

# Toward a Better Understanding of the Link Between Ethical Climate and Job Satisfaction: A Multilevel Analysis

Yau-De Wang · Hui-Hsien Hsieh

Received: 10 November 2010 / Accepted: 20 July 2011 / Published online: 3 August 2011  
© Springer Science+Business Media B.V. 2011

**Abstract** Research concerning the relationship between psychological ethical climate and job satisfaction is popular in the literature. However, to date, no study in the literature has simultaneously investigated both the effects of individual-level and organization-level ethical climates on employees' job satisfaction. On the basis of a multilevel analysis, the present study used a sample of 472 full-time employees from 31 organizations in Taiwan to examine the above two effects. Results from the analyses showed that within the organizations, individual employees' instrumental climate perceptions were negatively related to job satisfaction, whereas their caring climate perceptions and rules climate perceptions were positively related to job satisfaction. Also, the results indicated that between organizations, organizational instrumental climate was negatively related to job satisfaction, whereas organizational caring, independence, and rules climates were positively related to job satisfaction. Implications for research and managerial practices were derived from these findings.

**Keywords** Organizational ethical climate · Psychological ethical climate · Job satisfaction · Multilevel analysis · Hierarchical linear modeling

## Introduction

Organizational scholars have consistently argued that an employee's job attitudes and behaviors may not only be influenced by his or her own perceptions of the work environment but also by the shared perceptions of his or her work group (Mathieu and Kohler 1990; Ostroff 1993; Schulte et al. 2006). In the literature on ethical climate, investigating the relationships between the ethical climate and employee attitudes and behaviors has become a popular research topic. Researchers have come to see the importance of ethical climate and have connected it to key organizational outcomes, such as organizational commitment, job satisfaction, psychological well-being, and dysfunctional behaviors (Martin and Cullen 2006).

Despite the significant contribution of past research to our understanding of the relationships between ethical climate and employee attitudes (e.g., Cullen et al. 2003; Deshpande 1996; Elçi and Alpkın 2009), there are two issues that need to be addressed in the ethical climate literature. First, current empirical studies concerning ethical climate have mainly used psychological climate, an individual-level measurement, for data collection and theory testing. However, in the same studies, the organizational climate, a construct at the group level, is often used for discussing the research questions involved. This mismatch between the levels of construct and of measurement leads to the wrong-level inference fallacy (Glick 1985; Hofmann 1997; James and Jones 1974; Kozlowski and Klein 2000). Individual employees' perceptions of their work environments constitute psychological climates at the individual level, whereas organizational climate is proposed as a group-level construct, and these two perceptions are conceptually and methodologically distinct from each other (Glick 1985; James and Jones 1974; Kozlowski and Klein

---

Y.-D. Wang · H.-H. Hsieh (✉)  
Department of Management Science, National Chiao Tung University, 1001 University Road, Hsinchu 300, Taiwan, ROC  
e-mail: sansanfox@gmail.com

Y.-D. Wang  
e-mail: ydwang@mail.nctu.edu.tw

2000). James (1982) argued that only when individuals agree on their perceptions of their work environment can their measures be meaningfully aggregated to represent a group-level (organizational) climate measure. In other words, before individual employees' ethical climate perceptions can be meaningfully aggregated into organization-level ethical climate, a significant within-group agreement statistic [e.g.,  $r_{wg}$  or intraclass correlation (ICC)] should be attained for justifying the aggregation.

Second, researchers who study the effect of ethical climate on employees' work attitudes often use employees drawn from the same organization (e.g., Joseph and Deshpande 1997) or those drawn from different organizations (e.g., Tsai and Huang 2008) as their subjects of study. Because employees from the same organization share the same organization-level ethical climate, the variation in their psychological ethical measures reflects only their perceived differences of the same organizational climate. The analysis of the relationship between employees' perceived ethical climate and their work attitudes taps only the effect of these differences on their work attitudes. The effect of organizational ethical climate on work attitudes remains unaddressed because there is a lack of comparison on ethical climate measures between organizations. For the studies in which employees from several organizations were used, the psychological ethical measures tapped not only the variation of employees' between-organization ethical perceptions but also that of their within-organization ethical perceptions. The mixing of these two variations could have led to an underestimation of the true effect of organizational ethical climate on work attitudes, because this introduced an individual-level random error on the measurement of organization-level ethical climate and diluted its effects on work attitudes.

To remedy the above two problems, researchers in the literature have called for the use of multilevel analytic methods to simultaneously study the effect of the within-group (organization) climate perception and the effect of the between-group (organization) climate perception on organizational outcomes in the same study (Martin and Cullen 2006). The first-level analysis of a multilevel method (e.g., hierarchical linear modeling, HLM) teases out the within-organization differences in employees' psychological ethical measures and examines their effects on organizational outcomes. The second-level analysis of the method aggregates the within-organization individual employees' psychological ethical measures into an organization-level ethical climate measure and examines the effect of this aggregated measure on organizational outcomes. This procedure provides a true testing of the effect of the organizational ethical climate. However, before performing the second-level analysis, a satisfactory within-group agreement in the ethical measures of the individual

employees from the same organization needs to be achieved before aggregating those measures into an organization-level ethical measure. Recently, researchers in the literature have worked to derive within-group agreement indices ( $r_{wg}$  and ICCs) (e.g., Ambrose et al. 2008; Cullen et al. 2003; Schminke et al. 2005) that can be used to justify aggregating data from the individual level to an organizational level.

Though multilevel methods have been called for, most researchers continue to use individual employees' psychological ethical measure to represent organization-level ethical climate and are unaware of the problem of wrong-level analysis. The main purpose of the present study was aimed at remedying this problem. We used individual employees' ethical climate perception, an individual-level measure, to derive the organizational ethical climate, a group-level measure. We relied on within-group agreement indices (i.e.,  $r_{wg}$  and ICCs) to justify the bottom-up aggregation process in the multilevel research (see Kozlowski and Klein 2000). In response to Martin and Cullen's (2006) call, we employed a multi-level method (i.e., HLM) to simultaneously investigate both the effects of within-organization and the between-organization ethical climate measures on employees' job satisfaction. This allows us to avoid a commonly seen problem in the literature of organizational ethical climate—the fallacy of wrong-level analysis.

## Theoretical Background and Hypotheses

### Definition and Dimensionality of Ethical Climate

Ethical climate is defined as “the shared perceptions of what is regarded ethically correct behaviors and how ethical situations should be handled in an organization” (Victor and Cullen 1987, p. 51). According to the theoretical typology of ethical climate proposed by Victor and Cullen (1987, 1988), the shared ethical perceptions are identified along two dimensions. The first dimension is related to three ethical criteria used for decision-making, namely, egoism, benevolence, and principles. The other dimension concerns the three loci of analysis used as a reference in ethical decisions, namely, individual, local, and cosmopolitan. By crossing the three ethical criteria with the three loci of analysis, Victor and Cullen (1987, 1988) generated the following nine theoretical ethical climate types: self-interest (egoism–individual), company profit (egoism–local), efficiency (egoism–cosmopolitan), friendship (benevolence–individual), team interest (benevolence–local), social responsibility (benevolence–cosmopolitan), personal morality (principle–individual), company rules and procedures (principle–local), and laws and

professional codes (principle–cosmopolitan). Subsequently, on the basis of this conceptual framework, Victor and Cullen (1988) used the above nine ethical climate types to develop an ethical climate questionnaire (ECQ). Their empirical analyses found that only five ethical climate types existed as compared to the nine theoretical types they had proposed. These five ethical climate types are named instrumental climate (focus on the maximization of self-interest), caring climate (concern for the well-being of others), independence climate (adherence to one’s personal ethical beliefs), rules climate (people are expected to stick by the company’s policies and procedures), and law and code climate (people are expected to comply with law and professional standards). A recent meta-analytic review (Martin and Cullen 2006) has indicated that the five ethical climate dimensions found by Victor and Cullen (1988) are also found in most of the other empirical research studies done on the subject.

#### Organizational Ethical Climate and Psychological Ethical Climate

According to Victor and Cullen’s (1987) definition, ethical climate is a consensual group-level cognition held by a group of organizational members concerning what are the right or wrong behaviors in their organization, and it is distinct from the psychological ethical climate perceived by an individual organizational member. Ethical climate reflects a group-level construct and should be more precisely called “organizational ethical climate.” However, in the ethical climate literature, many researchers used the measure of individual employees’ perceived psychological ethical climate to represent the construct of organizational ethical climate. This mismatch of construct and measurement resulted in the fallacy of wrong-level analysis, and thus it becomes imperative to differentiate the concept of organizational climate and the concept of psychological climate before conducting an empirical study.

Psychological and organizational climates are conceptually related to, but distinct from each other (Glick 1985; James and Jones 1974; Kozlowski and Klein 2000). An individual employee’s assessment of his or her own organization’s climate constitutes a psychological climate which reflects partly the climate that characterizes the organization and partly the employee’s own subjective, idiosyncratic interpretation of the climate. The latter part of the perceived climate can be influenced either by the employee’s unique organizational experiences or personal standards for making judgments of the climate. For example, an employee in an organization characterized by a high organizational ethical climate may perceive an ethical climate weaker than those of other employees because of the employee’s lack of opportunities for

experiencing the organizational ethical climate, a feeling of unequal treatment received from the organization, or simply because of stringent personal ethical standards applied to assessing the climate.

On the other hand, the organizational climate is derived from the aggregation of psychological climate measures of the employees from the same organization, which reflects more accurately the true climate of the organization. The aggregation will counter-balance the idiosyncratic parts of individual employees’ psychological climate measures. The within-group agreement statistics, such as the  $r_{wg}$  index (James et al. 1993), need to be assessed to examine whether the aggregation is adequate. James et al. (1993) argue that only when there is a satisfactory within-group agreement (e.g.,  $r_{wg} > .70$ ) is the aggregation justifiable. A lack of agreement may imply that there is an absence of climate within an organization.

On the basis of the above discussion concerning the concept of climate, we expect that the ethical climate construct exists at both the psychological and the organizational levels. Psychological ethical climate refers to the ethical atmosphere experienced by an individual employee. Organizational ethical climate refers to the ethical climate perceived in consensus with all the employees of an organization. The former represents an individual employee’s assessment of his or her organization’s ethical climate which is affected not only by the true organization-level ethical climate but also by the idiosyncratic characteristics in the employee’s perception of the organizational ethical climate. The latter is a group-level assessment of organizational ethical climate which is determined only by the true organization-level climate.

#### Ethical Climate and Job Satisfaction

Schneider and Rentsch (1988) argue that organizational climate pertains to how organizational members perceive and make sense of organizational policies, practices, and procedures in psychologically meaningful terms. Research has demonstrated that organizational climate perceptions are related to employees’ job satisfaction (Johnson and McIntye 1998; Schulte et al. 2006). Evidence from two meta-analytic studies also provides strong support for the relationships between organizational climate perceptions and employees’ work outcomes such as job satisfaction (Carr et al. 2003; Parker et al. 2003). Similarly, organizational ethical climate refers to the extent to which an employee perceives his or her organization’s procedures, policies, and practices with moral consequences. From a conceptual perspective and on the basis of inductive reasoning, it follows that employees who perceive their organizations as being ethical are also likely to regard their organizations as being fair to them (Koh and Boo 2001),

and thus are more likely to reciprocate with a positive job attitude (e.g., a higher level of job satisfaction and organizational commitment). This fairness–reciprocation argument can be applied not only to the case of comparing employees from the organizations where a higher-level ethical climate is experienced to those from the organizations with a lower-level ethical climate, but also to the case of comparing the employees from the same organization, who have experienced different levels of ethical climate. Within an organization, the employees may have different perceptions of the organizational ethical climate, and those who experience a higher-level organizational ethical climate will be more likely to reciprocate the organization with a positive job attitude than those who perceive a lower-level of the climate.

In the literature, empirical studies using employees from a single organization have been conducted to provide support for the argument concerning the effect of organizational ethical climate on job satisfaction. For example, Deshpande (1996) found that in a large non-profit charitable organization, its middle managers' professionalism climate perceptions had a positive effect on their overall job satisfaction, and their instrumental climate perceptions had a negative effect on their job satisfaction. Joseph and Deshpande (1997) found that the caring and rules climate perceptions of the nurses in a large American non-profit hospital significantly predicted their overall job satisfaction. The above studies provide evidence to support the conjecture of the within-organization effect of ethical climate on job satisfaction. On the basis of the findings from these studies and the aforementioned fairness–reciprocation argument, we propose that

**Hypothesis 1** Within organizations, an employee's psychological ethical climate of instrumentality is negatively related to his or her job satisfaction.

**Hypothesis 2** Within organizations, an employee's psychological ethical climates of caring, independence, rules, and law and code are positively related to his or her job satisfaction.

Being unrestricted to the sampling of subjects from a single organization, many studies in the literature have used employees from multiple organizations as their subjects of investigation when examining the effect of organizational ethical climate on employees' job satisfaction. For example, Koh and Boo (2001) found that the principle climate perceptions of a group of managers from a variety of organizations in Singapore were positively related to their job satisfaction. Schwepker (2001) found that the ethical climate perception was positively related to work satisfaction in a sample of salespeople from 26 firms in a southern region of the United States. Kim and Miller

(2008) found that the law-and-code climate perception and rules climate perception had a positive influence on work satisfaction in a sample of employees from 14 large Korean tourism companies. Tsai and Huang (2008) found that the caring, independence, and rules climate perceptions had a positive influence, whereas the instrumental climate perception had a negative influence on the overall job satisfaction of a sample of nurses from nine hospitals in Taiwan. Elçi and Alpkın (2009) found that the law-and-code climate perceptions of a sample of staff and managers from 62 telecommunication firms in Turkey were positively related to their work satisfaction. Though the above studies mixed the within-organization variation with the between-organization variation in the measurement of employees' ethical climate perceptions, their findings did lend preliminary support to the conjecture regarding the effect of organizational ethical climate on job satisfaction. Based on the results of these studies and the fairness–reciprocation argument, we posit that

**Hypothesis 3** Organization-level ethical climate of instrumentality will be negatively related to employees' job satisfaction.

**Hypothesis 4** Organization-level ethical climates of caring, independence, rules, and law and code will be positively related to employees' job satisfaction.

## Methods

### Participants and Procedure

Survey data were collected from 32 organizations in Taiwan. The industries from which the 32 organizations were drawn include the high-technology, banking, manufacturing, transportation, retail, information technology, and service industries. The sampling diversity of industry type helped us avoid the contextual constraint associated with any particular industry. The survey was conducted at the beginning of December 2009 using a convenience sampling method to collect data. We contacted the organizations and acquired the employees' consent for their participation in the survey. To protect their anonymity, the respondents were provided with stamped envelopes for the return of questionnaires. The participants were assured of confidentiality and informed that their responses would be used only for aggregated statistical analyses.

The respondents consisted of 490 employees from 32 organizations. As noted later, data for one firm were eliminated because its within-group agreement on the group-level variables was below the acceptable level. This resulted in a final sample consisting of 472 employees from 31 organizations. The number of respondents from each

organization ranged from 10 to 22, with an average of 15.23 ( $SD = 3.61$ ). Of the 472 participants, 41.3% were males and 58.7% were females. The age of the respondents ranged from 21 to 63 with a mean of 33.44 and a standard deviation of 7.85.

### Measurement

The measures of the variables were extracted from the literature. We translated the items initially written in English into Chinese, and then had two bilingual experts evaluate the accuracy and semantic equivalence of the translation (Shaffer and Riordan 2003). They gave feedback on those items that could be modified to improve the accuracy and the appropriateness of the translation and then joined to reach a consensus on the modification of the items. The process was repeated until no further improvement was proposed. These procedures were employed to ensure the content validity of the measures (Schwab 2005).

### Psychological Ethical Climate

Individual employees' psychological ethical climate was measured using the 26-item ECQ developed by Victor and Cullen (1988). The ECQ consisted of measures concerning the five types of ethical climates: instrumental, caring, independence, rules, and law and code. Respondents were asked to evaluate their perceptions of the ethical climate of their current organization on a five-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

An exploratory factor analysis was conducted to determine the underlying structure of the five ethical climate measures. The factor structure of the ECQ was analyzed using principal component analysis with Varimax rotation, which yielded five factors with eigenvalues greater than 1.00 that explained 62.62% of the total variance and the coefficient alpha's ranging from .71 to .83. These factors coincided with the five types of ethical climate perceptions found by Victor and Cullen (1988): (a) instrumental climate perception, (b) caring climate perception, (c) law and code climate perception, (d) rules climate perception, and (e) independent climate perception. The factor loadings and coefficient alpha of the ECQ are presented in Table 1.

### Organizational Ethical Climate

To create the measure of organizational ethical climate, we aggregated the ECQ measures of individual employees from each organization using the direct consensus composition approach (Chan 1998). The average ethical climate measures of all the respondents in an organization represented the ethical climate of that organization. To

further justify the aggregation, we calculated the within-group agreement ( $r_{wg}$ ) (James et al. 1993) for each of the five types of ethical climate for each organization. For the 31 organizations, the mean of their  $r_{wg}$ s was .89 for instrumental climate (with a range from .80 to .96), .86 for caring climate (ranging from .73 to .93), .86 for independence climate (ranging from .70 to .93), .90 for rules climate (ranging from .76 to .96), and .91 for law-and-code climate (ranging from .79 to .95). The mean  $r_{wg}$ s were all greater than the conventionally accepted value of .70 (James et al. 1993), indicating a reasonable level of agreement. In addition, we calculated ICCs. The ICC(1) coefficient represents the proportion of variance in ratings at the individual level that is attributed to group membership, whereas the ICC(2) coefficient represents the reliability of the group-level means (Bliese 2000). The ICC(1) coefficients were .14 for instrumental climate ( $F_{30, 441} = 3.54, p < .001$ ), .10 for caring climate ( $F_{30, 441} = 2.80, p < .001$ ), .10 for independence climate ( $F_{30, 441} = 2.74, p < .001$ ), .09 for rules climate ( $F_{30, 441} = 2.49, p < .01$ ), and .13 for law-and-code climate ( $F_{30, 441} = 3.25, p < .001$ ). The ICC(2) coefficients were .72, .64, .63, .60, and .69 for instrumental, caring, independence, rules, and law-and-code climates, respectively. Taken together, these results showed that there was not only an acceptable level of within-group agreement ( $r_{wg}$  and ICC[1]), but also a reliable mean score (i.e., ICC[2]). As a result, the aggregation of individual-level measures of ethical climate into the organizational ethical climate measure was justifiable.

### Job Satisfaction

Job satisfaction was assessed with the five-item version of Brayfield and Rothe's (1951) scale of general job satisfaction that has been frequently used in recent job satisfaction research (e.g., Ilies and Judge 2002; Saari and Judge 2004). Respondents were asked to indicate the extent to which they agreed with the following statements about the jobs they performed daily: "At this very moment, I am enthusiastic about my work"; "Right now, I feel fairly satisfied with my present job"; "At present, each minute at work seems like it will never end" (reverse scored); "At this moment, I am finding real enjoyment in my work"; and, "Right now, I consider my job rather unpleasant" (reverse scored). Five-point Likert-type scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) were used. The Cronbach's alpha for the measure was .88.

### Control Variables

The demographic variables of gender and age and the individual difference variables of positive and negative affectivities were included as control variables because

**Table 1** Factor loadings and coefficient alphas of the ECQ

Item	Component				
	1	2	3	4	5
1. Instrumental climate perception ( $\alpha = .82$ )					
(EI) In this company, people are mostly out for themselves		.80			
(EL) People here are concerned with the company's interests to the exclusion of all else		.75			
(EI) There is no room for one's own personal morals or ethics in this company		.70			
(EI) In this company, people protect their own interests above all else		.69			
(EL) People are expected to do anything to further the company's interests, regardless of the consequences		.67			
(EL) Work is considered substandard only when it hurts the company's interests		.62			
2. Caring climate perception ( $\alpha = .81$ )					
(BL) The most important concern is the good of all the people in the company as a whole			.79		
(BI) Our major concern is always what is best for the other person			.78		
(BL) What is best for everyone in the company is the major consideration here			.73		
(BI) In this company, people look out for each other's good			.72		
3. Law and code climate perception ( $\alpha = .83$ )					
(PC) In this company, people are expected to strictly follow legal or professional standards				.88	
(PC) In this company, the law or ethical code of their profession is the major consideration				.77	
(PC) People are expected to comply with the law and professional standards over and above other considerations				.74	
(PC) In this company, the first consideration is whether a decision violates any law				.63	
4. Rules climate perception ( $\alpha = .78$ )					
(PL) It is very important to follow the company's rules and procedures here					.80
(PL) Everyone is expected to stick by company rules and procedures					.73
(PL) Successful people in this company go by the book					.72
(PL) People in this company strictly obey the company policies					.48
5. Independence climate perception ( $\alpha = .71$ )					
(PI) The most important concern in this company is each person's own sense of right and wrong					.82
(PI) In this company, people are guided by their own personal ethics					.76
(PI) Each person in this company decides for themselves what is right and wrong					.74

they could affect job satisfaction (Watson and Slack 1993). Positive and negative affectivities were measured using the 20-item PANA scale (Watson et al. 1988). Respondents were requested to indicate the extent to which they generally felt each affective description in the scale. The range of extent varied from 1 (*not at all*) to 5 (*very much*). The Cronbach's alpha was .88 for positive affectivity and .87 for negative affectivity.

### Analysis

Because the data in the present study were multilevel in nature, with organizational ethical climate measured at the group level (level 2) and individual ethical climate and job satisfaction measured at the individual level (level 1), an appropriate analytic method needed to take into account the multilevel structure of the data. Thus, we conducted HLM (Hofmann 1997; Raudenbush and Bryk 2002) analyses using HLM version 6.0 with the restricted maximum

likelihood (RML) estimation method to test our hypotheses. Before estimating our models, we centered the variables in accordance with the guidelines that Enders and Tofghi (2007) suggest. At Level 1, we used group-mean centering for all the predictive variables because the variation in individual-level ethical climate among the employees of an organization was the focus of concern. At Level 2, we used grand-mean centering for all the predictive variables because the variation in organization-level ethical climate among the organizations was the focus of concern.

### Results

Table 2 shows the means, standard deviations, and correlations of the variables at both the individual and the group levels.

**Table 2** Means, standard deviations, and intercorrelations among variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
Level 1: Individual-level ( <i>n</i> = 472)												
1. Gender <sup>a</sup>	.41	.49	–									
2. Age	33.44	7.85	.08	–								
3. Positive affectivity	3.19	.54	.11*	.10*	(.88)							
4. Negative affectivity	2.22	.49	–.10*	–.12*	–.19**	(.87)						
5. Instrumental climate perception	2.72	.64	.08	–.06	–.16**	.21**	(.82)					
6. Caring climate perception	3.25	.67	.03	.04	.25**	–.20**	–.24**	(.81)				
7. Independence climate perception	3.49	.66	.03	–.03	.11*	–.05	–.18**	.19**	(.71)			
8. Rules climate perception	3.70	.57	–.02	.09	.27**	–.24**	–.27**	.31**	.26**	(.78)		
9. Law and code climate perception	3.66	.65	–.03	.16**	.23**	–.19**	–.26**	.36**	.28**	.51*	(.83)	
10. Job satisfaction	3.63	.63	.01	.18**	.45**	–.29**	–.26**	.33**	.10*	.31**	.27**	(.88)
Level 2: Organization-level ( <i>n</i> = 31)												
1. Instrumental climate	2.70	.28	–									
2. Caring climate	3.27	.27	–.28	–								
3. Independence climate	3.48	.26	–.26	.22	–							
4. Rules climate	3.72	.22	–.46*	.28	.42*	–						
5. Law and code climate	3.67	.28	–.29	.20	.41*	.44*	–					

Cronbach's alpha is in parentheses

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

<sup>a</sup> Dummy coded: 0 = female; 1 = male

## Hypothesis Testing

Our hypotheses predicted that the differences in psychological ethical climate within organizations and also the differences in organizational climate across organizations would be significantly related to employees' job satisfaction. In order to validate the between-organization hypotheses, there must be a significant between-group variance in employees' job satisfaction. Thus, we first ran a null model to examine whether there was systematic between-group variance in employees' job satisfaction. The significant chi squares for job satisfaction,  $\chi^2(30) = 78.52$ ,  $\tau_{00} = .038$ ,  $p < .001$ ,  $ICC(1) = .10$ , indicated that this prerequisite was met.

Hypothesis 1 predicted that within an organization, an individual employee's ethical climate perception characterized by instrumentality would be negatively related to the employee's job satisfaction. As shown in Model 2 of Table 3, individual instrumental climate perception was significantly negatively related to job satisfaction ( $\gamma_{50} = -.097$ ,  $p < .05$ ), supporting hypothesis 1. Hypothesis 2 suggested that an individual employee's caring, independence, rules, and law-and-code climate perceptions would be positively related to the employee's job satisfaction. As shown in Model 2 of Table 3, the individual caring climate perception ( $\gamma_{60} = .142$ ,  $p < .01$ ) and the individual rules climate perception ( $\gamma_{80} = .105$ ,  $p < .05$ ) had a significantly positive relationship with job satisfaction, whereas the

individual independence and the individual law-and-code climate perceptions had no significant relationship with job satisfaction. Thus, hypothesis 2 was partially supported for the predictions concerning caring and rules climates.

Hypothesis 3 predicted that organization-level instrumentality climate perception would be negatively related to employees' job satisfaction. As shown in Model 3 of Table 3, organizational instrumental climate had a significant, negative relationship with job satisfaction ( $\gamma_{01} = -.238$ ,  $p < .01$ ). Thus, hypothesis 3 was supported. Hypothesis 4 predicted that organization-level caring, independence, rules, and law-and-code climates would be positively related to employees' job satisfaction. According to Model 3 of Table 3, organizational caring climate ( $\gamma_{02} = .289$ ,  $p < .01$ ), organizational independence climate ( $\gamma_{03} = .204$ ,  $p < .01$ ), and organizational rules climate ( $\gamma_{04} = .290$ ,  $p < .01$ ) were significantly positively related to job satisfaction, but the law-and-code climate was not related to job satisfaction. Hence, hypothesis 4 was partially supported on the prediction regarding the effect of caring, independence, and rules climates.

## Discussion

This study contributes to the literature of ethical climate research in the following ways. First, the study was designed to test the effect of organizational ethical climate

**Table 3** HLM analyses with job satisfaction as the dependent variable

	Job satisfaction		
	Model 1	Model 2	Model 3
Level 1: Individual-level ( $n = 472$ )			
Intercept ( $\gamma_{00}$ )	3.687***	3.687***	3.689***
Gender <sup>a</sup> ( $\gamma_{10}$ )	-.099*	-.092	-.092
Age ( $\gamma_{20}$ )	.011*	.009	.010
Positive affectivity ( $\gamma_{30}$ )	.452***	.391***	.391***
Negative affectivity ( $\gamma_{40}$ )	-.218***	-.152**	-.171**
Individual instrumental climate perception ( $\gamma_{50}$ )		-.097*	-.078
Individual caring climate perception ( $\gamma_{60}$ )		.142**	.124*
Individual independence climate perception ( $\gamma_{70}$ )		-.082	-.077
Individual rules climate perception ( $\gamma_{80}$ )		.105*	.102*
Individual law and code climate perception ( $\gamma_{90}$ )		.028	.049
Level 2: Organization-level ( $n = 31$ )			
Instrumental climate ( $\gamma_{01}$ )			-.238**
Caring climate ( $\gamma_{02}$ )			.289**
Independence climate ( $\gamma_{03}$ )			.204**
Rules climate ( $\gamma_{04}$ )			.290**
Law and code climate ( $\gamma_{05}$ )			.081
Within-group variance ( $\sigma^2$ )	.280	.251	.245
Between-groups variance ( $\tau_{00}$ )	.043***	.046***	.011*
$R^2_{\text{within-group}}$	.231	.310	.327
$R^2_{\text{between-groups}}$			.710
$R^2_{\text{total}}$ <sup>b</sup>	.208	.279	.365
$R^2_{\text{total change}}$		.071	.086

\*  $p < .05$ ; \*\*  $p < .01$ ;  
\*\*\*  $p < .001$

<sup>a</sup> Dummy coded: 0 = female;  
1 = male

<sup>b</sup>  $R^2_{\text{total}} = R^2_{\text{within-group}} \times (1 - \text{ICC}(1)) + R^2_{\text{between-groups}} \times \text{ICC}(1)$ , where ICC(1) represents the proportion of variance in the corresponding outcome variable that resides between groups. The ICC(1) for job satisfaction is .10

on employees' job satisfaction with an adequate organization-level measure of ethical climate. The results of the HLM analyses found that the organization-level instrumental climate had a negative relationship with job satisfaction, whereas organization-level caring, independence, and rules climates had a positive relationship with job satisfaction. This study also examined the effect of within-organization ethical climate perception on employees' job satisfaction. The results showed that an employee's instrumental climate perception within an organization was negatively related to his or her job satisfaction, whereas the employee's caring and rules climate perceptions were positively related to their job satisfaction. Taken together, the above results largely support our hypotheses concerning the effects of both within-organization and organization-level ethical climate perceptions on employees' job satisfaction. These findings coincide with the argument suggested in the literature that the job attitudes and behaviors of the employees of an organization are not only affected by their own unique perceptions of their work environment but also by their shared perceptions of their environment (Mathieu and Kohler 1990; Ostroff 1993; Schulte et al. 2006).

Another contribution concerns the explanatory power of the within-organization and the between-organization ethical climate perceptions. Our results showed that compared with the 8.6% of the total variance in employees' job satisfaction accounted for by the organization-level ethical climate perception, the within-organization ethical climate perception accounted for 7.1% of the variance. This finding suggests that an individual employee's own unique part of the perceived organizational ethical climate is as critical as the part of the climate perception that is in consensus with other employees for explaining his or her job satisfaction. In other words, if organizations want to enhance their employees' job satisfaction, then assuring each employee an experience of a high ethical climate is as important as creating a consensual perception of high ethical climate among employees. Moreover, to further understand the added value of HLM analyses, we conducted an additional analysis to test our hypotheses using the conventional, single-level multiple regression analysis employed in previous research (e.g., Deshpande 1996; Tsai and Huang 2008) to compare its results with the results of our HLM analyses. The findings of these multiple regression analyses revealed that instrumental, caring, and rules climate



perceptions were significant predictors of job satisfaction and accounted for 6% of the total variance in job satisfaction. Although these results are consistent with the findings of our HLM analyses, they explained a much smaller total variance in job satisfaction than the results of our HLM analyses (which gave rise an  $R^2_{\text{total}} = 15.7\%$ ). The conventional single-level analyses mixed the measure of organizational ethical climate with the measure of psychological ethical climate using individual employee's perceived ethical climate and resulted in an underestimation of the true effect of organizational ethical climate on job satisfaction. The present study contributes to the literature of business ethics by showing that the multilevel analysis provided a better assessment of the effect of organizational ethical climate on employees' job attitudes than did the single-level analysis used in the previous research.

The present study did not find an effect from law-and-code ethical climate on employees' job satisfaction within or between organizations. This result is consistent with what has been found in other studies (Deshpande 1996; Joseph and Deshpande 1997; Tsai and Huang 2008). Tsai and Huang (2008) suggest that law and professional codes are sometimes treated as externally based rules and are not internalized by employees, thus becoming dissociated with job satisfaction (p. 578). Another possible explanation is that the law-and-code climate is regarded as a hygiene factor (Hertzberg 1968) by employees. The lack of it can make employees dissatisfied, but the provision of it does not make them satisfied because it is not considered as a motivator. The present study also failed to find an effect from the independence climate on job satisfaction within organizations. This is consistent with what has been discovered by Deshpande (1996) and Joseph and Deshpande (1997). Their studies showed that independence climate did not affect the overall job satisfaction of the employees sampled from the same organization. It is likely that within organizations, independence on making decisions for right and wrong is considered as a part of job-role responsibility. The employees who experience a lower independence climate may not feel dissatisfied because they do not think their jobs require them to exercise much right-or-wrong judgment. However, at the organization level, the independence climate signals how trustworthy an organization thinks its employees are, and this will certainly make a difference to job satisfaction when comparing employees across different organizations.

### Practical Implications

The findings from this study carry some practical implications for organizations seeking to improve their ethical climate to enhance employees' job satisfaction. The study

shows that organization-level instrumental climate has a negative effect on job satisfaction. Companies may avoid overly relying on material incentives as rewards for their employees' performance to diminish the instrumental climate perception in the organization. The study also shows that employees who perceive their organizations as caring are more satisfied with their jobs. Companies can foster a caring atmosphere by ensuring their employees that their benefits are well heeded by their managers. Finally, the findings show that the organization-level independence and rules climates have a significantly positive effect on job satisfaction. Companies can involve their employees in ethical decisions to foster an independence ethical climate. Companies can also make clear the rules and procedures to be followed by their employees for creating a perception of principled employment arrangement and of fair employment relationship to foster a rules ethical climate.

The findings from this study also revealed that within an organization, its employees' job satisfaction could vary in accordance with the differences in their perceptions of the instrumental, caring, and rules climates of the organization. Companies not only need to maintain consistency in their ethical decision makings and practices but also need to clearly and effectively communicate their ethical expectations and standards to their employees (Stevens 1999). Such a consistency and communication will reduce the variation in their employees' ethical perceptions, which in turn will lead to a homogeneous, high-level job satisfaction among all employees.

Companies in Taiwan, especially those in high-tech industries, often rely on financial incentives to promote their employees' work attitudes to boost their productivities (Chiu and Tsai 2007). The present study showed that the job satisfactions of the employees from various industries in Taiwan are susceptible to the influence of organizational ethical climate. Beyond financial incentives, companies in Taiwan can improve their employees' job satisfactions by taking various ethics management practices, including articulation of codes of ethics, ethical training, and top management's role modeling on ethical decisions and behaviors, and incorporating ethical achievement in organizational mission statement and performance evaluation systems to cultivate the caring, independence, and rules climates. The findings of a negative relationship between instrumental climate and satisfaction cautions the companies in Taiwan that an over-reliance on financial incentives may introduce a culture of competition among employees and foster an instrumental climate that can inadvertently dampen their employees' job satisfaction.

The findings of this study and those by Tsai and Huang (2008) on the lack of a relationship between law-and-code climate and job satisfaction suggest to the companies in Taiwan that to enhance their employees' job satisfaction,

nurturing a law-and-code climate is not sufficient, and other types of ethical climates should also be cultivated. Our finding on the relationships between individual-level ethical climate and job satisfaction suggests to the companies in Taiwan that their employees may experience different levels of job satisfaction because of differences in their perceived psychological ethical climates. Exploring the causes for these differences is important for future research for the purpose of effectively managing organizational ethical climates in the companies in Taiwan, as well as those in other countries.

### Limitations and Future Research

A number of limitations of this study should be noted. First, the cross-sectional nature of the data precludes the opportunity for examining the causal processes of the effect of psychological as well as of organizational ethical climates on employees' job satisfaction. Future research using a longitudinal or experimental design can be employed to study these processes.

The second limitation is that the sample collection was restricted to companies in Taiwan. Ethical standards and perceptions may vary across cultures and thus, the cross-cultural generalizability of the findings of this study may be limited. Future research can be conducted to examine the effects of psychological and organizational ethical climates on job satisfaction with samples from the western societies, which may provide a direct test for the generalizability of the findings from this study.

The third limitation concerns the problem of common method variance (CMV). Consistent with previous research which has explored the relationship between ethical climate and job satisfaction, all the variables in this study were measured using self-report responses from the same source which might induce the problem of CMV, potentially biasing the results of our hypotheses testing (Podsakoff and Organ 1986). However, this concern may have been mitigated by two features of this study. First, organizational ethical climate is a group-level variable which is qualitatively distinct from job satisfaction: an individual-level dependent variable (Morgeson and Hofmann 1999). The problem of CMV is less likely to exist between variables that are measured at different levels. Furthermore, we used statistical remedies to balance out the likely CMV in this study (Podsakoff et al. 2003). We controlled for respondents' general affectivity, an individual characteristic variable that may induce a covariation between people's evaluations of the various aspects of their environment (Cropanzano et al. 1993; Watson et al. 1988). Controlling for general affectivity allowed us to partial out the part of CMV that can be ascribed to the affectivity

when relating individual employees' ethical climate perceptions and their job satisfaction. In sum, the above two features of this study may have prevented the occurrence of some of the CMV.

The findings of this study provide some directions for future research. First, this study demonstrates that organizational ethical climate has a contextual influence on individual organizational members' job attitudes such as job satisfaction. Future research may extend our framework to study the cross-level effects of organizational ethical climate on employees' other job attitudes (e.g., organizational commitment, job involvement, or turnover intention). Similarly, future research can be conducted to explore the relationships between ethical climate and employees' dysfunctional work behavior (such as antisocial behaviors on the job, counter-productive behaviors, and workplace bullying). Thus, future research may use a multilevel design to examine these relationships to help researchers better understand the complex relationships between ethical climate and various types of work behaviors.

### References

- Ambrose, M., Arnaud, A., & Schminke, M. (2008). Individual moral development and ethical climate: The influence of person-organization fit on job attitudes. *Journal of Business Ethics*, *77*, 323–333.
- Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analyses. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 349–381). San Francisco: Jossey-Bass.
- Brayfield, A. H., & Rothe, H. F. (1951). An index of job satisfaction. *Journal of Applied Psychology*, *35*, 307–311.
- Carr, J. Z., Schmidt, A. M., Ford, J., & DeShon, R. P. (2003). Climate perceptions matter: A meta-analytic path analysis relating molar climate, cognitive and affective states, and individual level work outcomes. *Journal of Applied Psychology*, *88*, 605–619.
- Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology*, *83*, 234–246.
- Chiu, S. F., & Tsai, W. C. (2007). The linkage between profit sharing and organizational citizenship behaviour. *International Journal of Human Resource Management*, *18*, 1098–1115.
- Cropanzano, R., James, K., & Konovsky, M. A. (1993). Dispositional affectivity as a predictor of work attitudes and job performance. *Journal of Organizational Behavior*, *14*, 595–606.
- Cullen, J. B., Parboteeah, K., & Victor, B. (2003). The effects of ethical climates on organizational commitment: A two-study analysis. *Journal of Business Ethics*, *46*, 127–141.
- Deshpande, S. P. (1996). The impact of ethical climate types on facets of job satisfaction: An empirical investigation. *Journal of Business Ethics*, *15*, 655–660.
- Elçi, M., & Alpkın, L. (2009). The impact of perceived organizational ethical climate on work satisfaction. *Journal of Business Ethics*, *84*, 297–311.

- Enders, C. K., & Tofghi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods, 12*, 121–138.
- Glick, W. H. (1985). Conceptualizing and measuring organizational and psychological climate: Pitfalls in multi-level research. *Academy of Management Review, 13*, 133–137.
- Hertzberg, F. (1968). One more time: How do you motivate employees? *Harvard Business Review, 46*, 53–62.
- Hofmann, D. A. (1997). An overview of the logic and rationale of hierarchical linear models. *Journal of Management, 23*, 723–744.
- Ilies, R., & Judge, T. A. (2002). Understanding the dynamic relationships among personality, mood, and job satisfaction: A field experience-sampling study. *Organizational Behavior and Human Decision Processes, 89*, 1119–1139.
- James, L. A. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology, 67*, 219–229.
- James, L. R., Demaree, R. G., & Wolf, G. (1993).  $r_{wg}$ : An assessment of within-group interrater agreement. *Journal of Applied Psychology, 78*, 306–309.
- James, L. A., & Jones, A. (1974). Organizational climate: A review of theory and research. *Psychological Bulletin, 18*, 1096–1112.
- Johnson, J. J., & McIntyre, C. L. (1998). Organizational culture and climate correlates of job satisfaction. *Psychological Reports, 82*, 843–850.
- Joseph, J., & Deshpande, S. P. (1997). The impact of ethical climate on job satisfaction of nurses. *Health Care Management Review, 22*, 76–81.
- Kim, N. Y., & Miller, G. (2008). Perceptions of the ethical climate in the Korean tourism industry. *Journal of Business Ethics, 82*, 941–954.
- Koh, H. C., & Boo, E. H. Y. (2001). The link between organizational ethics and job satisfaction: A study of managers in Singapore. *Journal of Business Ethics, 29*, 309–324.
- Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 3–90). San Francisco: Jossey-Bass.
- Martin, K. D., & Cullen, J. B. (2006). Continuities and extensions of ethical climate theory: A meta-analytic review. *Journal of Business Ethics, 69*, 175–194.
- Mathieu, J. E., & Kohler, S. S. (1990). A cross-level examination of group absence influences on individual absence. *Journal of Applied Psychology, 75*, 217–220.
- Morgeson, F. P., & Hofmann, D. A. (1999). The structure and function of collective constructs: Implications for multilevel research and theory development. *Academy of Management Review, 24*, 249–265.
- Ostroff, C. (1993). The effects of climate and personal influences on individual behavior and attitudes in organizations. *Organizational Behavior and Human Decision Processes, 56*, 56–90.
- Parker, C. P., Baltes, B. B., Young, S. A., Huff, R. A., Altmann, R. A., Lacost, H. A., et al. (2003). Relationships between psychological climate perceptions and work outcomes: A meta-analytic review. *Journal of Organizational Behavior, 24*, 389–416.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*, 531–544.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Thousand Oaks, CA: Sage.
- Saari, L., & Judge, T. A. (2004). Employee attitudes and job satisfaction. *Human Resource Management, 43*, 395–407.
- Schminke, M., Ambrose, M. L., & Neubaum, D. O. (2005). The effects of leader moral development on ethical climate and employee attitudes. *Organizational Behavior and Human Decision Processes, 97*, 135–151.
- Schneider, B., & Rentsch, J. R. (1988). Managing climates and cultures: A future perspective. In J. Hage (Ed.), *Futures of organizations* (pp. 181–200). Lexington, MA: Lexington Books.
- Schulte, M., Ostroff, C., & Kinicki, A. J. (2006). Organizational climate systems and psychological climate perceptions: A cross-level study of climate-satisfaction relationships. *Journal of Occupational and Organizational Psychology, 79*, 645–671.
- Schwab, D. P. (2005). *Research methods for organizational studies* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Schwepker, C. H., Jr. (2001). Ethical climate's relationship to job satisfaction, organizational commitment, and turnover intention in the salesforce. *Journal of Business Research, 54*, 39–52.
- Shaffer, B. S., & Riordan, C. M. (2003). A review of cross-cultural methodologies for organizational research: A best-practices approach. *Organizational Research Methods, 6*, 169–215.
- Stevens, B. (1999). Communicating ethical values: A study of employee perceptions. *Journal of Business Ethics, 20*, 113–120.
- Tsai, M. T., & Huang, C. C. (2008). The relationship among ethical climate types, facets of job satisfaction, and the three components of organizational commitment: A study of nurses in Taiwan. *Journal of Business Ethics, 80*, 565–581.
- Victor, B., & Cullen, J. B. (1987). A theory and measure of ethical climate in organizations. In W. C. Frederick (Ed.), *Research in corporate social performance and policy* (pp. 51–71). Greenwich, CT: JAI Press.
- Victor, B., & Cullen, J. B. (1988). The organizational bases of ethical work climates. *Administrative Science Quarterly, 33*, 101–125.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54*, 1063–1070.
- Watson, D., & Slack, A. K. (1993). General factors of affective temperament and their relation to job satisfaction over time. *Organizational Behavior and Human Decision Processes, 54*, 181–202.