

Education Quarterly Reviews

Alqarni, Saleh Ali Y., Alsulami, Abdulrahman Hamed, Alqarni, Ali Hasan, Alfadeel, Mohammad Akron, and Khan, Khushnoor. (2020), Development and Validation of the Ethical Climate Questionnaire in a Saudi Educational Context. In: *Education Quarterly Reviews*, Vol.3, No.1, 93-102.

ISSN 2621-5799

DOI: 10.31014/aior.1993.03.01.121

The online version of this article can be found at:

<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

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Development and Validation of the Ethical Climate Questionnaire in a Saudi Educational Context

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Abstract

The present study focuses on studying the psychometric properties of Ethical Climate Questionnaire (ECQ) in Saudi educational milieu. It is a cross-sectional study and the data was collected from 309 educational supervisors from six educational offices of General Department of Education in Jeddah. Confirmatory Factor Analysis (CFA) was carried out to study the psychometric properties of the EC scale. Kuder Richardson's Cronbach's coefficient ' α ' was used to assess the reliability of the nine dimensions of the EC scale. Findings of the study revealed that nine dimensions of the EC scale had a good model fit. Hence, it is suggested that EC scale is valid and reliable for use within the educational context in Saudi Arabia. This study also compares the findings of the current study with previous findings. Results of the present study will provide much-needed impetus for future research in EC particularly, within the educational organizations throughout Saudi Arabia and generally in other Arab countries of the region.

Keywords: Ethical climate, Validation, Confirmatory factor analysis, Educational Context

1. Introduction/Literature Review

Ethical climate (EC) and the ethical culture of an institution is determined by various factors. EC and ethical culture are sometimes used interchangeably (Moran and Volkwein, 1992), but the term EC is more frequently used. Victor and Cullen, moved by Schneider (1975), posited that several climates could exist in an institution; and have described EC as "collection of sociocultural environment, institutional form, and institution-specific past as the elements of EC" (Victor and Cullen, 1987, 1988). Cullen et al. (1993) have posited that EC is the shared

perceptions of the people working in an institution vis-à-vis what is correct behavior in the institution coupled with the way an institution handles issues regarding ethics. Measurement of the EC in an institution requires knowledge of various aspects. One way to measure the EC of an institution is to use the ECQ and quantify various aspects by using the available information. A more realistic approach is to assess the EC of an institution by considering an employee's perception of the institution. This method of measuring EC is more effective as the general perception of the employee also comes into play. Generally, the EC in an institution, in this way, is measured by using two approaches, namely cognitive and shared perception approach (Webber, 2007). The cognitive approach depends exclusively on the individual's work environment perception. In the shared-perception approach, unbiased data on various institutional aspects, such as institutional structure, reward and performance evaluation systems, employee code of conduct manuals, and other formal documents (i.e., letters and memos from executives) are used to make an impartial assessment of the work environment. Critics of the shared perception approach are still of the view that still the gauge to assess the environment is document-based and that they mirror the viewpoint of a single member or small group of members.

EC is a key to a worker's commitment to the institution. It has been observed that EC is an essential factor in job satisfaction and work engagement in several institutions (Deshpande, 1996; Yener et al., 2012). EC does affect the institutional commitment as employees are more committed to the institutions having better EC (Cullen et al., 2003). The EC in an educational institution is as important as other factors for job satisfaction and commitment to work. Teachers are ethical managers in the school setting (Delattre & Russell, 1993; Higgins, 1995; Sergiovanni, 1996; Tirri, 1999). It is anticipated from teachers to act as role models for their students and to tutor them about values (Noddings, 1992; Starratt, 1991). The complex nature of teaching requires conducive EC so that the teachers are committed to their work. The lack of conducive EC can be a cause that a teacher left the institution (Van Maanen, 1995; Johnsrud & Rosser, 2002). It is, sometimes, very costly to replace a teacher (Norton, 1999), and hence due consideration is required to build an efficient teacher workforce (Smylie & Miretzky, 2004). The leadership of an educational institution plays a vital role in the job satisfaction of teachers. A value-based leadership of an educational institution provides conducive EC for the teachers, and hence they have less tendency to leave (Ingersoll, 2001, 2004). Lishchinsky and Rosenblatt (2009) have conducted a comprehensive study to see the effect of EC and the tendency of teachers to leave. They have observed that a non-conducive EC in an educational institute force the teachers to leave the institution. EC can make or break teachers in an educational institution. A positive EC is better for a teacher to provide optimum results (Ogbeide et al., 2018).

Victor and Cullen have also developed an EC Questionnaire (ECQ) to measure the EC at an institution. The ECQ has been modified by some researchers (Cullen et al., 1993; Fritzsche, 2000) but remains the most widely accepted tool to study the EC of an institution. The ECQ has been employed to study the relationship between EC and moral awareness by using all 36 items and a factor analysis technique (VanSandt, 2001). The questionnaire has been employed in Russian institutions with chaotic history (Deshpande et al., 2000). The ECQ has been a useful tool of analysis and has been employed in multiunit institutions (Wimbush et al., 1997) and in non-profit institutions (Agarwal and Malloy, 1999), among others. Victor and Cullen (1988) have also given a chart that shows philosophical, sociological, and psychological theory. The chart consists of two axes, namely the derivation of the ethical system and the stockholders to whom they apply (Cullen et al., 1989). According to Denison (1996), EC lies beneath the institution's value system. Studies reveal that higher administration plays a pivotal part both in the generation and continuation of a firm's EC (Deal and Kennedy, 1982; Schein, 1985). The classification of EC types was completed by the locus of analysis, which is a sine qua non of the sociological dimension of ECT. Codes of ethics affect a worker's decision making when they become a part of the worker's working knowledge (Hegarty and Sims, 1979). Weeks and Nantel (1992) have argued that effectively communicating the codes will most probably result in enhanced ethical behavior. Ethical codes can be categorized in terms of their character: inspirational, regulatory, or educational (Farrell et al., 2002). In terms of content, codes also vary in relation to the ethical issues they address. One helpful categorization of ethical issues provides three clusters –issues impacting primarily on employees, or on companies or on broader society (Stohs & Brannick 1999: 315). Moore (2006) has argued that efficiently implemented codes of ethics are useful in bringing work commitment to higher education institutes.

EC is a collection of various things, and it has been observed that at least five aspects, including *caring, law and code, rules, instrumental, and independence*, are useful for productive EC (Cullen et al., 1993). Some studies have argued that the EC is a collection of a different number of aspects, for example in a study it has been observed that the EC is a collection of four elements; namely *self-interest, team/friendship, social responsibility and rules/code* (Barnett and Vaicys, 2000). In another study, it has been observed that the EC is a collection of three aspects, namely rules, caring, and instrumental (Vardi, 2001).

Ethical norms are thought of as being equivalent to the Theory of Cognitive Moral Development given by Kohlberg (Malloy & Agarwal, 2003; Nelson & Quick, 2009). Kohlberg's (1984) theory argued that the cognitive ability of an individual to resolve moral problems developed over time goes through three tiers, each having two stages. The 1st tier is known as the pre-conventional tier and emphasizes the resolution of moral problems through the use of egoistic reasoning - based on punishment and obedience (stage one), and a person's desire to satisfy his own needs (stage two). The 2nd tier; which is conventional and is the locus of the analysis (Peterson, 2002); contains moral reasoning taking into account the expectation of others which consists of the "good boy/nice girl orientation" (stage three) and the "law and order orientation" (stage four). The 3rd tier, the post-conventional tier, contains using intangible principles in dealing with an ethical dilemma involving societal standards (stage five) and universal moral values (stage six). EC of an institution is based upon three broader categories, namely social norms, institutional forms or structures, and; firm-specific factors (Victor and Cullen, 1988). Social norms—are grounded on the impression that to gain legality, institutions need to adapt to external pressures that force the institutions. The institutional form is the second category, which determines the EC of an institution. The institutional form is usually administration dependent, and EC may differ in an institution where the administration bases its decisions on profits (Brower & Shrader, 2002). The institution form also depends on whether it is controlled by the government or by a group of individuals, as EC may differ in both types of institutions (Rasmussen et al., 2003). The third category is institution-specific which determines the EC of an institution and is usually base on the decision-making style of the leadership (Victor & Cullen, 1988; Malloy & Agarwal, 2003).

All the research on EC thus far, have been conducted in the western set-up. In spite of this great importance of the EC, given the institutional and individual outcomes, it brings in the educational environment. However, no studies have been attempted to provide a valid and reliable measure that fits the Saudi educational context, and that helps in conducting studies that track its effects and linkages with institutional phenomena and individual behaviors in the educational work environment. The present study intends to explore EC among educational supervisors working in the Kingdom of Saudi Arabia. Based on the literature review, the primary objective of the current study is to assess the psychometric properties of the EC Questionnaire viz-e-viz Middle eastern educational milieu with emphasis on Saudi Arabia.

1.1. Format of the Paper: Rest of the paper proceeds as follows :section 2 deliberates on the methodology adopted to validate the EC scale in Saudi educational context: section 3 displays the results of the confirmatory factor analysis and supporting details: section 4 briefly discusses the results: section 5 briefly concludes the results of the study. Some limitations of the present study are discussed in section 6.

2. Methods

2.1. Research Design/Method: Quantitative cross-sectional design with one-time contact with the respondents was adopted to elicit the opinions of respondents.

2.2. Research Setting/Sampling: Data was collected from six educational offices located in different zones of Jeddah. The nomenclature of the respondents was educational supervisors. A total of 400 questionnaires were filled by the respondents of which 9 were discarded for being insufficiently filled, thus the response rate stood at 78%.

2.3. Measure: Ethical Climate Questionnaires (ECQ) developed by Cullen et al. (1993) with 36 items was used consisting of nine constructs of theoretical ethical climates types. It is noteworthy that this nine- factor model was theoretically developed by Victor & Cullen (1987; 1988). Translation and back-translation in Arabic language was carried out to ensure eliciting right perspective of the respondents. The ECQ was presented as statements and

respondents were asked to rate each statement along a seven-point Likert scale where 1= Strongly disagree and 7= Strongly Agree. Each statement was adapted to the educational context. While the original questionnaire referred to "organization" and "individual," in the present modified version, these terms were replaced with "educational office" and " educational supervisor." The dimension of "Company profit " was modified with a suitable phrase reflecting the educational context to "Institutional Benefit."

2.4. Statistical Analysis: Apart from studying the socio-demographic profile of respondents and inter-item consistency of the sub-dimensions, a Confirmatory Factor Analysis (CFA) is carried out to assess the fit of the data. Cronbach's coefficient ' α ' is used to assess the reliability of the scales. Statistical package for social sciences (SPSS) version 23.0 and AMOS version 23.0 is used for extracting desired results.

3. Results

3.1. Sampling Characteristics: A sample of 309 educational supervisors, from six educational offices located in six zones of Jeddah, was selected. Of these, 187(60%) were females, and 122(40%) were males. Regarding age-groups, 256(82%) were between 35-50 years of age, with the majority (71.8%) respondents having more than 20 years of Length of Service with Bachelor's degree

Table 1: Socio-Demographic Profile of the Respondents

		n	%
Office	North	89	28.8
	East	51	16.5
	South	78	25.2
	Middle	53	17.2
	Asafa	16	5.20
	Alnaseem	22	7.10
Gender	Female	187	60.5
	Male	122	39.5
Age Groups	Less than 35	3	1.00
	35 - 50	256	82.8
	More than 50	50	16.2
Length of Service	Less than ten years	19	6.10
	10 - 20	68	22.0
	More than 20 years	222	71.8
Educational Qualification	Bachelors	201	65.0
	Postgraduate	108	35.0

3.2. Confirmatory Factor Analysis: The most common dimension reduction tools are Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Nevertheless, for studying the structure's goodness of fit, CFA is employed. Furthermore, when the researcher wants data-driven results or is initially working on the development of any scale, EFA is used, but when the relations are theory-driven, then CFA is used i.e., the structure of the scale understudy has already been deliberated in the previous studies. Since the Ethical Climate Questionnaire has been discussed in the previous studies, as can be seen in the literature review; hence, CFA was chosen as an appropriate measure to assess the scale and study the goodness of fit. The most appropriate index to assess the goodness of fit is Chi-square but is very sensitive to sample size i.e., as the sample size increases, the Chi-square gives a good fit (Hinkin et al. (1997). Due to the restrictiveness of the Chi-Square, researchers have sought alternative indices to assess model fit Hooper et al. (2008). The main criteria used in the current study to judge model fit included goodness of fit (GFI) created by Jöreskog and Sörbom (1996), Bentler's (1990) comparative fit index (CFI) and the root mean square error of approximation (RMSEA) developed by Steiger (1990). Regarding GFI, an omnibus cut-off point of 0.90 has been recommended. For CFI, Hu and Bentler (1999)

suggested a cut-off point ≥ 0.90 as indicative of a good fit. For RMSEA, a cut-off value close to 0.06 Hu and Bentler (1999) or a strict upper limit of 0.07 suggested by Steiger (2007) appears to be a consensus amongst authorities in this field of study. One of the most significant advantages of RMSEA is its ability for a confidence interval to be calculated around its value MacCallum et al., (1996). It is generally reported in conjunction with RMSEA, and in a well-fitting model, the lower limit is close to 0 while the upper limit should be less than 0.08. For more on the model, fit guidelines, see Hooper et al. (2008).

Results of CFA are shown in Figure 1, and in Table 1, model fit statistics are displayed. Chi-square value (2.755) clearly indicates that the for Model with 28 items does not fit the data well, so by looking at the modification indices, we need to improve the model. The factor loadings are having values more than 0.5 is acceptable (Hair et al., 2010). Looking at the indices, one is quite confident that the model fits the data well and can be used in the Saudi educational milieu with ease and poise.

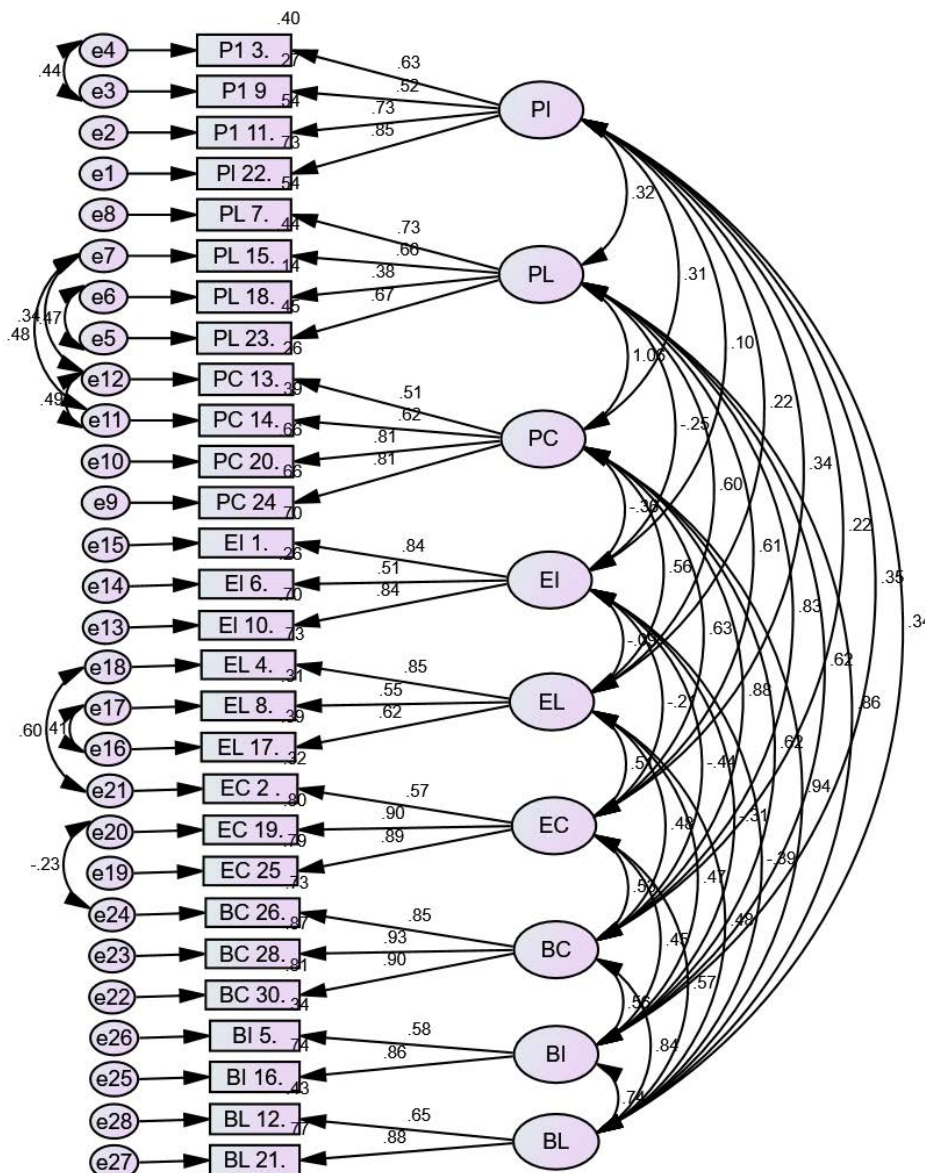


Figure 1: Confirmatory Factor Analysis for Ethical Climate Measure

Table 1: Fit Statistics for Measurement Models of Ethical Climate Instrument

Model (CFA)	χ^2/df	GFI	CFI	RMSEA	AIC	BCC	BIC	CAIC
28 items	2.755	0.889	0.900	0.060 (0.058-0.065)	1043.05	1063.84	1416.38	1516.38

3.3. Reliability: Nunnally (1978) suggested that a large coefficient α ($\alpha > 0.70$) is an indication of substantial item homogeneity and suggests that the sampling sphere has been adequately captured. Cronbach's α for the nine dimensions ranged from (0.670 -0.923) thus indicating a good structure.

Table 2: Inter-item Consistency for Ethical Climate

Ethical Criteria + Locus of Analysis	Items	Cronbach's α
Self-Interest (EI)	3	0.754
Institutional Benefit (EL)	3	0.752
Efficiency (EC)	3	0.812
Friendship (BI)	2	0.670
Team Interest (BL)	2	0.719
Social Responsibility (BC)	3	0.923
Personal Morality (PI)	4	0.730
Rules, SOPs (PL)	4	0.734
Laws, Professional Codes (PC)	4	0.812
Total Items	28	

4. Discussion/Future Implications:

For the current study, 26 items were imitated from the questionnaire developed by (Victor & Cullen, 1987, 1988). Two more items for BC were added from Cullen et al. (1993) to address the problem of identification in CFA. Findings of the current study are surprising for being the first such study to reveal the existence of all nine theoretical climates. These findings are inconsistent with earlier studies that aimed to investigate the validity of the nine climates proposed by Cullen et al. (1993). No prior study is mentioning the emergence of all nine climates (Ambrose, Arnaud, & Schminke, 2007; Cullen, Parboteeah, & Victor, 2003; Peterson, 2002a). Previous research articles were different in terms of the number of the emergent climates which ranged from five to eight (Agarwal & Malloy, 1999; Yener et al., 2012; Cullen et al., 1993; Grobler, 2016; Cullen et al., 2003; Putranta, 2008; VanSandt, 2001; Vaicy, Barnett & Brown, 1996; Wimbush et al., 1997). However, these findings are consistent with previous studies that concluded that distinct types of EC exist across different institutions (Agarwal & Malloy, 1999; Yener et al., 2012; Cullen et al. (1993); Grobler, 2016; Cullen et al., 2003; Putranta, 2008; VanSandt, 2001; Vaicy, Barnett & Brown, 1996; Wimbush et al., 1997). Nine EC dimensions have been identified in this study. Results of the present research revealed that benevolent climates, namely friendship, team interest, social responsibility, do exist in educational offices. This means that benevolence was perceived as a standard of ethical practice across individual and institutional levels as well as the social level in their educational office. This might refer to the profoundly implicit collective expectation among educational supervisors that they should be concerned with the well-being of each other for the sake of having a caring work environment. In Islamic Arabian culture, like in KSA, people are internally motivated by their Islamic and Arabian values to demonstrate altruistic behaviors in their daily practices and sacrifice their personal interests when it comes to the group interests. Parboteeah et al. (2005) argued that individuals of some cultures have strong ties that drive them to care about the well-being of their group at the expense of the own interest when it stands incongruent with that of the group. Furthermore, Putranta (2008) reported that educational institutions adopt caring atmospheres in which individuals are often required to behave in a helpful manner with their colleagues.

Findings also revealed that discussed principle ethical climates do exist in educational offices. This means that principle is a governing aspect of ethical practice among educational supervisors. In these offices, it seems that there is a tendency to display a robust normative behavior and behave within the framework of rules and laws.

Educational offices belong to the governmental sector in which adherence of codes of ethics is recognized and required. Moreover, educational offices, like other educational institutions, abound with procedural manuals, regulations, and ethical codes to fulfill institutional goals, and hence they strive to develop and nurture adherence to them among educators for the sake of providing a measure of governance over the actions and behaviors of educators. In line with this interpretation, Putranta (2008) clarified that idealistic orientations could nurture among employees when they perceive their institution highly supports adherence to principles and rules. The findings also revealed that egoistic climates, namely self-interest, institutional benefit, efficiency, do exist in educational offices. This means that egoism is one feature of ethical practice in educational institutions. Egoistic climates emerge when there is a tendency to maximize one's own interest at the expense of other constituents (Barnett & Schubert, 2002; Putranta, 2008). Likewise, educational institutions, although characterized by prevalent benevolent climates, are not far removed from having such egoistic climates that can be noticed in the practices of some individuals seeking to maximize their own interests at the expense of their colleagues' interests or their institution's goals. Such egoistic climates may also appear in the educational institution's endeavors to achieve its institutional goals, albeit at the expense of its staff's goals, needs, and expectations.

As Peterson (2002a, 2002b) stated that CFA also showed the original nine-factor model (Victor & Cullen, 1987) as the preferred fitting model, and thus the outcome of their studies could consequently be used as a basis for prospective research work, and also for measuring EC in the Saudi educational context. As we have distinct educational contexts that represent various levels including the executive level (school context), middle-level management (educational directorates and educational offices), and top-level management (the ministry of education) as well the academic context (higher education institutions); researchers should continue to address measurement issues of ECQ. In line with the Kingdom's 2030 vision that calls for enhancing transparency and, accountability and creating ethical work environments in both profit and nonprofit sectors, the need for knowledge about EC, its continuities and extensions, and its relationships with various aspects of individual behaviors and institutional outcomes appear to be a continuous quest.

5. Conclusion

The current study provides evidence concerning the psychometric properties of the Ethical Climate questionnaire using data of 309 educational supervisors working in the educational offices located in six districts of Jeddah, Saudi Arabia. The instrument exhibited a nine-factor structure, consisting of 28 items rather than 26 items. The measure of Ethical Climate has satisfactory reliability, validity, and fit for use in the Saudi educational context. Consistent with the theoretical framework provided by Victor and Cullen (1987,1988) and the 36-item questionnaire developed by Cullen et al. (1993). Findings identified nine emergent climates (3 benevolent climates, three egoistic climates, and three principled ones) in the educational context in Saudi Arabia. Thus, such findings provide evidence for the multidimensionality of the Ethical Climate Questionnaire as well as the typology of ethical climate types proposed by Victor and Cullen (1987, 1988) and Cullen et al. (1993).

Considering the pressing need for a valid and reliable measure for the ethical climate in the Saudi educational context future research is recommended to be conducted using larger samples representing various educational communities across the Kingdom to address measurement and validation issues using both the proposed model with 28-items and the original 36-items of ECQ.

6. Limitations

- a. The data was collected from just one city, but for generalization of the results, data from all cosmopolitan cities be collected in the future. Research on larger samples collected from various educational institutions across the country is required to reach a deeper insight into the real nature of the typology of ethical climate.
- b. This research addressed EC through a self-reported survey; however, for a broader understanding of EC in the Saudi context, qualitative research, such as structured interviews and case studies, are also recommended. A mixed research approach shall be conducted as the present study focuses on just the quantitative aspect of the issue.

c. The present study just focuses on educational supervisors. It can be extended to encompass pedagogical staff in educational institutions to enhance the appreciation of Ethical climate issues for all stakeholders in an educational set-up.

Acknowledgments: This work is supported by the Deanship of Scientific Research (DSR) at King Abdulaziz University, Jeddah, under grant No. (G: 1270-324-1440). The authors, therefore, gratefully acknowledge the DSR technical and financial support.

Conflicts of Interest: The authors declare no conflict of interest regarding this article.

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