drawing concept from Simha and Cullen,<sup>31</sup> with a total of 18 items on a scale of four-point interval ranging from 1 (strongly disagree) to 4 (strongly agree) was tested and revealed a coefficient alpha of 0.853.

## Data Analysis

In evaluating internal consistency, both Cronbach's alpha and McDonald's omega were employed. While Cronbach's alpha is more widely recognized, Gronier<sup>22</sup> recommended the inclusion of McDonald's omega, particularly in cross-cultural adaptations of scales in Psychology. Confirmatory Factor Analysis (CFA) was chosen for factor analysis due to its suitability and statistical rigor in testing construct validity through a confirmatory approach rather than an exploratory one.<sup>32</sup> Each ethical climate dimension was analyzed separately to avoid multicollinearity among dimensions. Following Gronier's guidance, various fit indices were computed to establish the model's acceptability, including normed  $\chi^2$ , Goodness Fit Index (GFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Roots Mean Square Residual (RMSR), Akaike Information Criterion (AIC), and Normed Fit Index (NNFI).

The convergent validity was conducted by calculating average variance extracted (AVE) of Indonesian version of ECQ, and by correlating it with other scales measuring similar constructs.<sup>26</sup> Specifically, we examined the correlation between Indonesian version of ECQ and self-developed ethical climate scales utilized in recent ethical climate research in Indonesia, employing Pearson's correlation coefficient. Time consistency analysis utilized the test-retest technique. Finally, for socio-demographic analysis, ANOVA was applied to compare different modalities within the same variables.

## Results

### Content Validity

The evaluation conducted by expert reviewers utilized the content validity index method, as outlined by Polit and Beck.<sup>33</sup> Ratings of 1 or 2 assigned by the reviewers were recorded as 0.00, while ratings of 3 or 4 were recorded as 1.00. In this research, every item achieved a score of 1.00 for both Item-Content Validity Index (I-CVI) and Scale-Content Validity Index (S-CVI). Consequently, all items and scales demonstrated validity evidence rooted in test content.

### Internal Consistency

The reliability assessment of the Indonesian version of ECQ test involved the use of Cronbach's Alpha, which produced alpha coefficients of  $\alpha = 0.809$  for the egoism dimension,  $\alpha = 0.920$  for the principle dimension, and  $\alpha = 0.910$  for the benevolence dimension. Simultaneously, the internal consistency calculation employing McDonald's Omega yielded omega coefficients of  $\omega = 0.835$  for the egoism dimension,  $\omega = 0.929$  for the principle dimension, and  $\omega = 0.915$  for the benevolence dimension.

### Factor Analysis

#### Egoism Dimension

The results of the CFA for egoism indicated significant statistics with  $\chi^2 (51, N = 565) = 230.868$ ,  $p < 0.01$ , GFI = 0.972, CFI = 0.936, TLI = 0.917, RMSEA = 0.079, SMSR = 0.079, AIC = 20,252.637, and NNFI = 0.917. Following recommendations from modification indices, adjustments were made by incorporating pairs of residual correlations between item 33 with item 4, item 1 and item 6, item 10 and item 4 into the modification model. After implementing these modifications, the adjusted model demonstrated improved indices, with  $\chi^2 (48, N = 565) = 128.824$ ,  $p < 0.01$ , GFI = 0.985, CFI = 0.971, TLI = 0.961, RMSEA = 0.055, SRMR = 0.067, AIC = 20,156.593, and NNFI = 0.961.

Factor loadings analysis was performed through a confirmatory factor analysis examination, adjustments are made following after recommendations from modification indices. The outcomes revealed that each item exhibited factor loadings within the spectrum of 0.55 to 0.95, as illustrated in Table 2. Specifically, five items registered at or above 0.50, and seven items reached or exceeded 0.70.

## Principle Dimension

The outcomes of the CFA for the principle dimension indicated  $\chi^2 (51, N = 565) = 194.805, p < 0.01, GFI = 0.983, CFI = 0.961, TLI = 0.949, RMSEA = 0.071, SRMR = 0.041, AIC = 18,901.694,$  and  $NNFI = 0.949$ . In response to the modification indices suggestions, the modification model incorporated residual correlation pairs between item 18 and item 23, and item 11 and item 20. After implementing the modifications, the revised model exhibited enhanced indices values, with  $\chi^2 (49, N = 565) = 133.234, p < 0.01, GFI = 0.988, CFI = 0.977, TLI = 0.969, RMSEA = 0.055, SRMR = 0.037, AIC = 18,844.123,$  and  $NNFI = 0.969$ .

The outcome of the factor loadings analysis, performed through a confirmatory factor analysis test, revealed that each item exhibited factor loadings within the range of 0.65–0.85, as depicted in Table 3. No items were identified with factor loadings in the range of  $\pm 0.30 - \pm 0.40$ , one item reached or exceeded 0.50, and eleven items achieved factor loadings equal to or above 0.70.

**Table 2** Factor Loading Egoism Dimension

Locus of Analysis	Item No	Factor Loading
Self Interest	1	0.729
	6	0.646
	10	0.927
	33	0.592
Company Profit	4	0.554
	8	0.616
	17	0.697
	29	0.714
Efficiency	2	0.731
	19	0.730
	25	0.747
	36	0.741

**Table 3** Factor Loading Principle Dimension

Locus of Analysis	Item No	Factor Loading
Personal Morality	3	0.715
	9	0.717
	11	0.747
	22	0.732
Rules, standard, operating procedures	7	0.712
	15	0.758
	18	0.655
	23	0.716
Laws, professional codes	13	0.754
	14	0.814
	20	0.810
	24	0.807



## Benevolence Dimension

The findings from CFA conducted on the benevolence construct yielded noteworthy results, as evidenced by statistically significant values:  $\chi^2$  (51, N = 565) = 134.497,  $p < 0.01$ . The model fit was robust, as indicated by the GFI at 0.989, CFI at 0.974, TLI at 0.966, RMSEA at 0.054, SRMR at 0.029, AIC at 19,159.437, and NNFI at 0.966. With all criteria for a well-fitting model met, no further adjustments were deemed necessary.

The factor loadings analysis results, derived from a confirmatory factor analysis test, revealed that each item displayed factor loadings within the range of 0.40–0.80, as illustrated in Table 4. Among these, one item had factor loadings in the range of  $\pm 0.30 - \pm 0.40$ , two items equaled or exceeded 0.50, and nine items reached factor loadings equal to or above 0.70.

## Convergent Validity

Convergent validity analysis in our study entails a comprehensive examination of the internal and intercorrelations among the dimensions of the Indonesian version of ECQ and an established ethical climate scale previously developed by Indonesian researchers, as delineated in Table 5. Specifically, both the principle and benevolence dimensions of the Indonesian version of ECQ exhibited positive correlations. In contrast, the egoism dimension demonstrated negative correlations with all of the existing ethical climate scales crafted by prior Indonesian researchers. To better understand the dynamics among different ethical climate dimensions within the organizational context, we further investigated correlations within each Indonesian version of ECQ quadrant. Notably, the egoism dimension negatively correlated with the principle and benevolence dimensions.

**Table 4** Factor Loading Benevolence Dimension

Locus of Analysis	Item No	Factor Loading
Friendship	5	0.782
	16	0.729
	27	0.680
	32	0.669
Team Interest	12	0.787
	21	0.738
	31	0.724
	35	0.417
Social responsibility	26	0.720
	28	0.754
	30	0.779
	34	0.717

**Table 5** Intercorrelation of Indonesian Version of ECQ with Existing Ethical Climate Scale Constructed by Indonesian Researcher

Ethical Climate Scale	N	1	2	3	4	5	6
ECQ-IV - Egoism	12	1					
ECQ-IV - Principle	12	-0.609**	1				
ECQ-IV - Benevolence	12	-0.682**	0.819**	1			
Ethical Climate Scale <sup>27</sup>	5	-0.563**	0.673**	0.680**	1		
Ethical Climate Scale <sup>29</sup>	18	-0.620**	0.605**	0.595**	0.563**	1	
Ethical Climate Scale <sup>11</sup>	18	-0.500**	0.417**	0.411**	0.338**	0.338**	1

Note: \*\* $p < 0.01$ .

Abbreviation: ECQ-IV, Ethical Climate Questionnaire Indonesian Version.

To ensure convergent validity, we also performed calculations for AVE. The outcomes indicated that for the Egoism dimension the AVE was 0.501, for the Principle dimension the AVE was 0.558, while for the Benevolence dimension, the AVE was 0.510. As Table 5 predictably shows, all dimensions in our dataset are strongly correlated, a result that may give rise to multicollinearity issues in our analysis. To test for multicollinearity, we inspected the variance of each dimension of ethical climate. As the highest variance inflation factor is 3.11, multicollinearity is unlikely to unduly influence our results.

## Time Consistency

The time constancy is measured using the so-called test-retest technique. We have already administered the Indonesian version of the ECQ to the same subjects ( $N = 30$ ) at two time intervals. Following the first measurement on September 3rd, 2023, we conducted the second measurement on September 18th, 2023, approximately 2 weeks after the first measurement. The results show a high positive correlation between the Indonesian version of ECQ scores from the first and second data collection times. For egoism,  $r = 0.890$ ; for principle,  $r = 0.820$ ; and for benevolence,  $r = 0.896$  ( $p < 0.01$ , two-tailed).

## Socio-Demographic Analysis

Through rigorous data analysis employing  $t$ -tests and ANOVA, it is evident that demographic variables exhibit noteworthy implications for the dimensions of the Indonesian version of ECQ. Notably, no discernible difference emerged concerning the influence of gender on the egoism, principle, or benevolence dimensions. Conversely, age demonstrated a significant effect solely on the principle dimension, with no statistically significant impact on the egoism or benevolence dimensions. Moreover, organizational type emerged as a significant factor influencing all dimensions in the Indonesian version of ECQ. Detailed results of the  $t$ -tests and ANOVA are presented comprehensively in Table 6, providing a comprehensive insight into the nuanced relationships between demographic variables and our study's dimensions of the Indonesian version of ECQ.

## Discussion

For a test to be deemed highly reliable, a reliability coefficient above 0.8 is desirable.<sup>34</sup> The Cronbach's Alpha method revealed that each dimension of the Indonesian version of ECQ exhibited adequate internal consistency. However, since

**Table 6** Demographic Characteristics of the Study Participants

Variables	N	Egoism			Principle			Benevolence		
		M	SD	Sig.	M	SD	Sig.	M	SD	Sig.
<b>Total</b>	565									
<b>Gender</b>				0.50			0.309			0.085
Male	244	22.85	8.29		42.84	10.64		42.95	10.39	
Female	321	22.84	9.49		41.88	11.35		41.39	10.81	
<b>Age</b>				0.088			0.000**			0.068
18–23	347	21.91	9.83		40.84	11.6		41.26	11.18	
24–29	181	23.72	7.42		44.83	9.84		43.19	9.56	
> 30	37	22.96	7.18		43.51	8.86		44.1	10.07	
<b>Organization Type</b>				0.044*			0.043*			0.046*
Informal Organization	49	22.39	9.29		39.63	10.97		40.94	11.44	
Higher education organizations	83	24.24	12.25		37.82	14.26		37.45	13.67	
In-campus Organization	63	20.85	9.83		41.68	11.10		40.34	12.18	
Formal Company	86	20.46	8.12		42.66	9.52		42.58	9.91	

Note: \*\* $p < 0.01$ , \* $p < 0.05$ .



alpha values may underestimate internal consistency, we also present McDonald's omega value, which is considered to be better in assessing reliability by providing the reliability of the total scale.<sup>35</sup> All dimensions of the Indonesian version of ECQ have McDonald's omega value slightly better compared to the alpha value, indicating excellent internal reliability.

The validity evidence of the internal structure was examined through Confirmatory Factor Analysis (CFA). However, with the exception of the benevolence dimension, the first model did not satisfy all the criteria for the internal structure evidence of the Indonesian version of ECQ dimensions. These criteria encompass a GFI higher than 0.9, a CFI ranging between 0.95–1.00, a TLI higher than 0.95, an RMSEA less than 0.08, RMSR lower than 0.8, a low AIC value, and an NNFI higher than 0.95.<sup>22</sup> This result is different from the validation test result by Cullen et al.<sup>19</sup> In Cullen's study, it was found that in the climates of benevolence, friendship, and team interest did not appear as distinct climate sub-dimensions. They argue that it may be the questionnaire lacks the precision necessary to discriminate between these two sub-dimensions. However, in this study, the benevolence climate showed all good fit indices and adequate factor loadings. Meanwhile, egoism and principle met all the thresholds for model acceptance, exceptions were noted for CFI, TLI, and NNFI. Consequently, we addressed these discrepancies by implementing modifications suggested by modification indices to achieve acceptable fit index values.

In the first model of egoism dimensions, the recommendation included introducing correlations between the residuals of item 33 with 4, item 1 with 6, and item 10 with 4. Items 33 ("People in this company are very concerned about what is best for themselves") and 4 ("People are expected to do anything to further the company's interests") share similar nuances, implying that actions furthering the company's interests are also deemed best for individuals. Similarly, item 1 ("In this company, people are mostly out for themselves") is related to item 6 ("There is no room for one's own personal morals or ethics in this company"), both indicating a negative perception that individuals solely focused on themselves are considered immoral and unethical. Lastly, item 10 ("In this company, people protect their own interest above other considerations") is related to item 4 ("People are expected to do anything to further the company's interests"), implying that company interests are perceived as aligning with individual interests.

Moreover, in the initial model of principle dimensions, the modification indices suggested by the results of the confirmatory factor analysis test also propose correlating the residuals of item 18 with 23 and item 11 with 20. Specifically, item 18 ("Successful people in this company go by the book") is linked with item 23 ("Successful people in this company strictly obey the company policies") in a manner indicating a shared significance, suggesting that adherence to company policies has a substantial impact on individuals' success. Simultaneously, item 11 ("The most important consideration in this company is each person's sense of right and wrong") is associated with item 20 ("In this company, people are expected to strictly follow legal or professional standards"), unveiling an Indonesian perspective wherein individuals with a sense of right or wrong are presumed to automatically adhere to legal or professional standards.

After implementing the suggested modifications from the modification indices, the modified model for egoism and principle dimensions demonstrated improved fit, meeting the criteria for a well-fitted model across all indicators of fit indices. Conversely, unfulfilled model fit criteria by the significant chi-square value ( $p < 0.05$ ) may be attributed to the sensitivity of the chi-square index to sample size, with larger samples more likely to yield significant results even when the model is a good fit.<sup>36</sup> Moreover, all items displayed factor loadings exceeding 0.30, surpassing the minimum threshold for structural interpretation. This adheres to the proposition by Hair et al.,<sup>37</sup> asserting that items with factor loadings in the range of  $\pm 0.3$  to  $\pm 0.4$  are deemed minimally satisfactory for structural interpretation, while loadings of  $\pm 0.5$  are practically necessary, and loadings of  $\pm 0.7$  indicate a well-defined structure as expected in factor analysis.

Convergent validity was examined by conducting Pearson Product-Moment Correlation of the Indonesian version of ECQ scores with an ethical climate scale previously developed by an Indonesian researcher. The results revealed a negative correlation between egoism and positive correlations between the principle and benevolence dimensions with all ethical climate scales. This outcome substantiates the validity evidence based on the relationships with related constructs. This correlation aligns with the inherent nature of the egoism dimension, which centers on behavior driven by self-interest and factors aimed at maximizing personal gain.<sup>3</sup> In contrast, the principle dimension assesses decisions

guided by rules, laws, codes, and procedures for the benefit of others, while the benevolence dimension evaluates decisions aimed at achieving the greatest good outcome for a larger population.<sup>2</sup>

To further corroborate the validity, we employed AVE measures. The AVE values for the egoism, principle, and benevolence dimensions were 0.501, 0.558, and 0.510, surpassing the acceptable threshold of 0.5, indicating satisfactory convergent validity.<sup>38</sup> This finding aligns with Fornell and Larcker's<sup>39</sup> assertion that the AVE should not fall below 0.5, affirming that the latent construct explains no less than 50% of the indicator variance.

The Pearson Product-Moment Correlation test was conducted to determine the relationship between scores from the first and second data collection on the same subject with a time span of 14 days. The results showed that all dimensions of the Indonesian version of ECQ had correlation coefficients (*r*) higher than 0.8. A correlation coefficient with a value between 0.3 and 0.5 is considered low, between 0.5 and 0.7 is moderate, and above 0.7 is strong.<sup>40</sup> This result indicates that the scale is stable over time and therefore reliable.

The sensitivity of cross-cultural adjustment is assessed by comparing various modalities of the same variable.<sup>22</sup> Socio-demographic analysis indicates that, while gender shows no significant differences and only the principle dimension is affected by age, there are significant differences in the ethical climate across all dimensions of Indonesian version of ECQ influenced by organizational type (including informal organizations, higher education organizations, in-campus organizations, and formal companies). This aligns with the meta-analysis findings of Martin and Cullen,<sup>3</sup> indicating that the organizational type is a demographic variable proven to impact ethical climate. Consequently, the Indonesian version of ECQ is considered to be moderately sensitive across cultures.

This study represents the first published research that adapts the Ethical Climate scale designed by Cullen et al. Therefore, this research can provide evidence that the Ethical Climate Questionnaire (ECQ) can be utilized and generalized to the Asian continent, particularly in Indonesia. Additionally, it is anticipated that the Indonesian version of the ECQ scale will assist organizations in Indonesia in mapping the types of ethical climates they possess, facilitating the development of a more ethical work environment. Lastly, this study can encourage further research on adapting ethical climate scales in other countries that do not primarily use English as their primary language.

## Theoretical Implication

The present study suggests that the Indonesian version of the ethical climate questionnaire measures various perceptions of ethical climates based on egoist, benevolent, and principled reasoning.<sup>2,19</sup> By using this Indonesian version, we can capture the three main types of ethical climates as determined by theory. Another important implication of this study is that it contributes to the development of ethical climate concept, particularly in the Indonesian context. A culturally sensitive adaptation of measurement instruments ensures the mitigation of biases, thereby facilitating comparability of findings across studies conducted in diverse countries. This adaptation is rooted in a comprehensive process that transcends mere translation of questions from the original questionnaire. Rather, it aims to contextualize them by acknowledging the semantic intricacies of the language and culture of the target sample.<sup>41</sup> Therefore, Indonesian version of ECQ as adapted version provide excellent usability indicators for future studies that aim to measure the construct of their models. This is particularly important considering that much of the literature in this field has been developed in English-speaking countries.<sup>42</sup> Therefore, the evidence obtained in this study can provide basis for the comparisons finding between studies. Lastly, these results from measuring ethical climate can be incorporated into the goals of future ethical climate studies, allowing for comparisons between studies. This scope of activities is not limited to the context of this study in Indonesia but rather has universal applicability.

## Conclusion

This study aims to adapt the Ethical Climate Questionnaire into the Indonesian Version, ensuring that the translation and cultural adaptation processes strictly adhere to relevant guidelines. The findings indicate that the Indonesian version ECQ is both reliable and valid for assessing the perceived ethical work climate among Indonesian individuals aged 18 years or older. The study, supported by a comprehensive review process involving expert reviewers to ensure content validity, reveals that robust psychometric analysis positions the Indonesian version ECQ as a valuable tool, contributing to the advancement of ethical climate research.

## Study Limitations

This study marks the pioneering attempt to adapt the Ethical Climate Questionnaire Scale into the Indonesian Version and scrutinize its psychometric properties. Nevertheless, the study acknowledges limitations, particularly the relatively small sample size, impeding the construction of norms. Subsequent research endeavors could address this limitation by exploring the psychometric properties of Indonesian version of ECQ in a larger sample and establishing norms. Further investigations could enhance the validity evidence by examining relationships with related constructs beyond the ethical climate concept. Researchers interested in utilizing the full Indonesian version of ECQ are encouraged to contact the corresponding author of this study.

## Ethical Approval

The ethical consideration for this study is reinforced by the Research Ethics Committee License number 1206/UN6.KEP/EC/2023 from Universitas Padjadjaran, along with obtained informed consents. Each participant provided explicit informed consent before engaging in the study, encompassing the publication of anonymized responses. The study adhered to ethical standards established in the 1964 Declaration of Helsinki and subsequent amendments or comparable ethical standards. All procedures were conducted in accordance with ethical standards and received approval from the ethics committee at Universitas Padjadjaran, Bandung, Indonesia.

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## Disclosure

The authors report no conflicts of interest in this work.

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