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Suzan CANLI

Niğde Ömer Halisdemir University, canlisuzan@gmail.com

Yalçın ÖZDEMİR

Niğde Ömer Halisdemir University, yalosedemir@gmail.com

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The Impact of Organizational Climate on Organizational Creativity in Educational Institutions

Suzan Canlı

Niğde Ömer Halisdemir University

Yalçın Özdemir

Niğde Ömer Halisdemir University

Abstract

The present study aimed to investigate the impact of organizational climate on organizational creativity based on the perceptions of teachers employed in secondary education institutions. The study sample included 275 teachers assigned with the cluster sampling method. The Organizational Creativity Scale and the School Climate Scale were employed to collect the study data. Descriptive and hierarchical regression analyses were used to analyze the study data. The study findings demonstrated that organizational climate affects organizational creativity and subdimensions. It was found that organizational climate affects administrative creativity the most and individual creativity the least. Organizational climate dimensions that affected organizational creativity were *leadership and interaction* and *sincerity*. Organizational climate dimensions that affected individual creativity were *democracy and commitment to school*, *achievement factors*, and *conflict*. The organizational climate dimension that affected administrative creativity was *leadership and interaction*. Organizational climate dimensions that affected social creativity were *leadership and interaction* and *sincerity*.

Keywords: Organizational creativity, organizational climate, school, teacher

Introduction

The potential of humans to intervene in current conditions based on their desires depends significantly on individual attributes as well as social conditions. Among these attributes, creativity is quite important. Creativity is a skill necessary for individual success in business life (Wagner, 2008). Furthermore, the fact that the long-term survival and success of an organization depend on its adaptation to increasing social, economic, and technological advances (Mathisen & Einarsen, 2004) has led to a requirement to employ creative individuals who can predict and adapt to organizational changes. This need has imposed the responsibility to develop the creativity of individuals within educational organizations, which play the most important role in the education of individuals (Ebneroumi & Rishehri, 2011).

The rhetoric on creativity in education includes educational policies, approaches, and practices to encourage creativity in schools (Harris & De Bruin, 2018). Therefore, studies have been conducted on creative schools, creative teachers, creative students, creative school leader attributes, the impact of learning environments on creativity, and the factors that improve or obstruct creativity in schools (Besançon & Lubart, 2008; De Bruin & Harris, 2017; Ebneroumi & Rishchri, 2011; Morais & Azevedo, 2011; Zhang et al., 2020). These studies have demonstrated that teachers and school administrators are required to be creative and provide an environment that can develop student creativity. Hence, organizational creativity should be high in schools, and factors that could affect organizational creativity should be identified. Given that the environment affects creativity (Licul & Juriševič, 2020), we suggest that the organizational climate, which reflects the characteristics of the school environment, could affect the creativity in schools. Thus, whether organizational climate affects organizational creativity in schools should be investigated to instill an organizational climate that would promote organizational creativity. The present study aimed to determine whether the organizational climate affects organizational creativity in schools and the degree of this effect if it exists. However, both organizational climate and organizational creativity include more than one dimension. For this reason, the study investigated whether the organizational climate affected the subdimensions of organizational creativity and the degree of these effects if they exist. Furthermore, we also investigated the organizational climate dimensions that affect organizational creativity and its subdimensions. The determination of the impact of organizational climate on organizational creativity, when controlling for the effects of demographic variables that could affect the organizational creativity perceptions of individuals, would contribute to the comprehension of the effect size. Thus, we investigated the effects of demographic variables on organizational creativity and analyzed the effect of organizational climate on organizational creativity when these effects were controlled. We hope that the present study will contribute to the development of administrative planning and policies to create organizational climates that will allow the improvement of organizational creativity in schools by focusing on organizational climate dimensions that affect organizational creativity and its subdimensions.

Purpose of the Study

The present study aimed to determine the impact of organizational climate on organizational creativity based on the perceptions of teachers employed in secondary education institutions. For this purpose, we sought answers to the following questions:

1. What are the perceptions of teachers about organizational climate and organizational creativity?
2. Are the demographic variables (gender, school type, seniority, and branch) a significant predictor of the perceptions of teachers about organizational creativity and its subdimensions?
3. Are the perceptions of teachers about organizational climate a significant predictor of their perceptions about organizational creativity and its subdimensions when the possible effects of the demographic variables (gender, school type, seniority, and branch) are controlled?

Literature Review

Creativity

Creativity has been widely studied by all scientific-metaphysical fields to understand humans. Thus, creativity has been defined in various ways. Kim (2019) stated that several myths, such as that creativity could be noticed immediately, creative people always work alone, creativity is a divine inspirational glow, innovation is a precondition for creativity, and creativity is an artistic phenomenon, have prevented the understanding of creativity, and by contrast, they described it as a process to achieve an innovation in all fields. Originality (Dimmock, 1986) was defined as the development of novel and potentially beneficial products, ideas, or procedures for an institution (Oldham & Cummings, 1996, as cited in Livingstone et al., 2002), and creativity was described as “the production of original and beneficial ideas in any field” (Amabile et al., 1996, p. 1155). Surkova (2012) attempted to develop an analytical framework for creativity and reported that the historical approach to the concept changed from being a divine phenomenon to being a human attribute. Thus, Surkova (2012) stated that all descriptions of creativity with a human-centered approach that considers it a learnable, and hence teachable, phenomenon in the twentieth century emphasized that the ultimate sense of creativity entails the renewal of the content of any phenomenon.

One of the important debates on creativity involves whether it is an innate biological attribute or an environmental-social phenomenon. Walker (1986), in a study titled “Silvano Arieti’s Creativity: The Magic Synthesis,” stated that the unusual increase in the number of creative geniuses in different historical periods and in different societies demonstrates that creativity is a phenomenon influenced by historical-spatial and environmental factors rather than a biological phenomenon. Walker (1986) emphasized the concept of the “golden environment,” an environment that allows creativity, and stated that certain common attributes were determined in studies on various golden environment descriptors. These golden environment attributes include certain preconditions such as justice, equity, economic welfare, and freedom, as well as a healthy psychological climate, adequate cultural resources, important individuals who could guide the society, sufficient incentives, and a tolerance for differences that lead to creativity. Thus, the conception that creativity is affected by environmental factors that affect the individual as well as personal attributes led to the organizational approach to creativity, especially in administrative sciences, and creativity studies have focused on the interaction between organizational and individual attributes (Livingstone et al., 2002).

Organizational Creativity

The concept of organizational creativity was emphasized by the approach that addressed creativity as a phenomenon that includes the individual but also is affected by the environmental factors that condition the individual. Hence, the efforts to investigate this concept were not spent only in administrative sciences, but the concept was also popular in several social sciences such as sociology, psychology, etc. (Borghini, 2005). Since we live in an era in which creativity makes a difference,

researchers have emphasized that creative organizations would differentiate (Gloor et al., 2010). Others have argued that creativity is a necessary attribute for the survival of an organization (Bourguignon, 2006). Therefore, organizational creativity was defined as the development of a valuable, useful, and novel product, service, idea, procedure, or process by collaborating individuals in a complex social environment (Woodman et al., 1993).

Several authors (Borghini, 2005; Drazin et al., 1999) have suggested that organizational creativity analyses should entail various analysis levels such as intertwined and correlated, intra-subject (individual), inter-subject (group), and collective (organizational) analyses. Thus, according to Woodman et al. (1993), individual characteristics, one of the factors that shape organizational creativity, include cognitive skills/styles, personality, internal motivation, and knowledge, while group characteristics include norms, cohesiveness, group size, diversity, roles, tasks, and problem-solving approaches. On the other hand, organizational characteristics include culture, resources, awards, strategy, structure, and technology. These three components lead to organizational creativity by affecting the creative process and situation. According to Andriopoulos (2001), organizational creativity is determined by the interaction among five dimensions: “organizational climate,” “organizational culture,” “organizational structure and systems,” “leadership style,” and “organizational resources and skills.” The present study discusses individual creativity, which indicates the personal creativity of teachers, and social creativity, which indicates the creativity of colleagues. Administrative creativity reflects the administrative behaviors that support the creativity of employees (Balay, 2010).

Organizational Climate

Organizational climate offers important potential to understand and define all individual behavior within the organization, including creativity (Hellriegel & Slocum, 1974). Several studies have been conducted on organizational climate, especially since the 1960s and 1970s (Thumin & Thumin, 2011), and several authors have attempted to define the concept. According to Woodman and King (1978, p. 817), the earliest definition of the concept was published by Forehand and Von Haller Gilmer in 1964, who stated that “organizational climate was a set of characteristics that defines an organization and (a) distinguishes it from other organizations, (b) is relatively permanent over time, and (c) influences the behavior of individuals in the organization.” Several others have attempted to define the concept since then. In one of these definitions, organizational climate has been described as a set of characteristics/attributes that could be associated with a particular organization and may result from the way the organization deals with its members and the environment (Hellriegel & Slocum, 1974). In another, organizational climate is defined as the shared perceptions of organization employees and the meaning they assign to organizational policies, practices and procedures, as well as the behaviors that were perceived as being rewarded, supported, and expected from the employees (Schneider et al., 2013, as cited in Schaufeli, 2016). Further definitions characterize organizational climate as the awareness of the organization members about the organizational operations based on their experiences (Prasad & Sagi, 1982) or the collective perceptions of the members about conceptual dimensions such as autonomy, trust, harmony, approval, innovation, and justice created by the interactions of the members (Fidan & Öztürk, 2015). While certain definitions have claimed that the concept was a subjective phenomenon, others have emphasized its objectivity. Finlayson (1975) argued that the emphasis on objectivity refers to the physical, social, and behavioral

environments of the individual, while the emphasis on subjectivity indicates the perceptions of the individual members of an organization, and the distinction has led to certain methodological differences in the measurement of organizational climate. However, Prasad and Sagi (1982) maintained that the concept is both a subjective and objective phenomenon since it leads to a reality that can be perceived by all individuals, albeit differently, since it refers to individual perceptions.

Factors such as prevailing economic conditions in the organization, organizational efficiency criteria, socialization processes, standards, reward procedures, behavioral norms, physical conditions, and administrative policies are among the determiners of organizational climate (Turnipseed, 1988). Bohorquez et al. (2020), on the other hand, reported that theoretical organizational climate models list certain climate variables such as organizational structure, responsibility, rewards, moderation, support structure, organizational rules, disagreement and identity, command methods, motivational powers, communication processes, decision-making, planning, supervision and performance goals, compliance, responsibility, success standards, organizational openness, security and pay, autonomy, physical dimension, evaluation, interpersonal relations, participation, leadership, systemic behavior, consensus, etc. De Cotiis and Koys (1980) reported five basic dimensions of organizational climate: “autonomy,” “trust,” “compliance,” “pressure,” “support,” “recognition,” “justice” and “innovation.” In the present study, organizational climate was based on the following dimensions: *democracy and school commitment*, a democratic environment and committed teachers in the school; *leadership and interaction*, a principal with leadership attributes and positive principal-teacher interaction; *success factors* that include the efforts to improve school achievements; *sincerity* among colleagues; and *conflict* experienced at school (Canlı et al., 2018).

Several studies on organizational climate have demonstrated the role of organizational climate in the recognition of organizational behavior. Researchers have reported that a positive organizational climate improved the commitment of the employees to the organization (Çekmecelioglu, 2006; Yüceler, 2009), that there was a direct correlation between organizational climate and employee motivation (Gök, 2009), and that it positively affected job satisfaction (Doğan & Üngüren, 2012). On the other hand, others have reported the detrimental effects of perceived negative organizational climate on organizations. Negative organizational climate was one of the important causes of unethical organizational behavior (Büte, 2011) and increased job alienation (Demirez & Tosunoğlu, 2017).

The Correlation Between Organizational Climate and Organizational Creativity

After it was conceived that organizational creativity was a result of the personal traits of the individuals in the organization and the interaction between certain organizational attributes, the concept of organizational climate became significant as an organizational attribute. Researchers have reported a positive correlation between organizational climate and organizational creativity (Rasulzada & Dackert, 2009) and have described organizational climate as the most important factor that affects organizational creativity (Kallio et al., 2015). Previous studies have found that perception about climate was a significant mediator of the correlation between work outputs such as creativity attitudes, motivation and psychological well-being, and organizational character (Roy & Gupta,

2012), and the organizational climate adequate for creativity also strengthened the correlation between organizational and employee performance (Esch et al., 2018). Thus, certain dimensions of organizational climate required for a creative organization include emotional participation of organization members in organizational actions and goals, freedom of behavior, the organizational method to address new ideas, emotional security in organizational relations, the availability of time to elaborate new ideas, tolerance to uncertainties, etc. (Ekvall, 1996, as cited in Olsson et al., 2019).

As formal organizations, although schools are subject to the same regulations, authority hierarchy, and reward-punishment systems within a country, there are differences and similarities among the schools and the members, and observations are significantly different in each school (Ross, 1976). Organizational climate is manifested as the school climate in educational institutions. School climate can be described as a series of internal attributes that differentiate schools and affect the behavior of the members (Xiaofu & Qiwen, 2007) and as an internal attribute perceived and experienced by school members (Lavian, 2012). Vejian et al. (2016) reported that the presence of a school climate that allows creativity would support the learning and instruction processes in the school and improve the performance of students and teachers, facilitating the achievement of their goals.

Cummings (1965) noted several attributes that could describe a creative organization. These include the absence of overly deterministic attitudes toward human resources, flexible structure, a flexible power-authority-effect structure, open communication channels, an effort to institutionalize the organizational reward system, etc. Studies conducted on different levels of educational institutions including primary and tertiary education have also evidenced the correlation between school climate and organizational creativity. Gao et al. (2019) concluded that student perceptions about the school climate in primary schools in China affected their creativity and motivation for success and emphasized the significance of an open, tolerant, and innovative school climate. Similarly, Ekvall and Ryhammar (1999) reported that the factors including physical resources such as communication technologies, library services, etc., and organizational climate, which they described as the prevailing psychological environment, affected organizational creativity the most in universities.

Method

The present study was conducted with correlational research model. The correlational research model describes a current situation and investigates the correlation between two or more variables and the degree of this correlation (Gay et al., 2012). It determines the impact of a variable on the other variable (Walliman, 2011). In the present study, the impact of organizational climate on organizational creativity was investigated based on the perceptions of teachers employed in secondary education institutions.

Participants

The study population included teachers employed in secondary schools in the central district of Niğde province in Turkey. There are different types of secondary education institutions in Turkey. Thus, it could be suggested that the population includes various clusters, and a sample should be selected from these clusters to represent the population. Therefore, the cluster sampling method was employed in the study. In the cluster sampling method, the population is first divided into clusters, and sample subjects are assigned from each cluster (Cohen et al., 2007). In the present study, seven vocational high schools and six Anatolian high schools were included in the cluster, and volunteering teachers employed in these schools were assigned to the study sample. Thus, 275 teachers employed in 13 secondary education institutions were included in the study sample. Among the participants, 132 (48.0%) were female, and 143 (52.0%) were male; 156 (56.7%) of the participants were employed in vocational high schools, and 119 (43.3%) in Anatolian high schools. There were 84 (30.5%) of the participants who had been employed for 10 years or less; 105 (38.2%) had been employed between 11 and 20 years, and 86 (31.3%) had been employed for 21 years or more. Vocational teachers comprised 67 (24.4%) of the participants, and 208 (75.6%) of them were in other branches.

Data Collection Tools

We used the Organizational Creativity Scale developed by Balay (2010) to determine organizational creativity in the study and the School Climate Scale developed by Canlı et al. (2018) to determine organizational climate.

Organizational Creativity Scale

The scale includes three subdimensions and 38 items. The individual creativity dimension includes 16 items, the administrative creativity dimension includes 11 items, and the social creativity dimension includes 11 items. This five-point Likert-type scale was graded with the following options: "I completely disagree," "I somewhat agree," "I moderately agree," "I agree," and "I completely agree." An arithmetic mean of the scale between 3.40 and 5.00 indicates a sufficient level, between 2.60 and 3.39 indicates a moderate level, and between 1.00 and 2.59 indicates an inadequate level of organizational creativity. The Cronbach's alpha internal consistency coefficient of the scale is 0.92 in individual creativity, 0.93 in administrative creativity, and 0.95 in social creativity (Balay, 2010). In a study conducted by Fidan (2018) in secondary education institutions, the scale fit index values were determined as $\chi^2/sd = 1.07$, RMSEA = 0.014, GFI = 0.99, AGFI = 0.99, NFI = 0.99, CFI = 1.00, and IFI = 1.00. The Cronbach's alpha internal consistency coefficient of the scale was 0.96 for individual creativity, 0.97 for administrative creativity, .097 for social creativity, and 0.97 for the scale total. In the present study, the Cronbach's alpha internal consistency coefficient was 0.909 for individual creativity, 0.929 for administrative creativity, 0.909 for social creativity, and 0.946 for the overall scale. In the scale, arithmetic means between 1 and 1.79 were considered "I completely disagree," between 1.80 and 2.59 was considered "I somewhat agree," between 2.60 and 3.39 was considered "I moderately agree," between 3.40 and 4.19 was considered "I agree," and between 4.20 and 5.00 was considered as "I completely agree." Some items in the subdimensions of the organizational creativity scale are presented below.

Individual creativity: “I try to turn potential opportunities into tangible benefits through competition.” “I try to produce original ideas and invent by reaching beyond mediocrity.”

Administrative creativity: “Administrators bend the rules when necessary for the development and implementation of new ideas.” “Administration provides an adequate environment that would allow the employees to think and act freely.”

Social creativity: “My colleagues try to develop various problem-solving alternatives.” “My colleagues try to implement even opposing ideas when necessary.”

School Climate Scale

The scale includes five dimensions and 23 items. The democracy and commitment to school dimension includes 6 items, the leadership and interaction dimension includes 6 items, the achievement factors dimension includes 4 items, the sincerity dimension includes 3 items, and the conflict dimension includes 4 items. The items in the conflict dimension of the scale are inverse-scored. The scale is a five-point Likert-type, and it is graded with “never,” “seldom,” “sometimes,” “mostly,” and “always” options. The scale fit index values are $\chi^2/df = 3.080$, GFI = 0.910, AGFI = 0.886, NNFI (TLI) = 0.926, CFI = 0.937, RMSEA = 0.059, and RMR = 0.057. The Cronbach’s alpha internal consistency coefficient of the scale was 0.908 for democracy and commitment to school, 0.897 for leadership and interaction, 0.753 for achievement factors, 0.852 for sincerity, and 0.730 for conflict dimensions (Canlı et al., 2018). In the present study, the Cronbach’s alpha internal consistency coefficient was 0.85 for democracy and commitment to school, 0.892 for leadership and interaction, 0.785 for achievement factors, 0.810 for sincerity, 0.758 for conflict dimensions, and 0.922 for the overall scale. In the scale, arithmetic means 1–1.79 were interpreted as “never,” 1.80–2.59 as “seldom,” 2.60–3.39 as “sometimes,” 3.40–4.19 as “mostly,” and 4.20–5.00 as “always.” Some items in the subdimensions of the school climate scale are presented below.

Democracy and commitment to school: “In our school, the individual differences among the teachers are respected.” “Teachers embrace the school.”

Leadership and interaction: “Our school principal adopts fair administrative practices (disciplinary practices, course distribution, task distribution, etc.) for the teachers.” “The teachers in our school easily communicate their requests to the school principal.”

Achievement factors: “Employees at our school fulfill their responsibilities.” “Teachers exhibit high performance levels.”

Sincerity: “Employees at our school meet outside of the school.” “Employees at our school work in harmony.”

Conflict: “The atmosphere is tense in our school.” “The employees experience communication problems.”

Data Collection and Analysis

Before collecting the study data, we obtained Niğde Provincial Directorate of National Education approval to conduct the study. Then, we visited the secondary education institutions, informed school principals about the study, and obtained their approval to apply the scales. We explained aim of the study was explained to the teachers and provided the scales to those who volunteered to participate in the study. As the teachers completed the scales, the authors remained at the school.

Thus, we were able to answer possible participant questions about the scale items to ensure the health of the process. The teachers completed the scales in approximately 15 minutes.

The scales were completed by 298 teachers in the study; 16 of these were not included in the analysis since these teachers did not provide demographic data or left more than 10% of the scale items uncompleted. We analyzed the remaining 282 scales for outliers, determined outliers in 7 forms based on the Mahalanobis distance values, and excluded these from the analysis. We calculated skewness and kurtosis values, and since the skewness was between -1 and +1 and kurtosis was between -1 and +2, the data were distributed normally (Huck, 2008, as cited in Seçer, 2017). Using the SPSS 21 software package, we analyzed the study data with descriptive statistics and hierarchical regression analysis. Descriptive statistics allow the determination of the perception levels of the individuals through the analysis of the average perceptions. In the first subproblem of research, descriptive statistics were employed since the aim was to determine the perception levels of the participants about organizational creativity and organizational climate. The organizational climate scale that we employed in the study included more than one dimension. Thus, the number of independent variables was more than one. Furthermore, the possible effects of demographic variables on organizational creativity and subdimensions should be controlled to clearly determine the impact of organizational climate on organizational creativity and subdimensions. Accordingly, the second subproblem of the research aimed to determine the effects of demographic variables on organizational creativity. The third subproblem aimed to determine the impact of organizational climate on organizational creativity when controlling for the effects of demographic variables on organizational creativity and subdimensions. Hence, to solve the second and third subproblems, we employed a hierarchical regression analysis to investigate the effects of several independent variables on the dependent variable, to determine the effect size of each independent variable when the effects of other variables are controlled, and to analyze the variables in the desired order.

To include categorical variables in hierarchical regression analysis, dummy variables should be created (Field, 2009). Thus, gender (female 1, male 0), professional seniority (1 for 10 years or less, 0 for others; 1 for 11–20 years, 0 for others; reference variable: 21 years or above), school type (vocational 1, Anatolian 0), and branch (vocational 1, other 0) dummy variables were created. To avoid autocorrelation in the data, the Durbin Watson coefficient should be between 1 and 3 (Field, 2009). In the present study, the Durbin Watson coefficient was between 1.950 and 2.182. To avoid multicollinearity in the data, the tolerance should be greater than 0.10 and the VIF should be less than 10 (Pallant, 2017). In the present study, the tolerance was between 0.357 and 0.948. and the VIF was between 1.054 and 2.802. In the regression analysis, the R^2 value of 0.02 was interpreted as small, 0.13 as medium, and 0.26 as large effect size (Cohen, 1988).

Results

Table 1 shows the results of the participants' perceptions of organizational creativity and organizational climate. As Table 1 shows, the individual creativity ($\bar{X} = 3.79$), administrative creativity ($\bar{X} = 3.44$), and organizational creativity ($\bar{X} = 3.56$) perceptions of the teachers were at the "agree" level, while their social creativity ($\bar{X} = 3.33$) perceptions were at the "moderately agree" level. This demonstrated that organizational creativity was at an adequate level in these secondary education institutions. However, it also demonstrated that individual and administrative creativity was adequate, while social creativity was only moderate.

Table 1

Participant Perceptions of Organizational Creativity and Organizational Climate

Scale/subdimension	\bar{X}	Level
Individual creativity	3.79	Agree
Administrative creativity	3.44	Agree
Social creativity	3.33	Moderately agree
Organizational creativity	3.56	Agree
Democracy and commitment to school	3.93	Mostly
Leadership and interaction	3.95	Mostly
Achievement factors	3.75	Mostly
Sincerity	3.68	Mostly
Conflict	2.44	Seldom
Organizational (school) climate	3.81	Mostly

Teacher perceptions of democracy and commitment to school ($\bar{X} = 3.93$), leadership and interaction ($\bar{X} = 3.95$), achievement factors ($\bar{X} = 3.75$), sincerity ($\bar{X} = 3.68$) and organizational climate ($\bar{X} = 3.81$) were at the "mostly" level, while conflict ($\bar{X} = 2.44$) perceptions were at the "seldom" level. This finding demonstrated that the organizational climate was positive in these secondary education institutions.

Table 2 presents the results of the hierarchical regression analysis conducted to investigate the effects of teacher demographics on their perceptions of individual creativity and to determine the effect of teacher perceptions of organizational climate on their perceptions of individual creativity when controlling for the effects of demographic variables. As Table 2 shows, the demographic variables set did not significantly predict individual creativity ($p > 0.001$). Based on this finding, it could be suggested that the demographic variable set did not affect individual creativity.

Table 2

Hierarchical Regression Analysis Results on the Prediction of Individual Creativity

Predictor	Model 1			Model 2		
	B	β	t	B	β	t
Gender (female)	-2.568	-.141	-2.291*	-2.345	-.129	-2.326
School type (vocational)	.171	.009	.136	-.598	-.033	-.520
Branch (vocational)	1.644	.078	1.140	2.600	.123	1.996
Seniority (10 years or less)	.193	.010	.135	-1.149	-.058	-.880
Seniority (11–20 years)	.919	.049	.686	-.296	-.016	-.243
Democracy and commitment to school				.472	.212	2.357*
Leadership and interaction				.149	.077	.947
Achievement factors				.588	.187	2.357*
Sincerity				.393	.097	1.399
Conflict				.374	.139	2.298*
R^2	.027			.235		
ΔR^2	.027			.208		
p	.186			.000		

*p < 0.05

Only gender significantly predicted individual creativity ($t = -2.291$, $p < 0.05$). Based on this finding, it could be suggested that gender affected individual creativity. When controlling for the possible effects of demographic variables, the organizational climate dimensions explained 20.8% ($\Delta R^2 = .208$) of the variance in individual creativity. Thus, organizational climate dimensions had a moderate impact on individual creativity. Only democracy and commitment to school ($t = 2.357$, $p < 0.05$), achievement factors ($t = 2.357$, $p < 0.05$), and conflict ($t = 2.298$, $p < 0.05$) were the significant predictors of individual creativity. Based on this finding, it could be suggested that only democracy and commitment to school, achievement factors, and conflict affected individual creativity. The order of prediction significance was democracy and commitment to school ($\beta = .212$), followed by achievement factors ($\beta = .187$) and conflict ($\beta = .139$). Based on this finding, the order of the effect size of organizational climate dimensions on individual creativity was democracy and commitment to school, achievement factors, and conflict, respectively. Figure 1 presents the factors that affect individual creativity.

Figure 1

Factors that Affect Individual Creativity

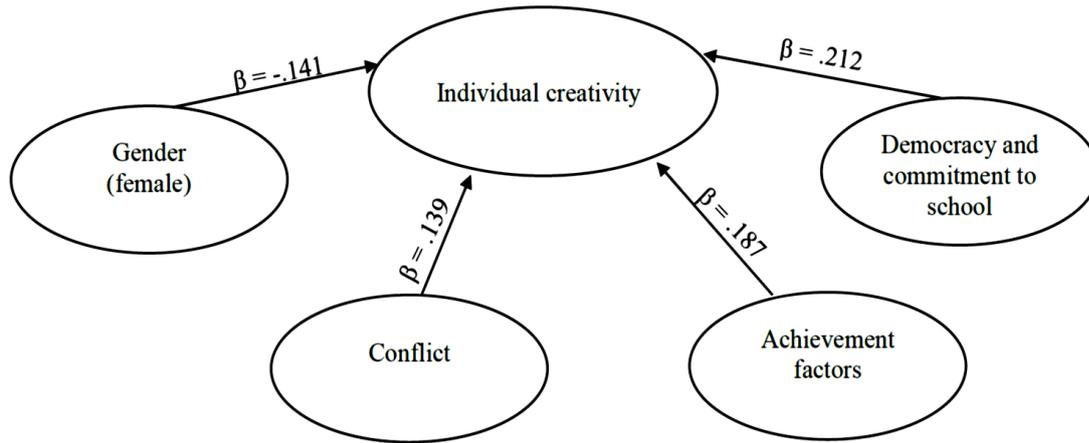


Table 3 presents the results of the hierarchical regression analysis conducted to determine the effects of teacher demographics on their perceptions of administrative creativity and to determine the impact of teacher perceptions of organizational climate on administrative creativity perceptions when controlling for the demographic variables. As Table 3 shows, the demographic variables set did not significantly predict administrative creativity ($p > 0.001$). This finding suggests that the demographic variable set did not affect administrative creativity. When controlling for the possible effects of demographic variables, the organizational climate dimensions explained 46.5% ($\Delta R^2 = .465$) of the variance in administrative creativity. This demonstrated that organizational climate dimensions had a high impact on administrative creativity.

Table 3

Hierarchical Regression Analysis Results on the Prediction of Administrative Creativity

Predictor	Model 1			Model 2		
	B	β	t	B	β	t
Gender (female)	-1.043	-.057	-.919	-1.315	-.072	-1.577
School type (vocational)	-.344	-.019	-.270	-2.083	-.113	-2.189
Branch (vocational)	2.763	.130	1.892	3.846	.180	3.568
Seniority (10 years or less)	-.594	-.030	-.411	-1.917	-.096	-1.774
Seniority (11–20 years)	-.826	-.044	-.608	-2.417	-.128	-2.399
Democracy and commitment to school				-.057	-.025	-.344
Leadership and interaction				1.405	.722	10.812*
Achievement factors				-.159	-.050	-.771
Sincerity				.157	.039	.676
Conflict				.037	.014	.275
R^2		.021			.486	
ΔR^2		.021			.465	
p		.320			.000	

* $p < 0.05$

Only leadership and interaction ($t = 10.812$, $p < 0.05$) was a significant predictor of administrative creativity. This finding suggests that leadership and interaction affected administrative creativity. Figure 2 presents factors that affect administrative creativity.

Figure 2

Factors that Affect Administrative Creativity

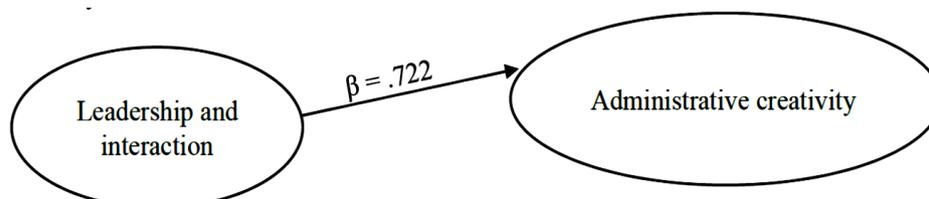


Table 4 presents the results of the hierarchical regression analysis conducted to determine the effects of teacher demographics on their perceptions of social creativity and to determine the impact of teacher perceptions of organizational climate on their perceptions of social creativity when controlling for demographic variables. As Table 4 shows, the demographic variables set did not significantly predict social creativity ($p > 0.001$). This finding suggests that the demographic variable set did not affect social creativity. When controlling for the possible effects of demographic variables, the organizational climate dimensions explained 25.7% ($\Delta R^2 = .257$) of the variance in social creativity. This demonstrated that organizational climate dimensions had a moderate effect on social creativity.

Table 4

Hierarchical Regression Analysis Results on the Prediction of Social Creativity

Predictor	Model 1			Model 2		
	B	β	t	B	β	t
Gender (female)	-1.460	-.098	-1.578	-1.245	-.084	-1.545
School type (vocational)	-.210	-.014	-.203	-.924	-.062	-1.004
Branch (vocational)	.943	.054	.793	1.603	.092	1.538
Seniority (10 years or less)	-.766	-.047	-.650	-2.026	-.125	-1.940
Seniority (11–20 years)	-.145	-.009	-.131	-1.498	-.098	-1.538
Democracy and commitment to school				.077	.042	.483
Leadership and interaction				.380	.241	3.026*
Achievement factors				.373	.144	1.868
Sincerity				.696	.210	3.094*
Conflict				.103	.047	.794
R^2		.016			.273	
ΔR^2		.016			.257	
p		.516			.000	

* $p < 0.05$

Only the leadership and interaction ($t = 3.026, p < 0.05$) and sincerity ($t = 3.094, p < 0.05$) dimensions were significant predictors of social creativity. Based on this finding, leadership and interaction and sincerity affected social creativity. The predictive significance rank is leadership and interaction ($\beta = 0.241$) followed by sincerity ($\beta = 0.210$). Based on this finding, the order of the effect size of the organizational climate dimensions on social creativity was leadership and interaction and sincerity, respectively. Figure 3 presents the factors that affect social creativity.

Figure 3

Factors that Affect Social Creativity

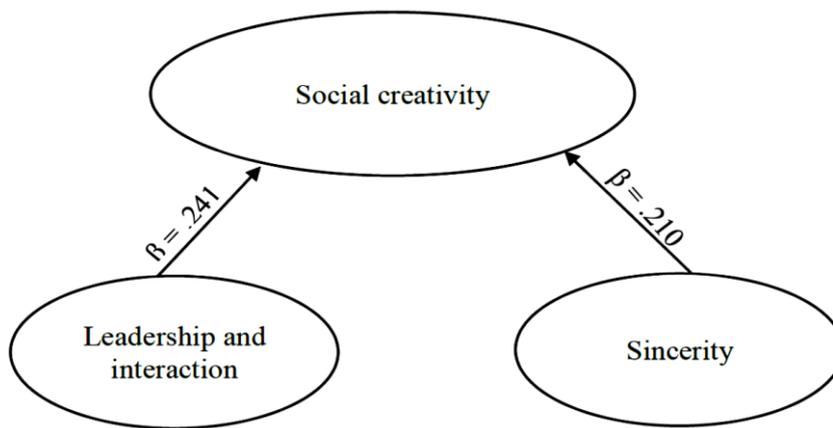


Table 5 presents the results of the hierarchical regression analysis conducted to determine the effects of teacher demographics on their perceptions of organizational creativity and to determine the impact of teacher perceptions of organizational climate on their perceptions of organizational creativity when controlling for the demographic variables. As Table 5 shows, the demographic variables set did not significantly predict organizational creativity ($p > 0.001$). Thus, the demographic variable set did not affect organizational creativity. When controlling for the possible effects of demographic variables, the organizational climate dimensions explained 39.7% ($\Delta R^2 = .397$) of the variance in organizational creativity. This demonstrated that the organizational climate dimensions had a high impact on organizational creativity.

Table 5

Hierarchical Regression Analysis Results on the Prediction of Organizational Creativity

Predictor	Model 1			Model 2		
	B	β	t	B	β	t
Gender (female)	-5.071	-.121	-1.958	-4.905	-.117	-2.428
School type (vocational)	-.383	-.009	-.132	-3.605	-.085	-1.564
Branch (vocational)	5.350	.110	1.606	8.049	.165	3.083
Seniority (10 years or less)	-1.166	-.026	-.354	-5.092	-.112	-1.946
Seniority (11–20 years)	-.052	-.001	-.017	-4.211	-.098	-1.726
Democracy and commitment to school				.493	.096	1.227

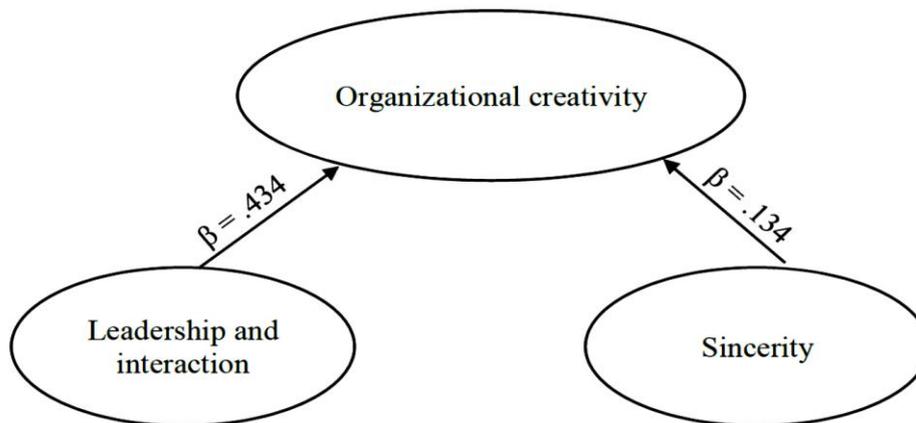
Leadership and interaction		1.934	.434	6.145*
Achievement factors		.802	.110	1.603
Sincerity		1.246	.134	2.212*
Conflict		.514	.083	1.577
R^2	.028		.425	
ΔR^2	.028		.397	
p	.179		.000	

*p < 0.05

Only the leadership and interaction ($t = 6.145$, $p < 0.05$) and sincerity ($t = 2.212$, $p < 0.05$) dimensions were significant predictors of organizational creativity. This finding suggests that leadership and interaction and sincerity affected organizational creativity. The predictive importance rank was leadership and interaction ($\beta = 0.434$), followed by sincerity ($\beta = 0.134$). Based on this finding, the order of the effect size of the organizational climate dimensions on organizational creativity was leadership and interaction and sincerity, respectively. Figure 4 presents the factors that affect organizational creativity.

Figure 4

Factors that Affect Organizational Creativity



Discussion

The present study determined that the analyzed set of demographic variables did not significantly predict organizational creativity and its subdimensions. Only gender was a significant predictor of individual creativity. For this reason, gender is a significant factor for individual creativity. The perceptions of female teachers about individual creativity were lower compared to male teachers. Similarly, Yurter (2016) reported a significant difference between individual creativity perceptions, Balay (2010) reported a significant difference between organizational creativity perceptions, and Dul et al. (2011) reported a significant difference between creativity performances based on gender, favoring males. Certain studies have found no difference between organizational creativity perceptions based on gender (Balay et al., 2014; Uğurlu & Ceylan, 2014; Yahşi & Özbek, 2016). Due to the discrepancies in study findings, the correlation between gender and creativity could not be determined clearly (Stoltzfus et al., 2011). However, the differences in creativity based on gender have been explained with biological and sociocultural factors. Although gender-based cognitive differences have been addressed based on biological factors, creative achievements were generally discussed within a sociocultural context. The higher creative achievements of males were generally explained with social and cultural factors and socialization. Thus, due to gender-based opportunity inequalities; gender roles, rules, and stereotypes; differences between the methods employed to raise female and male children; and different expectations from different genders, males exhibit higher creative achievements when compared to females (Abraham, 2016). Similarly, Baer and Kaufman (2008) emphasized that due to the inconsistency among creativity test results, these have failed to explain the difference in creative achievements between the genders. They even reported that a higher number of studies have found higher creativity test results for females. According to the authors, the difference between the creative achievements of both genders could be explained with environmental factors. Therefore, the work and upbringing environments offer more opportunities for men to realize their creative potential than for women.

This study investigated the impact of organizational climate on organizational creativity and its subdimensions when controlling for the effects of demographic variables. The results showed that the organizational climate dimensions significantly predicted organizational creativity and its subdimensions. Thus, organizational climate dimensions had significant effects on organizational creativity and its subdimensions. Previous studies have also determined that organizational climate affected creativity in organizations (Adigüzel & Okçu, 2021; Alinejad et al., 2015; Çekmecelioğlu, 2006; Ekvall & Ryhammar, 1999; Hunter et al., 2007; Terry et al., 2018; Yahşi & Özbek, 2016). Furthermore, studies have attempted to determine the organizational climate factors that increase or decrease creativity based on creative organizational climate and organizational climate for creativity (Amabile et al., 1996; Cummings, 1965; Isaksen & Lauer, 2002; Isaksen et al., 2001).

The present study determined that the organizational climate dimensions had the most significant effect on administrative creativity. However, only the leadership and interaction dimension of organizational climate predicted administrative creativity. On the other hand, the leadership and interaction dimension affected not only the administrative creativity but also organizational and social creativity. Previous studies have emphasized the significance of leadership in the emergence and development of creativity in organizations and have determined that different leadership styles had direct or indirect effects on organizational creativity (Derecskei, 2016; Gu et al., 2018; Hussain et

al., 2017; Javed et al., 2017; Khalili, 2016; Tung, 2016; Uğurlu & Ceylan, 2014; Yılmaz & Karahan, 2010; Zhou et al., 2018). Leadership behavior could affect creativity positively or negatively. According to Derecskei (2016), democratic leadership encourages creativity, authoritarian leadership hinders creativity, and laissez-faire leadership does not affect creativity. Studies have reported that open communication between managers and subordinates increased creativity, including behavior such as encouragement of new ideas, availability of required resources, paying attention to employee ideas, creating environments that allow open discussion of ideas, including the employees in decision-making, and fair employee evaluation (Amabile et al., 1996; Isaksen & Lauer, 2002; Zubair et al., 2015). However, the social culture should also be accounted for in the impact of leadership on employee creativity (Zhou et al., 2018). For example, a prevailing view in Western culture posits that central leadership could reduce creativity, while in certain Eastern cultures, it is believed that a high direct leadership level could improve creativity (Zhou & Su, 2010).

The findings showed that organizational climate and its dimensions affected individual creativity the least. Although Hunter et al. (2007) reported that organizational climate affected both individual and group creativity, its impact on group creativity was much higher. In the present study, the organizational climate dimensions that respectively affected individual creativity were democracy and commitment to school, achievement factors, and conflict. According to Isaksen and Lauer (2002), groups that include members who are motivated, fulfill their responsibilities, are willing to do their job and contribute to others', discuss their ideas, respect and tolerate differences, support one another, and do not create conflicts were more creative. On the other hand, the present findings, we observed that conflict led to an increase in individual creativity score. The scale items in the conflict dimension manifest the presence of a tense atmosphere that reflects an environment of conflict at school, disciplinary problems, social groups among the employees, and communication problems among the staff members. According to Chen (2006), conflict types are important in the correlation between conflict and creativity. The author investigated the correlations between conflict types and creativity with two different project groups and reported different results for both groups. The study determined that interpersonal conflicts negatively affected creativity in the service-oriented project group, and functional conflicts did not affect creativity. On the other hand, in the technology-oriented group, functional conflicts positively affected creativity, and interpersonal conflicts did not affect creativity. However, there was a significant positive correlation between both conflict types.

The results showed that sincerity affected both organizational creativity and social creativity. Although research has reported that sincere teacher behavior increased teacher creativity (Alinejad et al., 2015), the interactions between the members within and outside of the organization increase organizational creativity (Ekvall & Ryhammar, 1999). However, the study also investigated organizational creativity levels and found that organizational creativity was at an adequate level in secondary education institutions. The high organizational creativity level may indicate that the school conditions were suitable for the development of creativity. Based on different dimensions, the findings showed that individual and administrative creativity levels were adequate, while social creativity level was moderate. This finding demonstrates that teachers perceived that their colleagues exhibited behavior that only moderately supported creativity. However, teachers' perceptions of the individual creativity dimension were high. Similarly, perceptions of individual creativity were higher according to Adigüzel and Okçu (2021), Balay et al. (2014), and Yurter (2016). The fact that the individual creativity perception level was higher than other dimensions could be explained by the tendency of individuals to perceive themselves more positively when compared to

others (Balay, 2010). Educational organizations should emphasize their creative and developmental attributes (Topçu, 2019). Creative schools could contribute to training the creative adults of the future. Today, creativity is one of the most important student attributes. The responsibility to develop student creativity lies significantly on teachers. Thus, teachers should exhibit behavior that would develop student creativity (Soh, 2017).

The study also investigated the organizational climate level and determined that there was a positive school climate in secondary education institutions. Based on organizational climate dimensions, the findings showed that the conflict dimension was seldom perceived, while democracy and commitment to school, leadership and interaction, achievement factors, and sincerity were predominantly perceived. Similarly, previous studies (Canlı, 2016; Getmez, 2018; Şentürk, 2018; Tepe & Yılmaz, 2020) reported that school climate was usually positive. A positive climate is desirable in schools for positive outcomes. For example, a positive school climate contributes to the academic achievements of students (Johnson & Stevens, 2006), commitment to school, teacher effectiveness (İhtiyaroğlu & Demirbolat, 2016), and reduced problem behavior among students (Wang et al., 2010).

Conclusion and Recommendations

The present study, conducted with a correlational research model, investigated the impact of organizational climate on organizational creativity based on secondary education teacher perceptions. The present study contributes to the literature by determining the impact of organizational climate on organizational creativity. When demographic variables were controlled, the findings showed that organizational climate affected organizational creativity. Thus, the results suggest that a positive organizational climate helps improve creativity in organizations. However, quantitative study findings should be interpreted based on the utilized scale items. The scale utilized in the present study determines the school climate mostly based on social dimensions. Vejian et al. (2016) reported that these findings should be interpreted by paying attention to social dimensions of organizational creativity in school environments. On the other hand, organizational climate dimensions affected administrative creativity the most and individual creativity the least. This finding suggests that a positive school climate mostly promotes administrative behavior that supports employee creativity. In the present study, the leadership and interaction dimension affected administrative, organizational, and social creativity. Thus, we suggest that when the school principal exhibits leadership attributes and maintains positive interactions with teachers, organizational creativity may improve. School principals should exhibit fair administrative behavior toward teachers, provide the necessary resources, include teachers in school decisions, and create an environment where problems can be discussed openly through open communication channels between the principal and teachers to improve creativity. Furthermore, it is important to interpret the correlation between leadership and employee creativity based on the cultural context. Power distance is low in Western cultures, while it is high in Eastern cultures. Employees in high-power-distance cultures tend to approve the ideas of their superiors. They are afraid of rejection when they propose ideas that contradict the ideas of their superiors and prefer not to express their views. However, in low-power-distance cultures, this type of fear is experienced less often, and employees feel freer to express their views despite the risk of rejection. Individuals employed in high-power-distance cultures are afraid of mistakes and wait for their superiors to tell them what to do (Erez & Nouri, 2010). This indicates a

desire for a guiding leader to reveal the creativity of individuals who work in high-power-distance cultures. Power distance is high in Turkish culture. Thus, employees expect the administrators to create the necessary conditions to exhibit their creativity. The present study findings that the impact of a positive school climate on administrative creativity was the highest and administrative creativity was only affected by leadership and interaction were consistent with the above-mentioned perspective. Teachers expect school principals to create the necessary conditions for creativity. However, in different cultures, teachers could expect different behavior from school principals to reveal their creativity. Thus, future studies could be conducted to determine the leadership behaviors that will promote teacher creativity in different cultures. This would guide the behavior of school principals who desire to improve teachers' creativity.

The sincerity dimension affected organizational and social creativity. This finding suggests that organizational creativity may increase when there are sincere relations among school employees. The study findings demonstrated that when there were intimate relations among school employees, organizational creativity could increase as well. Thus, schools should ensure that employees can spend time together in and out of the school and employees work in harmony to increase creativity. The dimensions of achievement factors and democracy and commitment to school affected individual creativity. Thus, we suggest that if there is a democratic environment in the school, teachers commit to school activities, or efforts to improve academic achievement increase, individual creativity could increase as well. Thus, we recommend development of a democratic environment at school, respect for individual differences, mutual understanding among the employees, commitment to the school, taking responsibility for school issues, striving to increase student achievements, improvement of teacher performance, fulfilling individual responsibilities, and supporting students as actions that can improve individual creativity among the teachers. In short, good interpersonal relations increase individual creativity in organizations (Ali-Taha et al., 2016).

The present findings revealed that gender affected individual creativity. The individual creativity of female teachers was lower when compared to the male teachers. Although individual creativity was not different based on gender at younger ages, its increase with age indicated that gender difference in creativity would be higher in societies with gender inequality (Miller & Gerard, 1979). Although men and women are equal by law in Turkish society, gender inequality has not been eliminated completely. Turkey ranks 64th out of 188 nations in the "Gender Inequality Index" and 131st out of 144 countries in the "Global Gender Gap Index" (Savaş, 2018). In general, men are more privileged than women in Turkey. There are differences in the upbringing of girls and boys and the opportunities available for them in Turkey (Özaydınlık, 2014). Boys are expected to enjoy much more freedom, autonomy, and self-confidence when compared to girls (Kagıtcıbaşı, 1982). Boys are more independent since they are raised more freely. Parents are more oppressive and protective toward girls. This leads more passive, suspicious, insecure, and dependent personality traits in girls (Aydın & Canel, 2002). The reason behind different parenting methods could be the differences between the values attributed to children based on gender. According to Taylan (2009), boys are more important for parents, especially in rural areas in Turkey. Giving birth to a son could increase the status of the mother in the family. Since parents perceive that the son would take care of them when they are old, they consider boys as a means of economic security. Also, it is believed that boys would ensure the sustenance of the family lineage. Current sociocultural and economic shifts have changed this approach, and parents have begun to perceive girls as psychosocial security. However, a study conducted on Turkish families in 2016 revealed that certain parents still consider that the gender of

the child is important, that a son improves the reputation of the mother, and that a son will preserve the family name (Republic of Turkey Ministry of Family, Labor and Social Services [RTMFLSS], 2019). Moreover, the expectations associated with conventional female roles such as starting a family and raising children could limit the time and energy of girls to express creativity (Stoltzfus et al., 2011). In Turkish society, males are dominant in familial relations. Despite the participation of women in professional life, men are expected to provide for the family in general, while women are expected to take on duties such as housework and childcare. Men do not tend to participate in domestic tasks (Taylan, 2009). To change this approach that promotes gender inequality, gender equality training could be provided the parents and students in schools. Furthermore, raising awareness on gender inequality via the media could contribute to changing social perspectives. However, females are less likely to produce and implement innovative ideas when compared to males (Foss et al., 2013). The conditions that promote gender inequality in professional life could also suppress the creativity of women. To improve the professional creativity of women, more women should prefer professions that require creativity, employment opportunities should be improved for women in jobs that require creativity, and their ideas should be prioritized to reveal their creativity. Additionally, future qualitative research could be conducted to determine the factors that prevent the creative development and expression of female teachers. Further research could be conducted to determine the needs of female teachers to develop and express their creativity. Thus, national policies could be adopted to eliminate the factors that prevent the creative development of female teachers and promote the conditions that improve their creativity.

The present study has certain limitations. One of these limitations was the research methodology. The quantitative study findings should be interpreted based on the utilized scale items. Similar future studies that would be conducted with different scales could contribute by revealing the impact of various organizational climate dimensions on organizational creativity. The scale utilized in the present study included the social dimension of the organizational climate. However, the physical school conditions are also a dimension of the organizational climate. Thus, the effect of organizational climate on organizational creativity could be investigated in the future with a scale that includes the physical school conditions. Furthermore, further qualitative research could provide a detailed perspective on the positive and negative effects of organizational climate on organizational creativity.

The study sample was another limitation. The study was conducted with teachers in secondary education institutions. Future studies that would be conducted with teachers, administrators, students, and parents at different educational levels could reveal more general findings for comparison. In this study, the impact of organizational climate on organizational creativity was investigated with only the variables of gender, seniority, school type, and branch kept constant. Other individual variables could also affect organizational creativity. It is important to investigate the effects of these variables on organizational creativity and its subdimensions to determine the impact of organizational climate on organizational creativity. The present study determined that conflict affected individual creativity. Interpersonal conflicts can be perceived at first glance as a negative development that should be avoided. However, interpersonal conflicts could also lead to development and creativity (Şahin et al., 2009). Perhaps interpersonal conflicts could improve individual creativity since individuals are left alone to find solutions to their problems. Future qualitative studies could investigate the reasons behind the impact of conflict on individual creativity and determine the types of conflict that increase or decrease creativity in organizations. The present

study also determined that organizational climate affected administrative creativity the most and individual creativity the least. Future qualitative studies could be conducted to investigate the reasons in detail. Furthermore, although research has emphasized that creativity depends on culture (Shao et al., 2019), there could be intercultural similarities about creativity (Oral et al., 2007). Future similar studies on different cultures would allow the comparison of the findings. Hence, creative differences between cultures and universal facts could be determined about creativity.

Dr. Suzan Canlı works as an Assistant Professor at Niğde Ömer Halisdemir University in the Faculty of Education, Department of Educational Sciences, Division of Educational Administration. Her research interests include leadership, school management, organizational climate, organizational trust, organizational creativity, and mentorship. She can be reached at canlisuzan@gmail.com.

Dr. Yalçın Özdemir is an associate professor in the Department of Educational Sciences at Niğde Ömer Halisdemir University, Niğde, Turkey. His research interests include social identities and education, the political economy of education, and politics of education. He can be reached at yalosdemir@gmail.com.

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