

Public Accountants' Perceptions of Ethical Work Climate: An Exploratory Study of the Difference Between Partners and Employees within the Instrumental Dimension

Howard Buchan*

State University of New York at Oneonta, Division of Economics & Business, Ravine Parkway, Oneonta, NY 13820

Abstract: The purpose of this study is to consider whether the perceptions of the instrumental dimension of ethical work climate of partners (owners) of public accounting firms differ from those of employees. Perceptions of ethical climate are based on the theory developed by Victor and Cullen [1, 2]. Professionals from five public accounting firms located in New York State participated in the study. Findings suggest partners' perceptions of the instrumental dimension of ethical work climate differ from those of employees.

INTRODUCTION

Victor and Cullen's [1, 2] conceptualization of ethical work climate and development of the ethical climate questionnaire (ECQ) to measure its dimensions has generated a significant body of research. Several studies have focused on testing the psychometric properties of the ECQ [3, 4] and generally support five dimensions: law and code, caring, independence, rules and instrumental. Other studies have examined the relationship between ethical work climate and other variables such as ethical behavior or intentions [5]; organizational commitment [6]; moral awareness [7] and management levels [8].

Findings suggest a relationship between the instrumental dimension (based on self-interest) and unethical behavior [9, 10]. Forte [8] found a relationship between management levels and ethical climate type. The purpose of this study is to consider whether public accounting firm partners' perceptions of instrumental climate differ from those of the firm's employees. The second section of this paper discusses the theoretical development of ethical work climate, the initial studies that produced the ECQ and the research that demonstrates support for the empirically determined dimensions. An overview of studies examining the relationship between ethical climate and other constructs is also provided. The third section outlines the research methods and the final section discusses data analysis and results.

ETHICAL WORK CLIMATE

Ethical Work Climate-Theoretical Development

Arguing that individual characteristics were insufficient to explain determinants of ethical decisions in an organizational context, Victor and Cullen [2] developed the concept of ethical work climate which they defined as: "the prevailing perception of typical organization practices and procedures that have ethical content." (p.101) The approach used

to develop a theoretical typology of ethical work climate was based on theories of moral philosophy (ethical criteria dimension) and sociology (locus of analysis dimension).

The ethical criteria dimensions were based on three moral philosophies: egoism, benevolence and deontology which roughly correspond to the levels of cognitive moral development espoused by Lawrence Kohlberg. Egoism is based on maximizing self-interest unlike benevolence which is based on utilitarianism (greatest good for the greatest number). Deontology focuses on the application of principles and rules and regulations. Victor and Cullen [2] are careful to point out that ethical work climate is a group level phenomenon, whereas Kohlberg's [11] theory is based on the processes used by individuals to arrive at moral judgments.

The second dimension, locus of analysis, is based upon the referent group considered when making ethical judgments. Victor and Cullen [2] suggest that any one of the three ethical criteria dimensions (i.e., egoism, benevolence and deontology) can operate at the individual, company or cosmopolitan (broad social) level. The theorized 3x3 matrix (Table 1) suggests nine possible climate types; however, the authors found empirical support for only five dimensions which they labeled as: law and code, caring (a combination of the friendship and team interest theoretical climates), instrumental, independence (associated with the personal morality theoretical climate) and rules. The study also showed significant differences in perception of climate type both across and within firms. The Ethical Climate Questionnaire (ECQ) was the product of this initial study and is: "simply an instrument to tap, through perception of organization participants, the ethical dimensions of organization culture." (p.103).

The instrumental climate, which is the focus of this study, is based on egoism (self-interest). Results of the factor analysis did not distinguish between the local and individual locus of analysis. Examples of ECQ questions include: "in this company, people protect their interests above all else" and "people are expected to do anything to further the company's interests, regardless of the consequences."

*Address correspondence to this author at the State University of New York at Oneonta, Division of Economics & Business, Ravine Parkway, Oneonta, NY 13820; Tel: (607)436-3553; Fax: (607)436-2543; E-mail: buchanhf@oneonta.edu

Table 1. Hypothesized Ethical Climates

Ethical Criteria	Locus of Analysis		
	Individual	Local	Cosmopolitan
Egoism	Self-Interest	Company Profit	Efficiency
Benevolence	Friendship	Team Interest	Social Responsibility
Principle	Personal Morality	Rules	Laws, Prof. Codes

Adapted from Cullen *et al.* [3, p. 668].

Victor and Cullen [2] argue that ethical climates are multidimensional and represent normative control systems molded by societal norms, organizational form and certain firm specific factors. For example, based on the findings of their initial study, the authors suggest that all firms form a “base level” of caring ethical climate. Arguably, this is somewhat reflective of societal norms. Moreover, this seemed to be the more preferred climate by workers.

The authors suggest that organizational form also influences the development of ethical climate type. For example, bureaucratic and economic theories predict certain relationships between the normative and technological/structure of an organization. Ethical climate theory also is largely based on normative systems and, therefore, should be influenced by the form of organization.

Subsequent Testing of the ECQ

Cullen, Victor and Bronson [3] also examined the psychometric properties of the ECQ. Based on results of the earlier studies [1, 2], the questionnaire was modified to include 4 items for each of the nine hypothesized climate dimensions. Across 12 organizations which included four accounting firms, 1,167 individuals were sampled. Unlike the initial assessment of the ECQ, results suggested seven climate types with self-interest and efficiency from the “egoism” criterion, friendship/team interest and social responsibility from the “benevolence” criterion, and personal morality, rules, and laws and professional codes from the “principle” criterion. Table 2 shows both the hypothesized dimensions [1] and a summary of those empirically determined (italicized in Table 2) in their three validation studies [1-3]. The only dimensions unidentified at that point include com-

pany profit and team interest. Coefficient alpha used to assess instrument reliability ranged from .69 to .85.

Relationship of Ethical Work Climate to Other Constructs

Wimbush, Shepard and Markham [4] attempted to replicate the dimensions found by Victor and Cullen [2] by testing the ECQ in sub-units of a multi-unit organization. Rather than five dimensions, results of their analysis supported three (i.e., caring, independence and instrumental) empirically determined by Victor and Cullen. Factor analysis did not distinguish between law and code and rules. Moreover, a new factor labeled “service” was identified. They suggest that this factor may not have surfaced in Victor and Cullen’s factor analysis if no market forms of governance were included in their sample. The association between organizational form and ethical climate type (Victor and Cullen’s predictability hypothesis) was also of interest in this investigation. For example, the authors tested whether employees of retail stores perceived an instrumental climate; results showed little support for that hypothesis.

Wimbush *et al.* [10] were among the first to explore the relationship between ethical climate and ethical behavior considering multiple levels of analysis. Ethical behavior was measured by responses to four vignettes that were based on actual events (e.g., lying, stealing). The authors hypothesized that the five ethical dimensions measured by the ECQ (i.e., caring, law and code, rules, independence and instrumental) and ethical behaviors would vary among organizational sub-units and that those high on the four ethical dimensions (caring, law and code, rules and independence) would also demonstrate high levels of ethical behavior. Results showed

Table 2. Hypothesized & Empirically Determined Ethical Climates

Ethical Criteria	Locus of Analysis		
	Individual	Local	Cosmopolitan
Egoism	Self-Interest	Company Profit	Efficiency
	<i>Self-Interest</i>		<i>Efficiency</i>
Benevolence	Friendship	Team Interest	Social Responsibility
	<i>Friendship/Team Interest(1)</i>		<i>Social Responsibility</i>
Principle	Personal Morality	Rules	Laws, Prof. Codes
	<i>Personal Morality</i>	<i>Rules</i>	<i>Laws, Prof. Codes</i>

Adapted from Cullen *et al.* [3, p. 668] (1) Loaded on same factor-all studies.

modest support (12 of 20 relationships were significant) at the individual level and no significant relationships at the district level.

Fritzsche [12] classified subjects employed by a high technology firm by climate type based on responses to the ECQ. While not entirely clear, I assume that respondents were assigned to the category receiving the highest score on the scale. The author was interested in the relationship between the predominant climate type perceived by the individual and responses (ethical or unethical) to vignettes posing various ethical dilemmas. Topics dealt with included bribery, coercion, deception, theft and unfair discrimination. Approximately 60% of the subjects were classified as laws and professional code and generally chose the ethical path. However, the response to the bribery vignette proved to be the exception; approximately 50% of the subjects were willing to make payment.

In a similar study, Barnett and Vaicys [13] investigated the potential impact of ethical climate on behavioral intentions. The authors also used the Multidimensional Ethics Scale (MES) as a measure of ethical judgment. A survey instrument was mailed to a random sample of 1,000 members of the American Marketing Association; 207 usable responses were received (20.7%). Because this represents data from (potentially) 207 different organizations, the data cannot be aggregated to determine existence of a predominant climate type, sub-climates within an organization, and so on.

However, the potential relationship between perception of ethical climate and behavioral intentions at the individual level remains a central building block for creating a multidimensional/multi-level model. Another boundary of this particular study relates to the composition of the sample. The majority were marketing managers with mean annual household incomes of approximately \$105,000.

Factor analysis suggested four ethical climates which Barnett and Vaicys [13] labeled as: self-interest, team/friendship, social responsibility and rules/code. Failure to more closely duplicate earlier studies may relate to the sample restrictions discussed above. The survey instrument included an (arguably) unethical act. Subjects completed the MES as a measure of ethical judgment and were asked to indicate the likelihood they would engage in the behavior described in the scenario if in a similar situation. Results did not support a direct effect of perceived ethical climate on behavioral intentions. However, they suggest ethical climate moderates the ethical judgment-intention relationship.

Vardi [14] also considered the relationship between ethical climate and behavior. Unlike Barnett and Vaicys [13], the author focused on one organization, a metal products company located in northern Israel. Subjects included employees from all four departments: production, production services, marketing and administration. Unlike other studies, the survey instrument asked subjects to indicate the frequency of misconduct in the plant.

Factor analysis of the translated version of Victor and Cullen's Ethical Climate Questionnaire produced three significant factors: rules, caring and instrumental. Several studies support five dimensions which include those found in this study plus laws and code and independence. Even though not

raised as an issue, perhaps cultural as well as company specific factors influenced the observed results.

Another interesting feature of this study was consideration of the potential relationship between organizational climate and misconduct. The author points out that: "ethical climates are embedded in the organizational climate which is embedded in the organizational culture and thereby affecting behavior differently. The difference, we believe, lies in the level of specificity of the criterion." (p. 333). This view is certainly consistent with Victor and Cullen's [2] approach to ethical climate.

Findings suggest significant relationships between organizational and ethical climate and misconduct, with ethical climate explaining the greatest percentage of the variance. Contrary to expectations, differences in perceived ethical climate between departments were not found. However, this was a relatively small company (138 employees and 97 usable responses) with the majority of respondents working in the production department. The dominant ethical climate was rules and regulations. As the authors point out, this result may be typical of organizations dominated by production related activities.

Development of Hypothesis

The purpose of this study is to determine whether owners (partners) perceptions of the instrumental dimension of ethical work climate differed from those of other levels in the firm. Even though no study has apparently considered the specific issue in a public accounting setting, prior research does provide some guidance. For example, Finn, Chonko and Hunt [15] found that "upper echelon" CPAs with the highest levels of income identified fewer ethical issues than those with lower levels of income. Because the study focused on top management, the authors suggest future research should examine perceptions of employees at "lower levels."

Forte [8] also found a relationship between management levels and perceptions of ethical issues. Attitudes of those with lower levels of managerial experience and income towards ethical issues involving stakeholder relations were less positive than those with higher levels of income and experience.

Cullen *et al.* [3] point out that the loci of analysis (e.g. individual, local and cosmopolitan) can combine in different ways depending on the structure and unique characteristics of the organization. As such, the study considered the relationship between ethical criteria (e.g., egoistic, benevolent and principled) and organizational commitment. While the research considered two types of organizations, of interest here is the study of accounting firms: two were offices of multinational firms and two were small local firms. Findings suggest a positive relationship between the benevolent and principled dimensions and organizational commitment. Consistent with prior research [16, 17] perceptions of egoistic climates were negatively related to commitment.

Peterson's [9] study of business professionals found that self-interest and company profit (egoist criteria can combine to form instrumental climate) were the only dimensions that correlated positively with unethical behavior. This approach is consistent with Wimbush and Shepard's [17] suggestion

that the other climate types support ethical intentions. Thus, instrumental climates that emphasize individual self-interest and company interests above all others are most likely to foster unethical behavioral intentions. Wimbush *et al.*'s [10] empirical study discussed earlier found some support for this assertion.

The foregoing leads to the following hypothesis:

Partners (owners) perceptions of instrumental ethical work climate will differ from those of employees

RESEARCH METHODOLOGY

Research Design

The proposed study is a nonexperimental cross-sectional design using a survey questionnaire. Human subjects are required and the protocol was approved by the appropriate institutional review board.

Sample and Procedure

Five public accounting firms operating primarily in one state and located in the northeast agreed to participate in this study. Access to professionals is often restricted and generally requires use of convenience samples. Even though the sample is nonprobabilistic, subjects are representative of the domain of interest and analysis of results will consider the boundary conditions and other potential limitations. The extent of participation and the administration of the survey instrument varied among the firms.

Administration of the Survey Instrument

Potential subjects received a letter inviting them to participate in the study. The letter adhered to guidelines established by the human subjects institutional review board, briefly described the study and offered assurance that responses were confidential and anonymity was guaranteed.

Response Rate

Table 3 summarizes the surveys distributed and received. The overall response rate was 65.6% resulting in a final sample size of ninety-five responses.

Table 3. Survey Response Rate

Firm	Distributed	Usable Responses
A	13	13
B	12	12
C	40	19
D	55	33
E	40	18
Total	160	95

INSTRUMENTATION

Instrumental Ethical Climate

The seven questionnaire items developed by Victor and Cullen [2] were used to measure instrumental climate (Appendix I). Reliability of the scale, measured by coefficient

alpha was .71. Prior studies provide support for this dimension and report acceptable levels of reliability (e.g., Flannery and May [18], $\alpha=.81$; Kelley and Dorsch [19], $\alpha=.73$; and Wimbush, Shepard and Markham [10], $\alpha>.72$).

Social Desirability Bias

Beck and Ajzen [20] illustrate the difficulties encountered in ethics research and acknowledge the criticisms surrounding self-report data, but suggest "there are few, if any, practical alternatives that could provide equally interesting and detailed information about an individual. The practice of relying on self-reports is thus likely to continue, even though it is well recognized that such reports may be biased by tendencies to furnish socially desirable responses and to deny holding socially undesirable attitude or performing socially undesirable behavior." (p. 291).

The Marlowe-Crowne Social Desirability Scale [21] has been widely used in personality research to test for the presence of this type of response bias. Several shorter versions of the standard 33-item scale have been developed. Confirmatory factor analysis [22, 23] and testing of various versions provide support for certain sub-scales. Fischer and Fick [23] found that the scale developed by Strahan and Gerbasi [24] to have high internal consistency and was strongly correlated with the standard Social Desirability Scale (SDS). Thus, this 10-item scale was used in this study as a test for response bias. Reliability of the scale was evaluated by computing Cronbach's alpha. The degree of correlation with the instrumental scale was used to assess potential bias.

DATA ANALYSIS, DISCUSSION AND CONCLUSION

Sample Characteristics

Table 4 presents the distribution of staffing levels of the participants in the five firms. Overall, participation of the owners of the firms illustrates strong support for the project. Partners/principals represent 30 percent of the subjects and employees 70 percent.

Table 4. Position in the Firm

Position	Number	Percent
Staff	32	34
Senior	14	15
Manager/Supervisor	15	16
Senior Manager	5	5
Partner/Principal	29	30
Total	95	100

Table 5 presents the areas of specialization within the participating firms. Audit combined with the audit and tax category represents 64 percent of the total number of subjects. What appears somewhat unusual is the large percentage of respondents who identified tax as their area of specialization.

Table 6 presents the average years of experience by gender. Females represent 45 percent of the total respondents, which may reflect recent trends in public accounting. The

average number of years of experience for females is considerably less than that of males. However, this does not seem unusual given current trends.

Table 5. Area of Specialization

Area	Number	Percent
Audit	50	53
Tax	31	32
Tax & Audit	14	15
Total	95	100

Data Analysis and Results

Table 7 presents the climate mean for the five positions in the firm. Notably, the partner/principal group's mean score is the lowest among the categories.

Table 6. Gender and Average Years of Experience

Gender	Number	Percent	Years of Public Accounting Experience
Female	45	47	6.2
Male	50	53	13.7
Total	95	100	

Table 7. Descriptive Statistics

Dependent Variable: Climate Mean			
Position in the Firm	Mean	Std. Deviation	N
staff	1.6071	.71013	32
senior	1.6122	1.22945	14
manager/supervisor	1.8381	.81685	15
senior manager	1.7429	.90576	5
partner/principal	1.0640	.74288	29
Total	1.4857	.87156	95

Table 8. Tests of Between-Subjects Effects

Dependent Variable: Climate Mean						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	8.046 ^a	4	2.011	2.857	.028	.113
Intercept	153.155	1	153.155	217.556	.000	.707
Position	8.046	4	2.011	2.857	.028	.113
Error	63.358	90	.704			
Total	281.102	95				
Corrected Total	71.404	94				

a. R Squared = .113 (Adjusted R Squared = .073).

A one-way ANOVA (Table 8) was used to test the hypothesis. The independent variable, position in the firm, included five levels: staff, senior, manager/supervisor, senior manager and partner/principal. The dependent variable was the mean of the items measuring instrumental ethical climate. The ANOVA was significant, $F(4, 90)=2.86, p=.03$.

Follow-up tests were conducted to evaluate pairwise differences among means. Because variances among the groups ranged from .50 to 1.51 and the results of the Levene Test of Equality of Variance, $F(4, 90)=.89, p=.473$, I chose not to assume that the variances were homogeneous and conducted post hoc comparisons using the Dunnett's C test, a test that does not assume equal variances among the groups. There was a significant difference between the partner/principal group and the staff and senior groups.

The correlation ($r= -.114$) of the short-version of the Marlowe-Crowne scale with the instrumental scale was not significant.

DISCUSSION

Public accounting firm members are professionals bound by strict professional standards, are subject to close monitoring by outside organizations (e.g., Public Company Accounting Oversight Board, state boards of accountancy, American Institute of Certified Public Accountants, peer firms) and would not be expected to perceive instrumental climates. The mean scores for the seven items included in the ethical climate scale ranged from 1.06 (partner group) to 1.84 (higher scores indicate instrumental climate) which illustrate that participants did not perceive an instrumental climate. However, the mean responses range from between “mostly false” and “somewhat false” which does indicate that participants did not all share the same view.

Results of this study suggest that partners’ perceptions of the instrumental dimension of ethical climate differ from those at other levels in the firm. Prior studies [9] suggest a relationship between instrumental climate and unethical behavior. As a result, actions to clearly articulate expectations of the partners (owners) and the profession are paramount. Audit risk analysis places considerable emphasis on evaluating all aspects of corporate governance including an internal environmental analysis that considers the “tone at the top”. Recent corporate failures (eg., Enron, WorldCom, Global Crossing, etc.) illustrate the pervasive effect of a culture that focuses on results above all else. Public firms must continue efforts to demonstrate their willingness to discharge their responsibilities and serve the public interest. This preliminary analysis illustrates that partners must consider factors and actions that may cause differences in perceptions.

FUTURE RESEARCH

Victor and Cullen’s [1, 2] conceptualization of ethical work climate theory and subsequent development of the ethical climate questionnaire (ECQ) has generated a modest, but promising stream of research. As Vidaver-Cohen [25] point out, Victor and Cullen [1, 2] have left certain issues open to future research. For example, they did not elaborate the “practices and procedures” that have ethical content, nor

APPENDIX 1

Instrumental Ethical Climate

Ethical Climate Questionnaire

INSTRUCTIONS

We would like to ask you some questions about the general climate in your *Firm*. Please answer the following in terms of how it really is in your Firm, not how you would prefer it to be. Please be as candid as possible; remember, all your responses will remain strictly anonymous.

Please indicate whether you agree with each of the following statements about your company. Please use the scale below and write the number which best represents your answer in the space next to each item.

To what extent are the following statements true about your Firm?

Completely	Mostly	Somewhat	Somewhat	Mostly	Completely
false	false	false	true	true	true
0	1	2	3	4	5

did they provide extensive discussion of the potential antecedents to ethical climate type(s). Schein’s [26] discussion of the relationship between leadership and organizational culture suggests an important area of future research. Leaders create (and potentially destroy) culture. Ethical work climate can be conceptualized as a subculture of organizational culture. Gottlieb and Sanzgiri [27] discuss the reciprocal relationship between culture and leadership and illustrate assumptions embedded in culture which guide the ethical decision-making process. Carlson and Perrew [28] outline the elements of culture that combine with transformational leadership to create an ethical organization. Thus, future research focused on public accounting firms should investigate the pervasive influence of leadership style of Partners on the development of ethical climate type.

Empirical investigation of ethical work climate may necessitate the use of a combination of quantitative and qualitative research techniques. Surveys, and single source questionnaires may not be sufficient to answer the most pressing questions. For example, in-depth study over a period of time offers a unique opportunity to witness the shaping of corporate culture, and more specifically, the elements that help guide firm and individual ethical conduct.

Future research efforts should include the use of the complete Ethical Climate. The questionnaire and the sample should be expanded to include regional and national firms. Climate types could be analyzed and used to consider relationships to individual behavioral intentions (e.g., turnover intentions, organizational commitment). Research could also consider differences in climate types between public accounting firms.

LIMITATIONS

Certain potential limitations of this study are noteworthy. First, the sample was nonrandom and representative of firms operating primarily within one state. On the one hand, this restricts the ability to generalize the results. On the other hand, restricting the sample to a small group of local firms controls for other (unspecified) variables that may influence the relationship between the variables of interest.

- E1 In this Firm, people protect their own interests above all else. _____
- E2 In this Firm, people are mostly out for themselves. _____
- E3 There is no room for one's own personal morals or ethics in this Firm. _____
- E4 People are expected to do anything to further the Firm's interests, regardless of the consequences. _____
- E5 People here are concerned with the Firm's interests-to the exclusion of all else. _____
- E6 Work is considered substandard only when it hurts the Firm's interests. _____
- E7 The major responsibility of people in the Firm is to control costs. _____

Adapted from Victor and Cullen (1988).

REFERENCES

- [1] Victor B, Cullen J. A theory and measure of ethical climates in organizations. *Res Corp Soc Perform Policy* 1987; 9: 51-71.
- [2] Victor B, Cullen J. The organizational bases of ethical work climate. *Admin Sci Q* 1988; 33: 101-25.
- [3] Cullen J, Victor B, Bronson J. The ethical climate questionnaire: An assessment of its development and validity. *Psychol Reports* 1993; 73: 667-74.
- [4] Wimbush J, Shepard J, Markham S. An empirical examination of the multi-dimensionality of ethical climate in organizations. *J Bus Ethics* 1997; 16 (1): 67-78.
- [5] DeConinck J, Lewis W. The influence of deontological and teleological considerations and ethical climate on sales managers' intentions to reward or punish sales force behavior. *J Bus Ethics* 1997; 16(5): 497-507.
- [6] Cullen J, Parboteeah K, Victor B. The effects of ethical climates on organizational commitment: A two-study analysis. *J Bus Ethics* 2003; 46: 127-41.
- [7] VanSandt C, Shepard J, Zappe S. An examination of the relationship between ethical work climate and moral awareness. *J Bus Ethics* 2006; 68: 409-32.
- [8] Forte A. Antecedents of managers moral reasoning. *J Bus Ethics* 2004; 51: 315-47.
- [9] Peterson D. The relationship between unethical behavior and the dimensions of the ethical climate questionnaire. *J Bus Ethics* 2002; 41: 313-26.
- [10] Wimbush J, Shepard J, Markham S. An empirical examination of the relationship between ethical climate and ethical behavior from multiple levels of analysis. *J Bus Ethics* 1997; 16(16): 1705-17.
- [11] Kohlberg L. Stages and sequences: The cognitive developmental approach to socialization. In: Goslin D, Ed. *Handbook of socialization theory and research*. Chicago, IL: Rand McNally 1969; pp. 347-480.
- [12] Fritzsche D. Ethical climates and the ethical dimension of decision making. *J Bus Ethics* 2000; 24(2): 125-41.
- [13] Barnett T, Vaicys C. The moderating effect of individuals' perceptions of ethical work climate on ethical judgments and behavioral intentions. *J Bus Ethics* 2000; 27: 351-62.
- [14] Vardi Y. The effects of organizational and ethical climates on misconduct at work. *J Bus Ethics* 2001; 29: 325-37.
- [15] Finn D, Chonko L, Hunt S. Ethical problems in public accounting: The view from the top. *J Bus Ethics* 1988; 7: 605-16.
- [16] Trevino L, Butterfield K, McCabe D. The ethical context in organizations: influences on employee attitudes and behaviors. *Bus Ethics Q* 1998; 8(3): 447-77.
- [17] Wimbush J, Shepard J. Toward an understanding of ethical climate: Its relationship to ethical behavior and supervisory influence. *J Bus Ethics* 1994; 13: 637-47.
- [18] Flannery B, May D. Environmental ethical decision making in the U.S. metal finishing industry. *Acad Manag J* 2000; 43: 642-62.
- [19] Kelley S, Dorsch M. Ethical climate, organizational commitment, and indebtedness among purchasing executives. *J Pers Selling Sales Manag* 1991; 11(4): 55-66.
- [20] Beck L, Ajzen I. Predicting dishonest actions using the theory of planned behavior. *J Res Pers* 1991; 25: 285-301.
- [21] Crowne D, Marlowe D. A scale of social desirability independent of psychopathology. *J Consult Psychol* 1960; 24: 349-54.
- [22] Loo R. Confirmatory factor analysis of the full and short versions of the Marlowe-Crowne Social Desirability Scale. *J Soc Psychol* 2000; 140(5): 628-35.
- [23] Fischer D, Fick C. Measuring social desirability: Short forms of the marlowe-crowne social desirability scale. *Educ Psychol Measurement* 1993; 53: 417-25.
- [24] Strahan R, Gerbasi K. Short, homogeneous version of the marlowe-crowne social desirability scale. *J Clin Psychol* 1972; 28: 191-3.
- [25] Vidaver-Cohen D. Moral climate in business firms: a conceptual framework for analysis and change. *J Bus Ethics* 1998; 17(11): 1211-27.
- [26] Schein EH. *Organization Culture and Leadership*. San Francisco: Jossey-Boss 1992.
- [27] Gottlieb J, Sanzgiri J. Towards an ethical dimension of decision making in organizations. *J Bus Ethics* 1996; 15: 1275-85.
- [28] Carlson D, Perrew P. Institutionalization of organizational ethics through transformational leadership. *J Bus Ethics* 1995; 14: 829-38.

Received: November 17, 2008

Revised: January 1, 2009

Accepted: January 5, 2009

© Howard Buchan; Licensee *Bentham Open*.

This is an open access article licensed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0/>) which permits unrestricted, non-commercial use, distribution and reproduction in any medium, provided the work is properly cited.