

CEO Ethical Leadership, Ethical Climate, Climate Strength, and Collective Organizational Citizenship Behavior

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Abstract In spite of an increasing number of studies on ethical climate, little is known about the antecedents of ethical climate and the moderators of the relationship between ethical climate and work outcomes. The present study conducted firm-level analyses regarding the relationship between chief executive officer (CEO) ethical leadership and ethical climate, and the moderating effect of climate strength (i.e., agreement in climate perceptions) on the relationship between ethical climate and collective organizational citizenship behavior (OCB). Self-report data were collected from 223 CEOs and 6,021 employees in South Korea. The results supported all study hypotheses. As predicted, CEOs' self-rated ethical leadership was positively associated with employees' aggregated perceptions of the ethical climate of the firm. The relationship between ethical climate and firm-level collective OCB was moderated by climate strength. More specifically, the relationships between ethical climate and interpersonally directed collective OCB and between ethical climate and organizationally directed collective OCB were more pronounced when climate strength was high than when it was low. Theoretical and practical implications of these findings are addressed herein.

Keywords Ethical leadership · Ethical climate · Climate strength · Organizational citizenship behavior

Due to recent corporate scandals and increasing attention to the importance of corporate social responsibility, the need

for strong corporate ethics is greater than ever (Waddock 2004). In accordance with this global trend, a vast amount of research has explored the relationships between organizational ethics and outcomes. A majority of corporate ethics research has focused on ethical climate as a critical antecedent of organizational outcomes. Ethical climate is defined as employees' shared perceptions of the ethical practices and procedures of a firm (Victor and Cullen 1988). Past research has shown that ethical climate is significantly associated with a number of work outcomes such as job satisfaction (Deshpande 1996; Elçi and Alpkın 2009; Schwepker Jr. 2001; Tsai and Huang 2008; Valentine and Fleischman 2004), organization commitment (Cullen et al. 2003; Schwepker Jr. 2001; Tsai and Huang 2008), turnover intentions (Mulki et al. 2009; Schwepker Jr. 2001), ethical behavior (Deshpande and Joseph 2009; Wimbush et al. 1997), and in-role and extra-role behaviors (Leung 2008).

While ethical climate research has provided meaningful insight into the role ethical climate plays in organizations and how it affects employees' attitudes and behavior, past research about ethical climate has been limited in several ways. First, in contrast to a great deal of research into the relationships between ethical climate and its consequences, very few studies have identified antecedents of ethical climate. However, in order to foster a strong ethical climate in a firm, it is essential to identify factors that affect or contribute to ethical climate. Drawing on the organizational climate literature (Ozcelik et al. 2008; Walumbwa et al. 2010), the current study focuses on chief executive officers' (CEOs) ethical leadership as a critical antecedent of ethical climate. Although recent studies have begun to address the role of ethical managerial behavior or leadership as an antecedent of ethical climate, such studies have mainly focused on managers' or supervisors' ethical

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leadership rather than that of CEOs (e.g., Neubert et al. 2009). Moreover, the linkage between CEO ethical leadership and organizational ethical climate has rarely been empirically tested. Given that it is the CEO who establishes ethical norms and directs the ethical practices and activities of the firm (Carlson and Perrewé 1995; Posner and Schmidt 1992; Schminke et al. 2005), it is a meaningful endeavor to explore the relationship between CEO ethical leadership and ethical climate.

Another limitation of previous studies of ethical climate is that they mainly targeted relationships between ethical climate and individual work outcomes. Most studies on ethical climate have examined linkages between employees' perceptions of ethical climate and their own attitudes and behaviors (e.g., Deshpande 1996; Elçi and Alpan 2009; Mulki et al. 2008; Schwepker Jr. 2001; Tsai and Huang 2008). However, these studies are vulnerable to methodological problems resulting from common method variance (CMV) since both independent and dependent variables were measured from the same source. In addition, given that an ethical climate itself is a collective construct, it is worthwhile to explore the relationships between ethical climate and organizational-level outcomes. Accordingly, the current study isolates firm-level organizational citizenship behavior (OCB) as a collective construct that relates to ethical climate. OCB refers to discretionary, extra-role behavior that is conducive to organizational effectiveness (Organ 1988). In spite of its relevance to organizational ethics, the relationship between ethical climate and OCB has rarely been tested, let alone the relationship between ethical climate and collective OCB. Therefore, the present study is the first attempt to shed light on the linkage between ethical climate and firm-level OCB. In addition, by obtaining measures of ethical climate and collective OCB from different sources, the current study aims to resolve CMV issues that are prevalent in ethical climate research.

Finally, and more importantly, the present study intends to examine the moderating role of *climate strength* on the relationship between ethical climate and collective OCB. Climate strength is defined as the extent to which members of a work-unit or an organization agree in their perceptions of the workplace climate (Lindell and Brandt 2000). In organizational climate research, climate strength has often been identified as a moderator of the relationships between climate perceptions and organizational outcomes (Colquitt et al. 2002; González-Romá et al., 2002, 2009; Schneider et al. 2002; Sowinski et al. 2008). Despite the importance of climate strength, virtually no research in the domain of business ethics has investigated its moderating effect on ethical climate. This is a critical omission because many studies have demonstrated that even similar levels of climate can lead to different outcomes, depending on the

strength of the climate. In particular, climate strength is even more relevant to ethics research because when employees hold similar perceptions of the ethical climate of their organization, they experience less ambiguity with regard to what is right and wrong in the organization and consequently engage in more ethical or prosocial behavior (Mischel 1976). In this sense, it is pivotal to examine the role of climate strength plays in the relationship between ethical climate and collective OCB.

In summary, the objective of the current study is twofold. As mentioned earlier, the first objective is to investigate the linkage between CEO ethical leadership and ethical climate. The second objective is to test the moderating effect of climate strength on the relationship between ethical climate and collective OCB. The research propositions developed in the current study were empirically tested using large-scale data obtained from 223 CEOs and 6,021 employees in South Korea.

Theoretical Background and Research Hypotheses

Ethical Climate

Ethical climate is a topic that has drawn much attention from business ethics researchers. Climate refers to shared perceptions of the policies, practices, and procedures, both formal and informal, of an organization (Reichers and Schneider 1990). Ethical climate is considered a type of organizational climate that reflects employees' perceptions of the ethical policies, practices, and procedures of the organization (Martin and Cullen 2006). Although there is evidence that perceptions of organizational climate can vary within an organization and that different subunits or work groups may possess different climates (Victor and Cullen 1988), in the present study, ethical climate is conceptualized as an organizational-level construct that represents employees' shared perceptions of the ethical climate of the firm. Because the behaviors of employees of a firm are dictated by the same company policies, procedures, and code of ethics, they tend to hold similar perceptions of its ethical climate. Furthermore, a firm's ethical climate determines its ethical values and behavior and influences the ethics of its employees (Wimbush and Shepard 1994; Verbeke et al. 1996). Therefore, in terms of ethics, employees are likely to be more strongly affected by organizational climate than by their work group climate.

While it is quite controversial whether ethical climate is a uni-dimensional or multi-dimensional concept, many scholars consider ethical climate as a construct that consists of several subdimensions. The most well-known classification of ethical climate is Victor and Cullen's (1988) typology. Victor and Cullen (1988) classified

ethical climate into five dimensions: caring, law and code, rules, instrumental, and independence. The current study focuses only on the rules and law and code aspects of ethical climate for the following reasons. First, among the five dimensions of ethical climate, the rules and law and code dimensions best reflect the essence of ethical climate. Scholars who endorse a uni-dimensional view of ethical climate conceptualize ethical climate as employees' perceptions of the presence of a code of ethics, corporate policies on ethics, and top management actions with regard to ethics (Jamarillo et al. 2006; Schwepker Jr. 2001). This conceptualization of ethical climate is captured in the rules and law and code dimensions. Second, a number of studies have shown positive relationships between rules and law and code dimensions and work outcomes (e.g., Elçi and Alpan 2009; Cullen et al. 2003; Shapira-Lishchinsky and Rosenblatt 2009; Tsai and Huang 2008). Indeed, Leung (2008) categorized rules and law and code dimensions as higher levels of ethical climate than the other dimensions and suggested that extra-role behaviors are more often found in higher levels of ethical climate than in lower levels of ethical climate. Based on these prior studies, the present study conceptualizes ethical climate based on Victor and Cullen's (1988) law and code and rules dimensions, and operationalizes ethical climate as employees' shared perceptions of ethical policies, practices, and procedures within the firm.

CEO Ethical Leadership and Ethical Climate

While a number of studies have investigated relationships between ethical climate and various work outcomes, relatively little effort has been directed toward exploring factors that form or foster an ethical climate. However, ethical leadership is one factor that has been identified as an antecedent of ethical climate. Ethical leadership is defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making" (Brown et al. 2005, p. 120). Although scholars agree that leaders have a significant role in shaping the ethical climate of a firm (Grojean et al. 2004; Mulki et al. 2009), there is not much empirical evidence regarding the association between CEO ethical leadership and ethical climate. Given that CEOs or top management strongly affect organizational and employee outcomes by articulating and communicating a vision and shaping an organizational culture (Boal and Hooijberg 2001; Ireland and Hitt 1999; Vera and Crossan 2004; Zaccaro 2001), it is critical to examine how a CEO's ethical leadership relates to the ethical climate of his or her firm.

The current study predicts a positive relationship between CEO ethical leadership and ethical climate for several reasons. First, according to social learning theory (Bandura 1977), when role models are present in the work environment, employees tend to emulate these models. Although employees' supervisors and managers can be role models, the CEO also serves as a significant role model. Employees learn desired behaviors by observing how the CEO behaves and what behavior he or she rewards and punishes (Mayer et al. 2009). In particular, the social learning process is important when the target behavior is ethical conduct, since the CEO strongly affects employees' behavior through his or her assigned role, status, and power to influence the behavior and consequences of others (Brown et al. 2005). Thus, CEOs' ethical leadership is likely to elicit employees' collective engagement in ethical conduct, which creates an ethical climate characterized by shared ethical work norms and perceptions (Dickson et al. 2001).

In addition to the CEO's direct effect on employees' ethical conduct, past research suggests that the ethical leadership of top management also affects employees' prosocial behavior through the intervening mechanism of supervisory ethical leadership (Mayer et al. 2009). By testing a trickle-down model, Mayer et al. (2009) demonstrated that the CEO's ethical leadership has a positive effect on supervisors' ethical leadership, which in turn influences their immediate subordinates' prosocial behavior. In this way, the CEO not only serves as a strong role model for employees, but also affects the ethical conduct of the firm as a whole by enhancing the ethical leadership of managers and supervisors, which consequently contributes to the formation of an ethical climate.

Theoretically, the ethical leadership of the CEO should produce an ethical climate in the workplace through social learning principles and intervening processes of supervisory leadership. However, few empirical studies have examined whether there is a direct, positive association between CEO ethical leadership and organizational outcomes. One study found that CEO ethical leadership is positively related to top management team effectiveness (De Hoogh and Den Hartog 2008), but did not examine the organizational ethical climate. However, it has been shown that senior managers' ethical leadership is positively correlated with leader effectiveness, employee willingness to put in extra effort, employee satisfaction with the leader (Toor and Ofori 2009), and ethical climate (Neubert et al. 2009). Although not in the domain of business ethics, organizational climate studies have generally found a positive relationship between leadership and organizational climate (Ozcelik et al. 2008; Walumbwa et al. 2010). Ozcelik et al. (2008), for example, found that CEO's leadership practices were significantly related to a positive

emotional climate. In a similar vein, Walumbwa et al. (2010) evidenced a positive relationship between servant leadership and procedural justice climate. Mulki et al.'s (2009) findings showed that instrumental leadership was positively associated with ethical climate. Collectively, these findings suggest that ethical leadership, particularly in top management, is essential to creating an ethical climate in an organization.

While it is controversial whether self- or other-ratings are a better estimate of ethical leadership, CEO ethical leadership is measured using self-report in the current study for two reasons. First, research has shown that subordinates' evaluations of ethical leadership are accurate only when subordinates work closely with the leader and have information pertaining to the way in which the leader treats employees and makes decisions (Brown and Treviño 2006). However, it is very difficult for employees to interact frequently with the CEO and precisely assess the CEO's ethical leadership. Indeed, a number of studies have used CEOs' self-report of moral values, ethics, or ethical leadership for this reason (Hood 2003; Ozcelik et al. 2008; Schminke et al. 2005; Weber 2010). Second, studies that have relied on subordinates' ratings of leadership often suffer from methodological problems related to CMV. Because these studies measured ethical leadership and outcome variables from the same respondents, the relationship between ethical leadership and outcome variables might have been inflated due to CMV. To address this issue, the present study obtained measures of CEO ethical leadership, ethical climate, and collective OCB from different sources. Drawing on the aforementioned empirical findings and social learning theory, the CEOs' self-rated ethical leadership is expected to be positively associated with employees' perceptions of ethical climate.

Hypothesis 1 CEO ethical leadership is positively related to ethical climate.

Collective OCB

OCB refers to "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization" (Organ 1988, p. 4). OCB is generally categorized as interpersonally directed OCB (OCBI) and organizationally directed OCB (OCBO) (Williams and Anderson 1991). OCBI encompasses behaviors that benefit other organizational members, such as helping others who are behind in their work and taking a personal interest in others. OCBO refers to behaviors that benefit the organization in general, such as providing advance notification when unable to come to work and obeying informal rules that exist to maintain

order. In the current study, collective OCBI is conceptualized as the extent to which employees of an organization collectively engage in OCBI. Similarly, collective OCBO is defined as the extent to which employees of an organization collectively perform OCBO. For instance, an organizational member demonstrates individual-level OCBI by helping new employees learn how to perform their tasks. When the majority of organizational members assist new employees in performing their tasks, shared norms and expectations regarding this OCBI emerge (i.e., "In this organization, most people help new employees with their tasks"), which affect the level of employees' collective OCBI (Nielsen et al. in press). While much research has examined the relationships between individual-level OCB and work outcomes, little is known about collective OCBI and OCBO. However, a growing number of studies have recognized the importance of collective OCB, based on the fact that OCB itself is collective in nature (Shin and Choi 2010). Because OCB reflects interpersonal dynamics among organizational members, it should be examined at the collective level (Shin and Choi 2010).

The OCB literature suggests that firm-level collective OCB emerges through several processes. First, the level of collective OCB within a firm is affected by organizational factors such as organizational culture, climate, support, and leadership (Hrebiniak and Alutto 1972; Morris and Sherman 1981; Somech and Drach-Zahavy 2004; Steers 1977). For instance, firms that pursue collaboration and harmony exhibit greater OCB than those whose culture is competitive (Somech and Drach-Zahavy 2004). Therefore, organizational culture, climate, support, and leadership determine the level of OCB within the firm. As a result, the collective OCB of a firm is distinguishable from that of other firms.

Second, firm-level collective OCB is also affected by attraction–selection–attrition (ASA) processes (Schneider 1987). According to ASA theory, individuals are attracted to and selected by organizations whose characteristics are similar to their own, and individuals who do not fit the organization eventually leave the organization. Based on this theory, firms with a high degree of collective OCB tend to select individuals who frequently engage in OCB or have the potential to demonstrate a high level of OCB. Individuals who do not fit such an environment tend to leave the organization, resulting in homogeneity of the OCB level within the firm.

The Moderating Effect of Climate Strength on the Ethical Climate–Collective OCB Relationship

So far, virtually no research has investigated the relationship between ethical climate and firm-level collective OCB, let alone the moderating effect of climate strength on

the relationship between these two variables. Prior work regarding the linkage between ethical climate and individual-level OCB has shown that ethical climate is positively associated with employees' extra-role behavior (Leung 2008). This finding can be explicated by social exchange theory (Blau 1964), which posits that individuals engage in social exchange relationships based on the norm of reciprocity. According to this theory, when employees perceive that they benefit from belonging to the organization, they tend to reciprocate their goodwill with prosocial behaviors (Organ 1988). Thus, when employees are surrounded by a high level of ethics, they are likely to engage in more OCB in return for ethical and fair treatment by the organization (Leung 2008). For these reasons, it is generally expected that ethical climate has a positive relationship with collective OCB. However, the organizational climate literature suggests that the relationships between climate and employee outcomes can strengthen or weaken depending on *climate strength* (Colquitt et al. 2002; González-Romá et al. 2002, 2009; Sanders et al. 2008; Schneider et al. 2002; Sowinski et al. 2008).

Climate strength is defined as the extent to which unit members agree on their perceptions of organizational climate (Lindell and Brandt 2000). In the present study, climate strength is conceptualized as the degree of similarity in organizational members' ratings of ethical climate. For instance, members of organizations with higher climate strength agree more on the degree of the firm's ethical climate, whether it is high or low. According to Chan (1998), when a higher level construct emerges from a lower level one, different composition models can explain such a process. Among the compositional models, direct consensus models and dispersion models are relevant to ethical climate and climate strength, respectively. In direct consensus models, the formation of a higher level construct depends on a consensus among the lower level variables. For instance, in order for a firm-level ethical climate to emerge, organizational members need to agree on their perceptions of ethical climate. If such a within-organization agreement is fulfilled, the average ratings of organizational members represent the ethical climate of the firm. Therefore, in direct consensus models, within-organization agreement is not a focal construct, but a pre-condition for aggregating individual-level responses to a higher level construct. In contrast to the direct consensus models, dispersion models regard within-organization agreement or variability as a focal construct (Chan 1998). Thus, whether organizational members perceive the ethical climate of the firm similarly or differently (i.e., climate strength) is a construct of interest in dispersion models.

Although not in the domain of corporate ethics, organizational climate research suggests a significant moderating effect of climate strength. For instance, Colquitt et al.

(2002) found that relationships between justice climate and team performance and between justice climate and team absenteeism were stronger when climate strength was high. Similarly, González-Romá et al.'s (2009) findings showed that the relationship between team climate and team performance was moderated by climate strength. In the current study, the moderating effect of climate strength on the relationship between ethical climate and collective OCB is proposed based on two theories. First, according to situational strength theory (Mischel 1976), strong situations refer to situations in which individuals perceive the situation or event in the same way. Strong situations yield uniform and consistent expectations about the most appropriate behavior in the organization (Mischel 1976). Consequently, when ethical climate is both positive and strong, it is expected that employees most consistently engage in positive work behavior. In contrast, when ethical climate is both negative and strong, the most consistent negative behaviors are anticipated. However, when ethical climate is positive and weak, employees' positive work behavior will not appear consistently. If individual employees' positive behavior occurs intermittently, collective effort toward positive behavior may weaken, which in turn result in decreased collective OCBI and OCBO. Thus, the same level of ethical climate should lead to different consequences depending on whether the climate is strong or weak.

Another theory that can explain the moderating effect of climate strength is fairness heuristic theory (Lind 2001; Van den Bos 2001; Van den Bos et al. 2001). Fairness heuristic theory maintains that when individuals need to make decisions regarding whether to help others or act in their own self-interest, they rely on justice or fairness judgments. Such a justice judgment process consists of two phases: judgmental and use phases (Lind 2001). In the judgmental phase, individuals make justice judgments based on their interaction with the target. Once a judgment has been made, individuals proceed to the use phase, in which they use the judgment as a heuristic for choosing a prosocial or individualistic behavior. In general, individuals with positive justice heuristics act in the best interest of the collectives to which they belong. However, in a weak ethical climate, employees interact with individuals who hold different justice judgments, which lead to new iterations of the judgmental phase. If phase shifting occurs frequently, the association between justice judgments and prosocial behavior weakens. In contrast, in a strong ethical climate, phase shifting rarely occurs and therefore the link between justice judgments and prosocial behavior is strong.

In summary, when ethical climate is strong, employees are likely to clearly perceive the behavior expected of them and better understand what an ethical or unethical behavior is in their organization. Under clear expectations and

shared norms, individuals tend to exhibit more OCBI and OCBO (Walumbwa et al. 2008). In contrast, when ethical climate is weak, employees hold different perceptions of the ethical practices and procedures of their firm, thereby experiencing a high degree of ambiguity, which weakens the association between their perceptions of ethical climate and commitment toward collective OCBI and OCBO. Therefore, the following moderation hypotheses are proposed:

Hypothesis 2 The relationship between ethical climate and collective OCBI is moderated by climate strength such that the relationship is stronger when climate strength is high than when it is low.

Hypothesis 3 The relationship between ethical climate and collective OCBO is moderated by climate strength such that the relationship is stronger when climate strength is high than when it is low.

Method

Participants and Procedure

Data consisted of a subsample from a larger project studying the relationships between corporate ethics and work outcomes in South Korean companies. At the start of the parent project, 401 South Korean companies were selected through stratified sampling on the basis of firm size, industry, and location. Among the 401 companies contacted, 263 agreed to participate in the study (response rate = 66%). The number of employees who were asked to participate in the study was determined based on the firm size; approximately 15 employees for small-sized firms, 30 employees for medium-sized firms, and more than 50 employees for large-sized firms. Research assistants contacted human resource (HR) personnel at the 263 companies and asked them to randomly select employees according to the number of employees assigned to their firm. HR personnel were responsible for distributing and collecting questionnaires from their CEO and employees. Respondents were assured that their participation was voluntary and that their responses would be anonymous and confidential. They were asked to sign an informed consent form and submit it with the completed questionnaires.¹ They received a ball-point pen for their participation in the study.

¹ The current study was approved by ethics committee of Korean Research Institute of Vocational Education and Training in May 2008 and therefore was conducted in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

Among 6,053 usable questionnaires collected from employees, only those that could be matched with their CEO's questionnaires were retained. In addition, to alleviate aggregation biases, questionnaires from companies with fewer than 8 respondents were excluded from the sample. This elimination process yielded a final sample of 6,021 employees and 223 CEOs of 223 companies. To determine whether there were any systematic differences between the final sample and dropouts, *t* tests were conducted for the two groups. Findings indicated no significant differences between the two groups in any of the study variables and demographic profiles.

The 223 companies varied in size and industry. The average size of the firms was 1,241 employees. Forty percent of the firms were manufacturers, 20% were service companies, 11% were financial service firms, and 8.5% were construction companies. On average, 27 employees per company participated in the study. All respondents were full-time employees, and 33% of the employees were women. The average age of the respondents was 33.5 years (*SD* = 8.2), and their average tenure was 9.2 years (*SD* = 14.5). The respondents represented different organizational positions, including employees (44%), lower-level managers (32%), mid-level managers (14%), and senior managers (11%). Their job categories included administrative/clerical support (59%), technical/computer programming (11%), production (10%), sales/customer service (10%), and research/development (R&D) (7%). Ninety-eight percent of the CEOs were male. The average age of the CEOs was 47.5 years (*SD* = 6.8), and their average tenure was 21.6 years (*SD* = 14.6).

Split-Sample Design

To minimize potential CMV, measures of CEO ethical leadership, ethical climate, climate strength, and collective OCBI and OCB were obtained from different sources. That is, the CEOs rated their own ethical leadership. In contrast, ethical climate and collective OCBI and OCBO were measured via a split-sample design as recommended by Ostroff et al. (2002). In order to do this, employees of each firm were randomly divided into two groups (i.e., Subgroups A and B). Subgroup A offered ratings of ethical climate and climate strength, whereas data on collective OCBI and OCBO were gathered from Subgroup B. On average, each subgroup consisted of 14 employees.

Measures

In the current study, all items were measured on a Likert-type scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). Because all subsequent analyses were conducted at the firm level, employees' ratings of ethical

climate, collective OCBI, and collective OCBO were aggregated to the firm level. To justify this aggregation, within-firm agreement and between-firm variability indices such as $r_{wg(j)}$, ICC(1), and ICC(2) were computed for these variables (Bliese 2000; James et al. 1984). As reported below, the scales of ethical climate, collective OCBI, and collective OCBO exhibited acceptable levels of within-firm agreement and between-firm variability.

CEO Ethical Leadership

CEOs provided ratings of their own ethical leadership. Ten items of the Ethical Leadership Scale (Brown et al. 2005) were used to assess CEO ethical leadership. Sample items were, “I discipline employees who violate ethical standards,” “I make fair and balanced decisions,” “I set an example of how to do things the right way in terms of ethics,” and “I define success not just by results but also by the way in which they are obtained.” Cronbach’s alpha was .89.

Ethical Climate (Subgroup A)

The ethical climate scale consisted of three items from Victor and Cullen’s (1988) Law and Code Climate Scale and two items from their Rules Climate Scale (firm-level $\alpha = .86$, $r_{wg} = .92$, ICC(1) = .15, ICC(2) = .80). Ethical climate items are presented in Table 1. Employees in

Subgroup A provided ratings of the ethical climate of their firm, and their ratings were averaged to represent the ethical climate of the firm.

Climate Strength (Subgroup A)

Drawing on Chan’s (1998) dispersion models, climate strength was operationalized as the variance of ethical climate perceptions of employees (i.e., within-firm dispersion scores). Climate strength was calculated using the coefficient of variation (Allison 1978), which corrects for the lack of independence between measures of central tendency and measures of dispersion. The climate strength value for each firm was created by computing the standard deviation of employees’ (Subgroup A) ethical climate perceptions within the firm and dividing that by the average ethical climate score of the firm. This value was then standardized and reversed in sign, so that higher values represented higher levels of climate strength (Colquitt et al. 2002; Walumbwa et al. 2008).

Collective OCBI (Subgroup B)

To assess OCBI, four items were drawn from Williams and Anderson’s (1991) OCBI Scale (firm-level $\alpha = .84$, $r_{wg} = .91$, ICC(1) = .12, ICC(2) = .75; for items, see Table 1). Employees (Subgroup B) reported the extent to which they engaged in interpersonally directed OCBs, and

Table 1 Results of confirmatory factor analysis

Items	Factor loadings		
	1	2	3
Ethical climate			
1. In the company, people are expected to comply with the law and professional standards over and above other considerations	.70	.19	.15
2. In this company, the law or ethical code of their profession is the major consideration	.82	.15	.12
3. In this company, people are expected to strictly follow legal or professional standards	.84	.17	.16
4. In this company, it is very important to follow the company’s rules and procedures	.72	.07	.10
5. People in this company strictly obey the company policies	.80	.15	.16
OCBI			
6. I help others who have been absent	.20	.74	.26
7. I help others who have heavy work load	.15	.80	.19
8. I take time to listen to co-workers’ problems and worries	.14	.81	.12
9. I go out of way to help new employees	.14	.77	.18
OCBO			
10. My attendance at work is above the norm	.20	.12	.64
11. I do not complain about insignificant things at work	.08	.22	.81
12. I adhere to informal rules devised to maintain order	.21	.32	.76
Variance explained by the factor	41.01	15.43	8.60

$N = 6,021$

Bold numbers indicate factor loadings greater than .05 (Stevens 2002)

the average score of their ratings was used as a measure of collective OCBI.

Collective OCBO (Subgroup B)

OCBO was measured with three items adopted from Williams and Anderson's (1991) OCBO Scale (firm-level $\alpha = .70$, $r_{wg} = .86$, $ICC(1) = .11$, $ICC(2) = .73$; for items, see Table 1). Similar to OCBI, individual ratings of OCBO obtained from Subgroup B were aggregated to the firm level to represent collective OCBO.

Control Variables

Several firm-level control variables were included in subsequent analyses. First, firm size was controlled for due to its potential effect on ethical leadership, ethical climate, and climate strength. Thus, the logarithm of the number of employees was used as a measure of firm size, given that the effect of firm size on organizational outcomes might not be linear. The same amount of increase in organizational size can have a greater impact on organizational outcomes when firms are small (Subramaniam and Youndt 2005). In addition, because industry characteristics may affect CEO ethical leadership and ethical climate, four industry dummy variables representing manufacturing, financial service, service, and construction were used as control variables (Longenecker et al. 2006).

Results

Prior to testing the study hypotheses, an exploratory factor analysis (EFA) was conducted to assess the discriminant validity of the study variables. An EFA with a varimax rotation was carried out for 12 items of ethical climate, collective OCBI, and collective OCBO. As shown in Table 1, the EFA yielded three factors that perfectly matched their intended construct. This result suggests that ethical climate, collective OCBI, and collective OCBO are distinct constructs.

Table 2 presents the means, standard deviations, and intercorrelations of the study variables. Although the mean level of CEO ethical leadership ($M = 3.86$) was higher than those of the other variables, the finding that the variance of CEO ethical leadership ($SD = .50$) was greater than those of the other variables indicates that the CEOs' self-ratings were sufficiently valid measures of their ethical leadership. CEO ethical leadership was positively related to ethical climate and collective OCBI and OCBO. Ethical climate was positively associated with collective OCBI and OCBO, but climate strength was not. Finally, collective OCBI and OCBO were significantly correlated with each

other, which is consistent with empirical findings that show a significant relationship between OCBI and OCBO (Ehrhart 2004; Williams and Anderson 1991).

Relationship Between CEO Ethical Leadership and Ethical Climate

Hypothesis 1 proposed that CEO ethical leadership would be positively related to ethical climate. To test this hypothesis, a hierarchical regression analysis was conducted. Ethical climate was regressed on a set of control variables in step 1 and CEO ethical leadership in step 2. As reported in Table 3, CEO ethical leadership significantly predicted ethical climate ($\beta = .10$, $p < .01$), providing support for Hypothesis 1.

The Moderating Effects of Climate Strength on the Relationship Between Ethical Climate and Collective OCBI and OCBO

Hypothesis 2 predicted a moderating effect of climate strength on the relationship between ethical climate and collective OCBI. When conducting analyses that include interaction terms, it is customary to center all variables around their means in order to reduce the multicollinearity that can exist between the interaction term and the variables from which they have been created (Cohen and Cohen 2002). Centering variables enhances the ability to estimate the interaction term without affecting the correlations among the variables. Thus, these transformations were carried out prior to testing all mediation hypotheses proposed in this study.

Hypothesis 2 was tested by regressing collective OCBI on the control variables in step 1, the main effects of ethical climate and climate strength in step 2, and the cross-product of the two variables in step 3. As presented in Table 4, the interaction term did account for a significant 3% ($\beta = .17$, $p < .01$) of the variance in collective OCBI beyond the set of control variables and the main effects.

To understand the nature of the significant moderation, Aiken and West's (1991) guidelines for interpreting interactions were used. All possible combinations of the effects of different levels of ethical climate and high and low levels of climate strength on collective OCBI were calculated. Specifically, one standard deviation was added to or subtracted from the mean of climate strength to create high and low scores. Results are depicted in Fig. 1. As expected, collective OCBI was highest when both ethical climate and climate strength were high. In addition, the relationship between ethical climate and collective OCBI was stronger when climate strength was high than when it was low. Therefore, Hypothesis 2 was supported.

Table 2 Means, standard deviations, and correlations of study variables

Variable (firm-level)	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Firm size	2.36	.69									
2. Industry dummy—manufacturing	.40	.49	.09								
3. Industry dummy—financial service	.11	.32	.16*	-.29**							
4. Industry dummy—service	.20	.40	-.07	-.41**	-.18**						
5. Industry dummy—construction	.09	.28	-.13*	-.25**	-.11	-.15*					
6. CEO ethical leadership	3.86	.50	.20**	-.01	.13*	-.08	-.07				
7. Ethical climate	3.44	.31	.30**	.04	.30**	-.11	-.10	.24**			
8. Climate strength	.00	1.00	.03	-.02	.06	-.05	-.06	.05	.16*		
9. Collective OCBI	3.55	.33	.17**	.06	.20**	-.12	-.11	.22**	.36**	-.00	
10. Collective OCBO	3.62	.32	.23**	.03	.19**	-.17**	.04	.16*	.43**	-.06	.62**

N = 223

* $p < .05$, ** $p < .01$

Table 3 Results of regression of ethical climate on CEO ethical leadership

Variable	Ethical climate β (<i>SE</i>)
Step 1: Control variables	
Firm size	.11 (.03)***
Industry dummy—manufacturing	.07 (.05)
Industry dummy—financial service	.28 (.07)***
Industry dummy—service	-.00 (.06)
Industry dummy—construction	-.01 (.08)
R^2	.16***
ΔR^2	.16***
<i>F</i>	9.32***
Step 2: Independent variable	
CEO ethical leadership	.10 (.04)**
R^2	.19***
ΔR^2	.03**
<i>F</i>	9.22***

N = 223. *SE* standard error of estimate

** $p < .01$, *** $p < .001$

Hypothesis 3, which proposed a moderating effect of climate strength on the relationship between ethical climate and collective OCBO, was tested by regressing collective OCBO on the control variables in step 1, the main effects of ethical climate and climate strength in step 2, and the cross-product of the two variables in step 3. Findings indicated that the interaction term accounted for a significant 2% ($\beta = .13$, $p < .05$) of the variance in collective OCBO beyond the set of control variables and the main effects (see Table 4). A simple slope analysis as described above was conducted to assess the nature of the interaction. As presented in Fig. 2, collective OCBO was highest when both ethical climate and climate strength were high.

Moreover, the association between ethical climate and collective OCBO was stronger when climate strength was high than when it was low. These findings support Hypothesis 3.

Discussion

Despite the vast amount of research on ethical climate, relatively little is known about the relationship between CEO ethical leadership and ethical climate. While business ethics scholars have highlighted the importance of CEO ethical leadership in transmitting ethical values to employees and fostering ethical climate within the firm, there is a dearth of empirical evidence regarding the link between CEO ethical leadership and ethical climate. In addition, little attention has been paid to conditions that strengthen or weaken the relationships between ethical climate and work outcomes. The present study contributes to the business ethics literature by examining the relationship between CEO ethical leadership and ethical climate and testing the moderating effect of climate strength on the relationship between ethical climate and collective OCB. The findings of the current study have several theoretical implications.

First, the current study is one of very few attempts to investigate relationships among CEO ethical leadership, ethical climate, climate strength, and collective OCB at the firm level. Although numerous studies have examined relationships between ethical climate and work outcomes, such analyses have mainly been conducted at the individual level (e.g., Elçi and Alpkın 2009; DeConinck 2010; Deshpande 1996; Deshpande and Joseph 2009; Mulki et al. 2008; Schwepker Jr. 2001; Tsai and Huang 2008). However, given that ethical climate is an organizational-level construct reflecting employees' shared perceptions of the

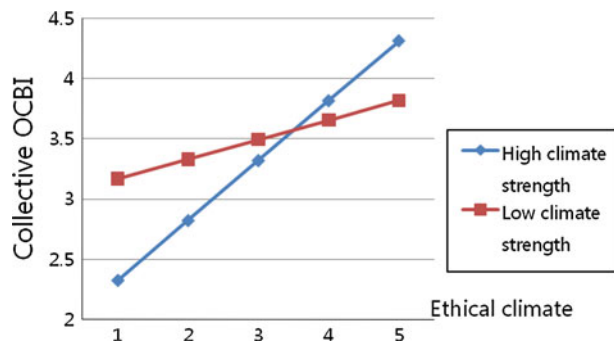
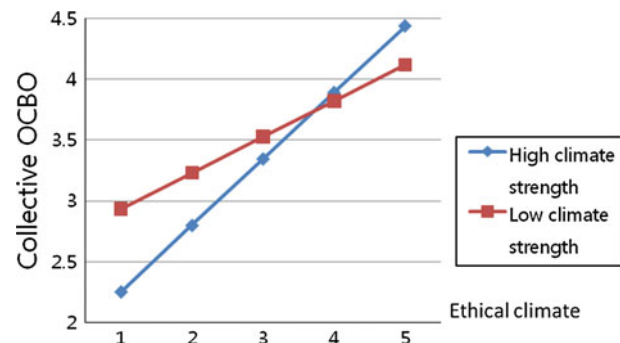
Table 4 Tests of moderating effects of climate strength on collective OCBI and OCBO

Variable	Collective OCBI β (SE)	Collective OCBO β (SE)
Step 1: Control variables		
Firm size	.06 (.03) [†]	.09 (.03)**
Industry dummy—manufacturing	.03 (.06)	.03 (.05)
Industry dummy—financial service	.19 (.08)*	.16 (.07)*
Industry dummy—service	-.06 (.06)	-.08 (.06)
Industry dummy—construction	-.08 (.08)	.08 (.08)
R^2	.08**	.09***
ΔR^2	.08**	.09***
F	4.03**	5.04***
Step 2: Main effects		
Ethical climate	.32 (.07)***	.41 (.06)***
Climate strength	-.02 (.02)	-.04 (.02)*
R^2	.15***	.23***
ΔR^2	.07***	.14***
F	6.08***	10.42***
Step 3: Interaction effect		
Ethical climate \times climate strength	.17 (.05)**	.13 (.05)*
R^2	.18***	.25***
ΔR^2	.03**	.02*
F	6.75***	10.12***

$N = 223$. SE standard error of estimate

[†] $p < .10$, * $p < .05$,

** $p < .01$, *** $p < .001$

**Fig. 1** Moderating effect of climate strength on collective OCBI**Fig. 2** Moderating effect of climate strength on collective OCBO

ethical practices, policies, and procedures of their firm (Martin and Cullen 2006), the relationships between ethical climate and its associated variables should be examined at the organizational level. Thus, by revealing the firm-level dynamics among CEO ethical leadership, ethical climate, climate strength, and collective OCB, the current study expands the body of research on business ethics to the firm level.

Second, the results of the present study suggest the importance of CEO ethical leadership in fostering ethical climate, which supports the notion that the ethical orientation of the CEO is a key factor in promoting ethical behavior in an organization (Carlson and Perrewé 1995; Posner and Schmidt 1992) and creating an ethical organizational culture (Treviño 1986, 1990). The current results

are also consistent with prior findings indicating a positive association between ethical leadership and organizational climate (e.g., Dickson et al. 2001; Grojean et al. 2004; Ozcelik et al. 2008; Schminke et al. 2005). The positive links between CEO ethical leadership and ethical climate can be explicated by several theories, in addition to social learning theory, as mentioned previously. Institutional theory posits that institutional factors influence organizational members' cognition and behavior (Scott 1995). Among various institutional factors, top management or the CEO is a primary source of institutional structure in that they can effectively manipulate the institutional environment (Purvis et al. 2001; Russel and Hoag 2004; Scott 1995). Drawing on this theory, it can be inferred that the ethical leadership of the CEO or top management shapes

organizational climate by affecting employees' perceptions and behavior. In addition, according to stewardship theory (Davis et al. 1997), organizational actors such as the CEO or top management bring their own moral values into the organization, causing the organization to exhibit more ethical behavior, which fosters a more ethical organizational climate. Consequently, by addressing the role of CEO ethical leadership in fostering ethical climate, the current study contributes to the literature on business ethics and leadership.

Another important theoretical contribution of the present study is that it is the first attempt to reveal the role of climate strength in business ethics research. While a number of studies have investigated relationships between ethical climate and work outcomes, scholars have rarely explored conditions under which these relationships are strengthened or weakened. The findings of the present study indicate a moderating effect of climate strength on the relationships between ethical climate and collective OCBI and between ethical climate and collective OCBO. These results have significant implications for business ethics research, which has generally suggested that a high level ethical climate is associated with positive organizational and work outcomes. However, the current study demonstrates that both the level and the strength of the ethical climate impact positive outcomes. That is, the same level of ethical climate can differentially be associated with collective OCBI and OCBO depending on whether the employees of the firm agree on their ethical climate perceptions. These results indicate that, similar to justice climate (Colquitt et al. 2002), perceptual agreement is also important in ethical climate. When employees hold similar perceptions of the ethical climate of the firm, they tend to have a clear understanding of the ethical behavior expected from their organization. Consequently, they contribute more effort into positive work behavior, as evidenced by higher levels of collective OCBI and OCBO. Furthermore, when climate strength is high, perceptual congruence among employees is likely to elicit behavioral contagion among them, which in turn leads to enhanced collective OCBI and OCBO. Thus, climate strength tends to mobilize employees' collective endeavor toward positive work behavior.

One of the methodological strengths of the present study is the resolution of CMV issues prevalent in ethical climate research. As CEO ethical leadership, ethical climate, and collective OCB were measured from different sources, it is unlikely that the positive relationships among these variables resulted from CMV. In addition, the climate strength index was calculated independently from the measure of ethical climate, even though data on these two variables were collected from the same respondents. Another methodological strength of the current study is that it employed a large-scale dataset that included firms of different sizes

from various industries, which enhances the external validity of the study findings.

Practical Implications

In emerging markets such as Korea, relatively little effort and attention have been directed toward business ethics thus far. In general, transparency and social awareness of corruption are deemed to be less important in developing countries than in developed ones (Blackburn et al. 2006). However, the current findings suggest that CEO ethical leadership and ethical climate are also pivotal in firms in emerging markets, which demonstrates that the demand for heightened corporate ethics and managerial transparency is a global trend (Brown and Treviño 2006). The present study offers several implications for business leaders and managers. First, the current findings indicate that the CEO's ethical leadership is critical in fostering an ethical climate within the firm. Given that CEO ethical leadership is directly related to ethical climate, organizational efforts to promote ethical leadership should prove fruitful. Second, CEOs need to be aware that leaders play a significant role in creating an ethical climate (Grojean et al. 2004) and should therefore direct more effort toward instituting ethical standards and norms rather than pursuing profitability (Mulki et al. 2009). Third, firms may want to consider hiring CEOs with high levels of ethical leadership or provide training for their current CEO (Mayer et al. 2009). For instance, the implementation of ethical leadership development programs can help CEOs diagnose and improve their own ethical leadership as well as make decisions in a more ethical manner.

The findings of the present study also highlight the importance of climate strength in facilitating collective OCBI and OCBO. In order to enhance collective OCBI and OCBO, organizational leaders and managers should be concerned not only about elevating the level of ethical climate, but also about fostering a *strong* ethical climate. Leaders and managers can increase climate strength by enacting visible and homogeneous behavioral patterns within the organization (Naumann and Bennett 2000; Zohar and Luria 2004), informing employees about the ethical policies and procedures of the organization (González-Romá et al. 2002), and helping them interpret ethics-related issues and events (Kozlowski and Doherty 1989).

Limitations and Directions for Future Research

In spite of its theoretical and practical implications, the present research is not without limitations. First, because the current study was based on a cross-sectional design, it is difficult to establish causality among the study variables.

Even though the present study examined the relationship between CEO ethical leadership and ethical climate, and the moderating effect of climate strength on ethical climate-collective OCB relationships, the sequential relationships among CEO ethical leadership, ethical climate, and collective OCB were not tested. Thus, future studies should test the linkages among these variables in a single model and ascertain causal relationships among the variables using a longitudinal design.

In addition, as a way to address CMV issues, the current study relied on the CEOs' self-report of ethical leadership. However, it is likely that leaders rated themselves favorably on the ethical dimension of leadership (Brown et al. 2005). To correct for these rating biases, future studies should also use ratings from immediate subordinates of CEOs (e.g., senior managers) (Brown and Treviño 2006). Alternatively, future researchers may benefit from collecting ethical leadership data via a historiometric approach, which refers to providing raters with biographies of the CEO and having them evaluate the CEO in terms of ethical leadership (Brown et al. 2005).

Finally, the cultural context in which data were collected may have affected the current study findings. Although scholars have argued that ethics is a universal value (Schwartz 2005) and that ethical leadership is a universal construct (Resick et al. 2006), social desirability or evaluation apprehension biases prevalent in a collectivistic culture may have influenced the response patterns of the present sample. Furthermore, given that agreement or homogeneity among organizational members is highly valued in a collectivistic culture, the moderating effect of climate strength may have appeared more significant in Korean firms. Thus, the generalization of the current findings beyond the Korean sample should be made with caution (Arnold et al. 2007).

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