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Recommended Citation

Shafer, W. E., Poon, M. C. C., & Tjosvold, D. (2013). Ethical climate, goal interdependence, and commitment among Asian auditors. *Managerial Auditing Journal*, 28(3), 217-244. doi: 10.1108/02686901311304358

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Ethical climate, goal interdependence, and commitment among Asian auditors

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Abstract

Purpose – The aim of this study is to examine the relations among organizational ethical climate, goal interdependence (cooperative vs competitive goals), and organizational and professional commitment among auditors in Asia.

Design/methodology/approach – The authors conducted a field survey of 293 auditors employed in two offices of an international accounting firm: one in Hong Kong and one in Singapore.

Findings – Structural equation analyses indicate that instrumental ethical climates that focus on the pursuit of self-interest and firm profitability promote more competitive and less cooperative goals among auditors. Benevolent/cosmopolitan (public interest) climates appear to enhance cooperative goals among employees. Cooperative goals in turn were associated with increased affective and normative organizational and professional commitments. Competitive environments significantly reduced affective and normative organizational commitment as well as affective professional commitment. Compared with their Hong Kong counterparts, Singaporean auditors perceived the ethical climate in their firm to be more positive or supportive of ethical values, and also felt the work environment in the firm was more cooperative and less competitive. In addition, the Singaporean auditors exhibited somewhat higher levels of emotional attachment to both their firm and the public accounting profession.

Originality/value – No prior accounting study has examined the influence of cooperative/competitive goals on work outcomes in a public accounting setting, or the role of ethical climates as potential antecedents of such goals. The results of the current study indicate that the development of cooperative and competitive goals is significantly related to the perceived ethical climate in public accounting firms, and that such goals may have significant effects on employee commitment not only to their organization but also to their profession. The significant differences between auditors in Hong Kong and Singapore have not previously been documented, and raise questions for future research.

Keywords

Cooperative goals, Competitive goals, Ethical climate, Professional commitment, Organizational commitment, Auditors, Auditing, Hong Kong, Singapore.

INTRODUCTION

Regulators and researchers have argued that the culture of public accounting firms very much affects professional attitudes and conduct and that the increasing pressures on accounting firms for profitability have undermined traditional professional values. However, little is known about the dynamics by which organizational cultures may affect professionals. This study proposes that the organizational ethical culture of accounting firms affects the relationships among auditing professionals and thereby their commitment to the firm and the profession. In addition to our theoretical understanding of the role of organizational culture/climate in accounting firms, this study addresses the concerns of regulatory and professional bodies about the shift in public accounting toward an inordinate emphasis on revenue generation and profitability, and suggests how traditional professional values can strengthen cooperative relationships and thereby the commitment of professional auditors.

In the wake of widely-publicized financial reporting scandals surrounding the turn of this century, there has been much discussion and debate regarding the organizational cultures of public accounting firms, and this issue has come under the close scrutiny of professional and regulatory bodies (Jenkins et al., 2008). The Public Company Accounting Oversight Board (PCAOB) established by the Sarbanes-Oxley legislation in the USA, recognized that firm culture may have an overarching effect on the quality of an accounting firm's services. The Board also considered revisions to its quality control standards to explicitly acknowledge the importance of maintaining a culture that supports professional values (Jenkins et al., 2008). The Public Oversight Board's (POB, 2000) Panel on Audit Effectiveness suggested in its report that the "tone at the top" in an accounting firm is a major determinant of whether the firm will be primarily oriented toward serving the public good or simply maximizing short-term profitability. The Panel's report encouraged accounting firms to adopt acculturation processes aimed at aligning the individual goals of audit team members, with the firm goal of producing high quality audit work (POB, 2000).

Despite this heightened concern with the effects of accounting firm culture on individual employees' goals and attitudes, relatively little is actually known about the processes and relationships involved. Research on the organizational cultures of public accounting firms remains in an early stage of development. As Jenkins et al. (2008, p. 49) recently noted, "Culture encapsulates the essence of an audit firm; however, relatively little empirical evidence exists about cultures within firms."

For many years, public accounting has been viewed as a competitive work environment. As noted by Dalton et al. (1997, p. 33):

“The prevailing work environment in public accounting in general and in large CPA firms in particular has been described as highly competitive, driven by extreme work pressures, [and] characterized by an increasingly hostile internal/external control and supervision atmosphere.”

The increasingly competitive and commercialized nature of the public accounting profession over the past few decades (Hanlon, 1994; Zeff, 2003a, b; Wyatt, 2004) is often credited with the creation of more competitive work environments within public accounting firms. As auditing and tax partners felt greater pressure to compete with other firms and with the more profitable consulting divisions of their own firms, arguably the culture of public accounting shifted from an emphasis on traditional professional values, such as serving the public interest, to an obsession with growth and profitability (Zeff, 2003a, b; Wyatt, 2004). It has been further suggested that these shifts in leaders' attitudes gradually permeate all levels of the organization, affecting attitudes and behavior throughout the firm (Wyatt, 2004).

To obtain empirical evidence relevant to these issues, the current study investigates the processes through which the tone at the top in public accounting firms influences individual auditors' goals and attitudes. More specifically, we propose that the perceived ethical climate in an accounting firm (a critical component of organizational culture) affects goal interdependence (the extent to which goals are perceived as competitively or cooperatively related), and that goal interdependence affects employees' commitment both to their organization and to the public accounting profession. For example, an organizational ethical climate that emphasizes serving the public interest should enhance cooperation among employees in their pursuit of this collective goal and consequently lead to higher levels of organizational and professional commitment. In contrast, if the ethical climate or tone at the top in an organization focuses on instrumental concerns such as profitability and the pursuit of self-interests, this should foster a more competitive environment that decreases commitment to the organization and, by extension, to the public accounting profession. Prior research has documented that accountants with higher levels of professional commitment tend to make more ethical decisions (Hall et al., 2005). Thus, our research is clearly relevant to the concerns of regulatory and professional bodies regarding the potential negative consequences of the perceived shift in public accounting firms away from traditional professional values, such as public service, toward the more instrumental concerns of revenue generation and profitability.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

This section will review relevant literature for the major constructs of interest in the paper: organizational ethical climate, cooperative and competitive goals, and organizational/professional commitments. We will also provide a brief discussion of the issue of potential cross-national

differences between Hong Kong and Singapore. During the course of the discussion, we will develop our research hypotheses and a research question.

Ethical climate

To operationalize the concept of organizational ethical culture, we adopted the ethical climate theory of Victor and Cullen (1987, 1988). The theory of organizational ethical climate, long influential in management and business ethics research, has recently been applied to the study of ethical decision making (Shafer, 2008) and affective outcomes such as organizational commitment (Shafer, 2009) in public accounting. The ethical climate construct is based on the idea that within organizations distinct climates or cultures may emerge that vary significantly in terms of how ethical issues are perceived and evaluated (Victor and Cullen, 1987, 1988)[1]. According to the theory, organizational ethical climates vary along two primary dimensions: the “ethical criteria” and the “loci of analysis” that influence decision making. The crossing of these two dimensions produces the 3×3 matrix of climate types shown in Figure 1.

		LOCUS OF ANALYSIS		
		Individual	Local	Cosmopolitan
ETHICAL CRITERION	Egoism	Self-Interest	Company Profit	Efficiency
	Benevolence	Friendship	Team Interest	Social Responsibility
	Principle	Personal Morality	Company Rules and Procedures	Laws and Professional Codes

Figure 1.

Source: Victor and Cullen (1988)

Theoretical climate types

As illustrated in the figure, the ethical criteria proceed from egoism to benevolence to principle. Egoistic climates, based on the idea of ethical egoism, tend to emphasize the pursuit of narrowly defined interests (such as self-interest). In contrast, in benevolent climates, the focus is on collective interests. In principled climates, the primary emphasis is on following ethical principles and rules. The locus of analysis provides a point of reference by defining the specific groups considered when making ethical decisions. The primary focus may be limited to the individual or expanded to local groups and society as a whole (cosmopolitan). The combination of the three broad ethical criteria with the loci of analysis produces more specific and meaningful climate

types.

As illustrated, egoism at the individual level implies a primary focus on oneself. Thus, in an egoistic/local climate, employee pursuit of self-interests is at least implicitly condoned. Egoism at the local level produces an emphasis on the “self-interest” of the organization, generally interpreted as a focus on firm profitability and survival at the expense of broader considerations such as social welfare. Meaningful distinctions may also be drawn for benevolence under varying loci of analysis. For instance, benevolence at the local level is often associated with a caring organizational environment that emphasizes the interests of team members, whereas at the cosmopolitan or societal level the primary emphasis is on the public interest or collective welfare of society. At the individual level, an emphasis on principle implies that one follows their own moral or ethical standards. At the local level, principle suggests a focus on following organizational rules or codes of conduct. Finally, at the cosmopolitan level principle is usually interpreted as an emphasis on conformity with laws or professional codes of conduct (Victor and Cullen, 1987, 1988; Treviño et al., 1998).

Significant variation exists in the specific ethical climates identified across studies (Treviño et al., 1998; Martin and Cullen, 2006). Indeed, the nine theoretical climate types were intended only as a general framework for the conceptualization of ethical climates and thus inconsistencies across organizational settings should be expected (Victor and Cullen, 1987, 1988). Nonetheless, recent studies of ethical climate in public accounting firms have consistently found support for the existence of benevolent/cosmopolitan (public interest) and principled/cosmopolitan climates, as well as egoistic/individual and/or egoistic/local climates (Cullen et al., 2003; Parboteeah et al., 2005; Shafer, 2008, 2009). Due to the emphasis on serving the public interest and following professional codes of conduct in public accounting (AICPA, 2009), it is not surprising that benevolent/cosmopolitan and principled/cosmopolitan climates have consistently emerged in this context. Due to the ever-present temptation of compromising professional standards in pursuit of self-interest or short-term firm profitability, it is also not surprising that egoistic climates have emerged[2].

The ethical climate construct has been quite influential in the business ethics literature and the weight of the evidence suggests that employees' “perceptions” of the prevailing climates in their organization affect ethical decisions, and are also associated with work outcomes such as organizational commitment and job satisfaction (Martin and Cullen, 2006). In general, egoistic climates tend to lead to less ethical decisions, while benevolent and principled climates lead to more ethical decisions. Egoistic climates are also associated with lower organizational commitment and job satisfaction, whereas benevolent and principled climates are generally associated with higher organizational commitment and job satisfaction (Martin and Cullen, 2006).

The current study argues that ethical climate directly impacts goal interdependence in accounting firms, i.e. the extent to which the work environment is perceived as cooperative or competitive in nature. We now turn our attention to this topic.

Cooperative and competitive goals

Management researchers have documented the effects of goal interdependence in organizations (Tjosvold, 1988; Zhang et al., 2007; Tjosvold et al., 2008; Wang et al., 2010). This work is grounded in Deutsch's (1973) theory of cooperation and competition, which posits that how organizational members view their goals in relation to others' affects their interaction and thereby a variety of important outcomes (Johnson and Johnson, 2005). In cooperative environments, people perceive that their goals are positively related and mutually reinforcing; consequently, the achievement of one's own goals contributes to colleagues' achievement of their goals. In contrast, in competitive work environments, goals are viewed as negatively related and mutually exclusive: the achievement of one's personal goals diminishes the likelihood that colleagues' goals will be achieved and vice versa (Deutsch, 1973; Johnson and Johnson, 1989; Snell et al., 2006).

Prior research on public accounting firms has not addressed the issue of cooperative and competitive work goals, although goal interdependence may have important implications in this context. Teams are ubiquitous in public accounting firms. Typically, specific tasks are accomplished through the collaborative efforts of "engagement teams", which usually include a partner, a manager, a supervisor and/or senior, and several staff (lower-level) accountants, working together to complete a professional engagement such as an audit of financial statements or completion of tax filings. Previous research suggests that cooperative goals are critical to effective collaboration (Chen and Tjosvold, 2008; Tjosvold et al., 2008; Wong et al., 2009). Thus, in cooperative environments, employees should view the successful completion of an engagement as a "win-win" situation, where individuals work together in a mutually supportive fashion, all benefiting when the team succeeds. In such an environment, team members should be willing to support each others' efforts, openly share information and assist each other when the need arises, with little competition within the team (Zhang et al., 2011).

On the other hand, if colleagues view their goals as competitive, individuals are likely to pursue their own personal agendas with little concern for and indeed at the expense of others. In such organizational contexts, team members may aggressively compete with each other and engage in behaviors designed to promote themselves at their colleagues' expense. For instance, staff members may be unwilling to assist each other or openly share information, behaviors that negatively impact the team's overall efficiency (Zhang et al., 2011).

As previously discussed, public accounting has often been described as highly competitive in

nature (Dalton et al., 1997; Zeff, 2003a, b; Wyatt, 2004). Casual observation and anecdotal evidence confirm these assertions. Public accounting is widely known as an “up or out” environment: big firms in particular are characterized by large numbers of lower-level employees relative to partners and managers, high turnover, and keen competition for advancement. To the extent that professional employees perceive the environment to be competitive, dysfunctional consequences are likely to result; accordingly, this is clearly an issue that the management of public accounting firms should address.

Effects of ethical climate on cooperative and competitive goals

Accounting researchers have recognized the potential influence of firm climate or culture on relationships among employees. As noted by Jenkins et al. (2008, p. 52), “Beyond its role in establishing boundaries for acceptable and unacceptable behavior, culture also lays the foundation for the ways in which firm employees interact.” Accounting regulators have also acknowledged the potential connection between firm culture and work goals in public accounting. The POB's (2000) Panel on Audit Effectiveness encouraged firms to align the goals of individual employees with traditional professional values through processes of acculturation. How this may be accomplished, however, remains an open question.

This study proposes that the organizational ethical climate in public accounting firms is a significant antecedent of auditors' goal interdependence, which in turn affects their commitment to the organization and profession. Specifically, to the extent that the ethical climate supports traditional professional values, employees are expected to be more prone to believe that the firm culture is cooperative vs competitive. On the other hand, climates that promote commercialism and the pursuit of self-interests are likely to foster competitive goals.

As previously discussed, recent studies of ethical climate in public accounting firms have consistently documented the presence of benevolent/cosmopolitan and principled/cosmopolitan climates, as well as egoistic/individual and/or egoistic/local climates (Cullen et al., 2003; Parboteeah et al., 2005; Shafer, 2008, 2009). We also feel that a sound theoretical argument can be made for the significance of these climate types in public accounting. Ethical climates emerge from the “tone at the top” in organizations (Victor and Cullen, 1987, 1988); consequently, since the top management of public accounting firms are largely comprised of licensed professionals, it would be expected that the climate would be influenced by the values of the most traditional aspects of public accounting practice (in particular auditing), which impose relatively strict standards of behavior on practitioners[3]. On the other hand, if public accounting firms have to some extent de-emphasized traditional professional values in favor of aggressive commercialism and more generally less emphasis on ethical standards, as some observers have suggested (Zeff, 2003a, b; Wyatt, 2004), one would expect this to be manifested in the presence of egoistic climates in the

firm, in particular egoistic/local and egoistic/individual climates. Consequently, we propose that some emphasis should exist in public accounting firms on both the relatively “ethical” benevolent/cosmopolitan and principled/cosmopolitan climates and the relatively “unethical” egoistic/local and egoistic/individual climates. Based on the results of recent empirical studies and our a priori expectation that these four climate types will be predominant in CPA firms, they are the focus of our study.

A case can clearly be made that an egoistic/individual climate is likely to foster more competitive and less cooperative goals. Egoistic/individual climates explicitly focus on the pursuit of self-interest. In this climate type, it is assumed that employees primarily “look out for themselves” and pursue their personal interests even at the expense of their colleagues and the organization (Victor and Cullen, 1987, 1988). Thus, it is evident that an organizational culture that normalizes such self-interested behavior should result in a more competitive and less cooperative environment.

It is less clear what impact an egoistic/local environment will have on cooperative and competitive goals. It could be argued that in many business environments, employees working together toward the pursuit of a common goal, such as company, profitability may foster a cooperative spirit and discourage overt competition among individuals. However, we feel that on close examination this line of reasoning is not convincing in the case of public accounting firms. The statements that measure egoistic/local climates in the ethical climate questionnaire (ECQ) include items such as “people are expected to do anything to further the organization's interests” and “decisions here are primarily viewed in terms of contribution to profit” (see the Appendix). These are “egoistic” objectives that imply the prioritization of accounting firm profitability over professional obligations such as serving the public interest and following codes of conduct. We further suggest that in public accounting firms, an egoistic/local culture that overly emphasizes commercialism and profitability may be closely related to and conflated with an egoistic/individual climate. Indeed, in an auditing environment, actions that may enhance short-term firm profitability at the expense of professional ethics include, for example, premature sign-off of audit program steps to make a fixed-fee engagement more profitable. Since audits are often performed under tight budget constraints and individual employees are usually evaluated in part on their efficiency, such audit-quality-reducing behaviors are likely to be perceived as contributing both to firm profitability and the individual auditor's self-interest.

Thus, we suggest that a strong emphasis on organizational profitability in public accounting firms will encourage audit-quality-reducing behaviors. Such behaviors will also be perceived by employees as promoting their own self-interest. This reasoning leads to the conclusion that egoistic/local climates in auditing practices are likely to be conflated with egoistic/individual climates, and similarly will encourage competition over cooperation. The general argument that

egoistic/individual and egoistic/local climates may be conflated is also supported by the results of many empirical studies documenting the presence of “instrumental” climates that combine items from these two climate dimensions (Martin and Cullen, 2006)[4].

In contrast, benevolent/cosmopolitan and principled/cosmopolitan climates should promote cooperation and discourage competition in a public accounting context. The focus of the benevolent/cosmopolitan climate is on serving the public interest and collective welfare of society. Public accountants are likely to assume that their colleagues are also committed to these goals as they are heavily emphasized in the profession (AICPA, 2009). The pursuit of this collective goal should provide professional employees with a shared vision and common purpose that helps them conclude that their goals are cooperatively related (Wong et al., 2005).

This reasoning should also hold true for the principled/cosmopolitan climate, particularly in professional contexts such as public accounting. A principled/cosmopolitan climate emphasizes adherence to society's laws as well as the higher expectations imposed by professional standards and codes of conduct. In such an environment, public accountants are likely to assume that their colleagues also are committed to these standards of behavior. Thus, like the benevolent/cosmopolitan climate, a principled/cosmopolitan climate should encourage auditors to pursue the greater good rather than narrowly defined personal and financial interests. The foregoing discussion leads to the following hypotheses:

H1a. Benevolent/cosmopolitan and principled/cosmopolitan climates increase cooperative goals and decrease competitive goals among auditors in public accounting firms.

H1b. Instrumental (egoistic/individual and egoistic/local) climates decrease cooperative goals and increase competitive goals among auditors in public accounting firms.

Organizational and professional commitment

We adopt the general conceptualization of organizational and occupational (professional) commitment developed by Meyer and Allen (1984, 1991), Allen and Meyer (1990, 1996), and Meyer et al. (1993, 2002). This concept recognizes three distinct components of commitment:

1. “affective commitment”, which is essentially a measure of emotional attachment;
2. “normative commitment”, or a sense of obligation to the organization or profession; and
3. “continuance commitment”, which reflects the perceived costs of switching organizations or professions[5].

This framework has gained relatively wide acceptance and is often used in studies of commitment (Somers, 2009; Smith and Hall, 2008; Chang et al., 2007; Snape and Redman, 2003; Eby et al., 1999). Prior studies have found associations between ethical climate and organizational commitment

(Treviño et al., 1998; Cullen et al., 2003). Based on a meta-analysis of ethical climate studies, Martin and Cullen (2006) confirmed the intuitive proposition that egoistic climates are negatively associated with commitment, while benevolent and principled climates are positively associated with commitment. Studies of the association between ethical climate and organizational commitment have relied on relatively general notions such as value congruence to explain this relationship, but have not investigated specific mechanisms through which climates may affect commitment.

Goal interdependence may be an important mechanism. The competitive goals engendered by instrumental climates should lead to lower levels of emotional attachment (affective commitment) to the organization. Such environments result in lower levels of trust and generosity among colleagues, and perceptions that colleagues are less open and willing to assist each other (Deutsch, 1973; Johnson et al., 1981). These conditions are not conducive to the development of affective commitment to the organization. As noted by Meyer et al. (1993) in their influential paper, research has shown that the most important antecedents of affective commitment are employee work experiences. Simply put, positive work experiences increase emotional attachment while negative experiences reduce attachment. Thus, the negative consequences of competitive work environments, such as lower levels of openness, sharing, trust and generosity among colleagues, should reduce affective organizational commitment. In contrast, the cooperative goals fostered by benevolent/cosmopolitan and principled/cosmopolitan climates, should be associated with greater openness, trust and generosity among colleagues. This positive atmosphere should increase affective organizational commitment.

This argument is easily extended to normative organizational commitment. Indeed, Meyer et al. (1993) observe that affective and normative commitments are usually positively correlated and often share common antecedents such as work experiences. Consistent with this argument, in their sample of nurses they found that positive work experiences increased both affective and normative organizational commitment. Another important antecedent of normative commitment is organizational socialization processes that emphasize loyalty to one's employer (Meyer et al., 1993). It seems reasonable to assume that appeals for organizational loyalty will be less effective when employees experience the negative consequences of highly competitive work environments and, conversely, more effective in the positive atmosphere of cooperative environments.

The foregoing discussion suggests the following hypotheses[6]:

- H2a. Cooperative goals increase auditors' affective and normative organizational commitment.
- H2b. Competitive goals decrease auditors' affective and normative organizational commitment.

Cooperative and competitive goals should similarly affect employees' professional commitment.

Very little empirical research exists on the determinants of accountants' commitment to their profession. As observed by Smith and Hall (2008) and Hall et al. (2005), the few prior studies of the antecedents of professional commitment among accountants have generally used relatively broad proxies such as job level and organizational type (public accounting vs industry), are characterized by a lack of underlying theory, and have produced mixed results. The current study helps fill this void by testing how goal interdependence among auditors affects their professional commitment in a public accounting setting.

In public accounting firms, more so than in other organizational types such as corporations, the organization is closely associated with the profession (Shafer et al., 2002; Hall et al., 2005). In such an environment, individual auditors' perceptions and views of the organization should significantly influence their attitudes toward auditing as a profession. If the firm's environment emphasizes competitive goals among colleagues, employees are likely to assume that this holds true for the auditing profession, and consequently should develop less emotional attachment to the profession. Employees should also feel less of a normative obligation and sense of loyalty to a profession that is characterized by high levels of competition in the pursuit of self-interest or monetary rewards. Indeed, in more competitive environments auditors are likely to sense a divergence between the formally espoused ethical values and standards of the profession and its actual practice, which may lead them to feel that the claimed aspirations of the profession are somewhat disingenuous. Such conclusions seem likely to diminish emotional attachment and loyalty to the profession. Cooperative environments should have contrasting effects. These arguments are consistent with suggestions that the shift in public accounting toward a more competitive and commercialized focus has reduced commitment to traditional professional values (Zeff, 2003a, b; Wyatt, 2004). Thus, we propose the hypotheses below:

H3a. Cooperative goals increase auditors' affective and normative professional commitment.

H3b. Competitive goals decrease auditors' affective and normative professional commitment.

The literature and reasoning above suggest a model in which the organizational ethical climate affects goal interdependence, which in turn affects organizational and professional commitment among auditors. Thus, goal interdependence is expected to mediate the effects of organizational ethical values on outcomes. A summary of the hypothesized relationships is shown in Figure 2.

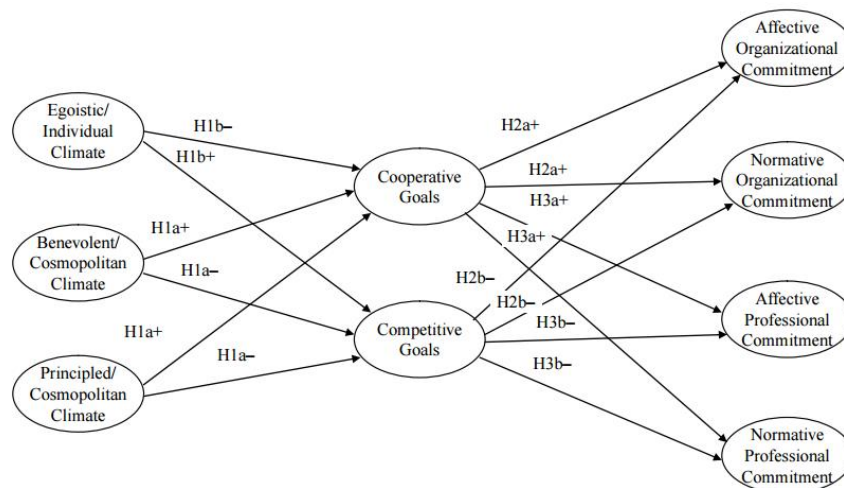
National differences

This study tests the proposed relationships among auditors in Hong Kong and Singapore. In general, accounting and auditing issues have been under-studied in Asian countries relative to Western contexts such as the USA, which provides impetus for our focus on auditors in Asia. We also felt it was desirable to conduct our research in multiple countries, as a test of the robustness of the findings and to identify potential cross-national differences. Hong Kong and Singapore share

certain similarities, and are also distinct in important aspects. Both are relatively advanced economies that are recognized as important international financial centres. Both usually score well on international indices of perceived corruption, though Singapore usually is viewed as somewhat less corrupt than Hong Kong[7]. It is also commonly acknowledged that, among Asian countries, Singapore has particularly strong governance and legal systems. As noted by Holder-Webb and Sharma (2010), a significant number of US companies operating in the Asia Pacific region establish regional headquarters in Singapore due to its reputation for strong enforcement of the rule of law. Nevertheless, it is unknown to what extent (if any) measures such as general perceptions of corruption or strong governance/legal systems will translate to differences in public accounting firms, and to our knowledge no prior accounting studies have compared auditors or auditing firms from these two nation states. Thus, we do not feel there is a strong basis for hypothesizing any differences between the jurisdictions, and accordingly pose the following research question:

RQ1. Will significant differences exist between perceived ethical climates, goal interdependence, or commitment in the Hong Kong and Singapore offices of an international accounting firm?

Figure 2.
Hypothesized
relationships



RESEARCH METHOD

The following discussion will elaborate on the details of the research instrument and its application, and the study participants. The discussion of participants will address details regarding the administration of the survey as well as the demographic characteristics of respondents.

Instrument

The instrument included:

1. ten items that measured the degree of goal interdependence (five each for cooperative and competitive goals) adapted from Alper et al. (1998);

2. 20 items from the Cullen et al. (1993) ECQ designed to measure egoistic/individual, egoistic/local, benevolent/cosmopolitan, principled/local and principled/cosmopolitan climates[8];
3. affective and normative organizational and professional commitment scales adapted from Meyer et al. (1993); and
4. a demographic questionnaire[9].

The ECQ developed by Cullen et al. (1993) has often been used in the management and business ethics literature, and appears to have acceptable reliability and validity. The ECQ includes four statements for each of the theoretical climate dimensions. This questionnaire used a six-point scale anchored on “completely false” (1) and “completely true” (6). The goal interdependence items have also been used in prior studies and found to have acceptable reliability and validity (Alper et al., 1998; Wong et al., 2005). Responses to the measures of goal interdependence were provided on seven-point scales anchored on “not true” (1), “somewhat true” (4), and “very true” (7). For these scales, higher numbers indicate higher levels of cooperation or competition. The Meyer et al. (1993) measures of organizational and occupational (professional) commitment are widely used and appear to possess relatively strong reliability and validity. These scales include six items each for affective and normative commitment. We modified the wording of the items as appropriate for a public accounting context. The commitment items used six-point scales anchored on “completely disagree” (1) and “completely agree” (6), where higher numbers represent greater commitment.

Participants

Access to participants was provided by the top management of the Hong Kong and Singapore offices of a single international accounting firm. For purposes of the current study, we surveyed all auditors in both offices[10]. We feel that surveying all auditors in two offices of the same firm (rather than surveying multiple firms) is the most effective approach to test for cross-national differences, because it does not conflate firm- and national-level differences. The instrument was reviewed and discussed in detail with firm partners prior to its administration. After the partners were satisfied that the instrument was understandable and relevant to their practice, it was distributed to employees accompanied by a letter from the office managing partner encouraging participation. The survey packet also included a letter from the researchers assuring participants that their responses were anonymous and that the identity of the firm would not be disclosed. The instrument was written and administered in English, which is commonly used in both the Hong Kong and Singapore business environments. Participants were asked to complete the instrument in confidence, seal it in a provided envelope, and return it to a designated person in the firm for later collection by the researchers.

Approximately 320 instruments were distributed, and 293 usable responses were received, resulting in a response rate of over 90 percent. Table I provides a summary of participants'

demographic information. Due to the relatively small number of partners in the offices (confidentiality considerations preclude disclosure of the exact number), partners and managers were combined into a single group comprising 66 participants. The sample also included 130 seniors and 90 staff. The sample was almost evenly split between the two countries, with 146 respondents from Hong Kong and 140 from Singapore. The average age was 28 and average length of public accounting experience was approximately 4.5 years. For the overall sample, only a slight majority of participants were female. However, the gender distribution differed by jurisdiction as illustrated in Table I – the majority of the Singaporean (Hong Kong) participants were female (male). The majority of the Singapore sample described their ethnic background as Singaporean or Malaysian, while virtually all the Hong Kong participants were ethnic Chinese. The great majority of respondents held bachelor's degrees. The majority of participants held CPA or equivalent certifications, though 120 were not certified. These results are explained by the fact that almost all partners/managers and most seniors held professional certifications, while most staff employees did not.

FINDINGS

This section first discusses the factor analysis procedures used to refine the various instruments adopted for the survey and summarizes the final scale items and their reliabilities. We then present and discuss the results of mean comparisons between the Hong Kong and Singapore offices. This is followed by a discussion of correlation results and their relations to the research hypotheses. Finally, we present and discuss structural equation model results used to formally test the hypotheses.

Factor analysis

To refine our scales, exploratory factor analyses were first run for goal interdependence, ethical climate and commitment measures[11]. The Appendix reports the resulting items for these scales, as well as the scale reliabilities based on coefficient α . All items designed to measure both cooperative and competitive goals loaded strongly on their respective dimensions. The reliabilities for the cooperative and competitive goal measures were relatively strong at 0.88 and 0.79, respectively. The analysis for the ethical climate instrument revealed three interpretable factors with eigenvalues in excess of one: a benevolent/cosmopolitan factor that included all four of the original items; a principled/cosmopolitan factor that also included the four original items; and an instrumental factor that included six items representing the egoistic/individual and egoistic/local climates. As previously discussed, the emergence of an instrumental climate that combines elements of the egoistic/individual and egoistic/local dimensions has been quite common in prior research (Martin and Cullen, 2006) and also has some conceptual support. The reliabilities for the ethical climate measures were also acceptable, ranging from 0.72 to 0.79.

	Hong Kong	Singapore	Total
<i>Sample size by country and position</i>			
Manager/partner	30	36	66
Senior	76	54	130
Staff	40	50	90
Total	146	140	286
<i>Gender by country</i>			
Female	57	86	143
Male	82	67	149
Total	139	153	292
Mean age	27.76 (5.70)		
Mean experience (years)	4.54 (4.72)		
<i>Nationality</i>			
Singaporean	54		
Malaysian	62		
Chinese	163		
Indonesian	4		
Other	7		
<i>Degree</i>			
Bachelors	246		
Masters	16		
None	27		
<i>Certification</i>			
CPA or equivalent	171		
None	120		

Notes: Numbers do not total 293 due to missing values; numbers in parentheses are SD

Table I. Demographic summary

The organizational commitment measures (affective and normative) were analyzed as a single group. The analysis revealed that all affective commitment items loaded significantly on a single dimension; however, two items had significant cross-loadings with normative commitment and consequently were deleted. Five of the six normative commitment items loaded strongly on a single dimension with no significant cross-loadings. Similar analysis was performed for the professional commitment items. Four of the six affective professional commitment items loaded significantly on a single factor, while two items were deleted due to significant cross-loadings with normative commitment. Similarly, four of the six normative commitment items loaded on a distinct factor, with two items deleted for significant cross-loadings. The α reliabilities for the four commitment measures were all relatively strong, ranging from 0.80 to 0.87.

Mean comparisons

Comparisons of the mean responses to our continuous measures by position and country are provided in Panels A and B of Table II, respectively. The results reported in Panel A indicate that there was no clearly interpretable pattern of differences by position level. Across the nine variables and three position levels, only two differences were significant at the 0.05 level: seniors perceived the work environment in their firm to be somewhat more competitive than staff, and

partners/managers possessed somewhat higher levels of affective organizational commitment than seniors. Thus, in general, it appears that organizational position has little effect on our continuous measures.

The mean comparisons by country provide more interesting results and imply that the organizational ethical climate in the Singapore office of the firm was somewhat more positive or supportive of professional values. The Hong Kong auditors perceived the climate in their office to be more instrumental in nature, placing more emphasis on the pursuit of personal or firm-level interests, and also felt that there was less emphasis on following legal standards or professional codes of conduct. As a result of the perceived differences in ethical climate, it is not surprising that the Hong Kong auditors also felt the work environment in their firm was less cooperative and more competitive. Finally, the Hong Kong auditors exhibited somewhat lower levels of affective organizational and professional commitment than their counterparts in the Singapore office[12]. This is the first study of such differences between Hong Kong and Singapore, and accordingly the results should be interpreted with caution. Nevertheless, in response to RQ1, our results indicate that the organizational environment in the Singapore office of the firm was perceived as more ethical, more cooperative and less competitive. Consequently, the Singapore auditors were more emotionally attached to their firm and the auditing profession.

Correlations

Correlations among the continuous variables are reported in Table III. Consistent with H1a, highly significant positive correlations were found between the benevolent/cosmopolitan and principled/cosmopolitan climates and cooperative goals, and significant negative correlations between these climates and competitive goals were also observed. Significant negative (positive) correlations were found between the instrumental climate and cooperative (competitive) goals, as anticipated in H1b. The expectations articulated in H2a and H2b were also fully supported by the correlation results: cooperative (competitive) goals were positively (negatively) associated with both affective and normative organizational commitment. The hypothesized effects of cooperative and competitive goals on affective and normative professional commitment (H3a and H3b) were also supported with one exception: the relationship between competitive goals and normative professional commitment was not significant. As indicated in Table II, significant correlations also were found between most of the ethical climate measures and the measures of organizational and professional commitment. These results are not surprising, as we would anticipate significant relations among these variables, consistent with the findings of Shafer (2009).

Panel A: means by position ^{a,b}				
	<i>Staff (n = 90)</i>	<i>Senior (n = 130)</i>	<i>Manager/partner (n = 66)</i>	<i>Total (n = 293)</i>
INST	3.44 (0.69)	3.59 (0.68)	3.45 (0.72)	3.51 (0.69)
BCC	4.31 (0.66)	4.31 (0.76)	4.41 (0.70)	4.34 (0.71)
PCC	4.79 (0.70)	4.80 (0.72)	4.99 (0.58)	4.84 (0.69)
COOP	4.64 (0.98)	4.37 (1.04)	4.35 (1.09)	4.46 (1.04)
COMP	3.12 (0.91)	3.50 ^c (0.93)	3.27 (0.91)	3.33* (0.93)
AOC	3.91 (0.96)	3.69 (0.99)	4.15 ^d (0.99)	3.86* (1.00)
NOC	3.74 (0.87)	3.48 (0.90)	3.74 (0.88)	3.63 (0.89)
APC	4.54 (0.77)	4.37 (0.97)	4.60 (0.87)	4.48 (0.90)
NPC	3.65 (0.90)	3.44 (0.91)	3.38 (0.74)	3.49 (0.87)
Panel B: means by country				
	<i>Hong Kong (n = 149)</i>	<i>Singapore (n = 144)</i>	<i>Total (n = 293)</i>	
INST	3.64 (0.60)	3.38 (0.75)	3.51** (0.69)	
BCC	4.27 (0.73)	4.40 (0.69)	4.34 (0.71)	
PCC	4.76 (0.68)	4.92 (0.68)	4.84* (0.69)	
COOP	4.32 (1.02)	4.59 (1.04)	4.46* (1.04)	
COMP	3.59 (0.89)	3.06 (0.88)	3.33** (0.93)	
AOC	3.74 (1.04)	3.98 (0.96)	3.86* (1.00)	
NOC	3.57 (0.83)	3.69 (0.94)	3.63 (0.89)	
APC	4.36 (0.88)	4.61 (0.90)	4.48* (0.90)	
NPC	3.45 (0.84)	3.53 (0.90)	3.49 (0.87)	

Notes: Overall difference in means is significant at: *0.05 and **0.01 levels or smaller based on a one-way ANOVA analysis; ^atop numbers are means; bottom numbers are standard deviations; ^bresponses to the ethical climate and commitment instruments were provided on six-point scales, where 6 represents stronger perceptions of climate types and higher levels of commitment; responses to the measures of cooperative and competitive goals were provided on seven-point scales, where higher numbers represent greater perceived degrees of cooperation and competition; ^cthe only significant difference was between seniors and staff ($p = 0.019$); ^dthe only significant difference was between managers/partners and seniors ($p = 0.013$); INST – instrumental climate; BCC – benevolent/cosmopolitan climate; PCC – principled/cosmopolitan climate; COOP – cooperative goals; COMP – competitive goals; AOC – affective organizational commitment; NOC – normative organizational commitment; APC – affective professional commitment; NPC – normative professional commitment

Table II. Mean comparisons

The correlations among commitment types also provide some interesting findings. The highly significant positive correlations between affective and normative organizational commitment, and

also between affective and normative professional commitment, are consistent with prior research findings (Meyer et al., 1993). As observed by Meyer et al. (1993), such positive correlations suggest that, although they are distinct constructs, affective and normative commitments share common antecedents such as work experiences. The strong positive correlation ($r=0.50$) between affective organizational commitment and affective professional commitment is consistent with most prior accounting research (Hall et al., 2005), and suggests that public accountants perceive a relatively close association between their firm and the profession itself. Further support for this assertion is provided by the strong positive correlation ($r=0.60$) between normative organizational commitment and normative professional commitment[13].

	INST	BCC	PCC	COOP	COMP	AOC	NOC	APC	NPC
INST	–								
BCC	–0.23 0.00	–							
PCC	–0.05 0.42	0.61 0.00	–						
COOP	–0.30 0.00	0.30 0.00	0.19 0.00	–					
COMP	0.50 0.00	–0.24 0.00	–0.13 0.02	–0.28 0.00	–				
AOC	–0.37 0.00	0.48 0.00	0.28 0.00	0.37 0.00	–0.39 0.00	–			
NOC	–0.14 0.01	0.26 0.00	0.14 0.01	0.42 0.00	–0.24 0.00	0.43 0.00	–		
APC	–0.26 0.00	0.47 0.00	0.45 0.00	0.25 0.00	–0.23 0.00	0.50 0.00	0.19 0.00	–	
NPC	–0.11 0.07	0.18 0.00	0.05 0.36	0.31 0.00	–0.07 0.24	0.18 0.00	0.60 0.00	0.25 0.00	–

Notes: The top number in each cell is the Pearson correlation coefficient; the bottom number is the significance level of the coefficient based on a two-tailed test; INST – instrumental climate; BCC – benevolent/cosmopolitan climate; PCC – principled/cosmopolitan climate; COOP – cooperative goals; COMP – competitive goals; AOC – affective organizational commitment; NOC – normative organizational commitment; APC – affective professional commitment; NPC – normative professional commitment

Table e III. Correlation analysis

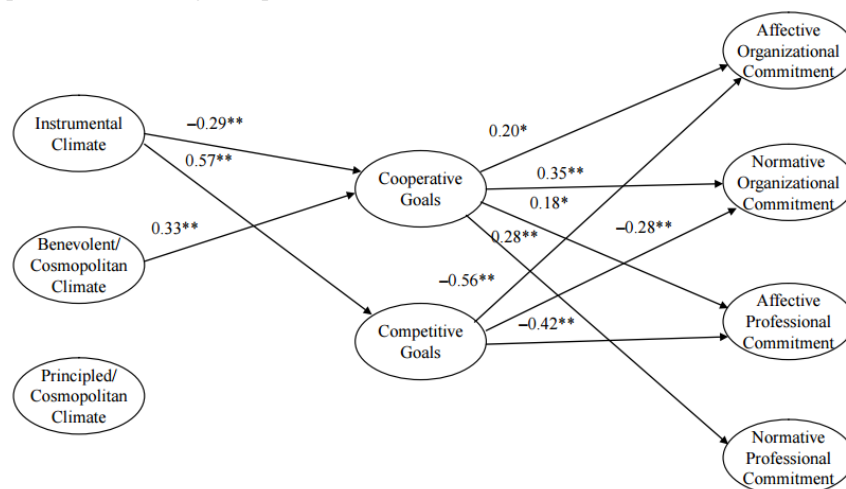
Structural equations model

Structural equation modeling (SEM) provides a conceptually sound and direct method of testing the hypothesized mediation effects shown in Figure 2. This method has distinct advantages over more traditional regression based approaches, because it controls for measurement error and simultaneously tests the relationships among latent constructs (Smith and Langfield-Smith, 2004). Accordingly, we used SEM to formally test our hypotheses. We adopted the widely used LISREL program with maximum likelihood estimation.

Overall, the model provided a reasonable fit to the data, with a normed-fit index of 0.90, a comparative fit index of 0.94, and a root mean square error of approximation (RMSEA) of 0.063. The $\chi^2/\text{degrees of freedom}$ statistic of 2.1 was also acceptable[14]. The detailed model results,

displaying only paths with significant coefficients, are reported in Figure 3[15]. As anticipated in H1a, the benevolent/cosmopolitan climate enhanced cooperative goals, as indicated by the highly significant positive path coefficient between these variables. However, the benevolent/cosmopolitan climate did not have a statistically significant impact on competitive goals, and the principled/cosmopolitan climate did not have a significant association with either goal type. These results lead to the conclusion that H1a was only partially supported. The findings for the relationship between the instrumental climate and goals were much stronger and fully support H1b. As shown in Figure 3, there was a highly significant negative (positive) relationship between the instrumental climate and cooperative (competitive) goals, suggesting that a greater perceived focus on self-interest and firm profitability led employees to develop less cooperative and more competitive relationships with their professional colleagues.

As shown by the significant and positive path coefficients in Figure 3, consistent with H2a, cooperative goals led to significant increases in both affective and normative organizational commitment. Strong negative relationships were also observed between competitive goals and both affective and normative organizational commitment. Thus, H2b was also fully supported. The negative relationship between competitive goals and affective organizational commitment was quite strong, suggesting that auditors have particular difficulty in developing emotional attachments to firms in which the environment is perceived as highly competitive. H3a was also supported, with significant positive relationships between cooperative goals and both affective and normative professional commitment[16]. These findings imply that a more cooperative environment increases auditors' commitment not only to their firm but also to the public accounting profession. A more competitive environment significantly reduced affective (but not normative) professional commitment; thus, H3b was partially supported. The highly significant negative relationship between competitive goals and affective professional commitment suggests that a competitive work environment reduces auditors' emotional attachment to the firm and to public accounting as a profession[17].



Note: Path coefficient is significant at: *0.05 and **0.01 levels or smaller

Figure 3.
Model results

DISCUSSION

The current study provides the first test of the relationships among organizational ethical climate, goal interdependence and commitment in a public accounting setting. The overall results indicate that ethical climate is a significant antecedent of goal interdependence that in turn is a significant antecedent to commitment. Instrumental ethical climates, where the primary emphasis is placed on pursuit of self-interest at the individual or firm level, reduced cooperative goals and increased competitive goals among employees. In contrast, a benevolent/cosmopolitan climate, which is consistent with the traditional professional ideal of serving the public interest, significantly enhanced cooperative goals within the firm. The findings for the benevolent/cosmopolitan climate partially confirm our expectation that the shared vision and common purpose provided by the pursuit of professional ideals such as serving the public interest enhance cooperative goals in public accounting organizations. The lack of significant relationships between the principled/cosmopolitan climate and goal interdependence implies that an emphasis on following laws and codes of ethics does not have a similar impact on perceptions of a shared vision and common purpose, and accordingly does not promote cooperation or discourage competition. This may be due to the relative lack of emotional appeal of an emphasis on rules and regulations, in contrast to the more idealistic commitment to the public interest.

The findings also reveal that goal interdependence significantly impacts public accountants' organizational and professional commitment. Competitive goals reduced affective and normative organizational commitment as well as affective professional commitment, suggesting that public accountants as a group are frustrated with highly competitive work environments and have difficulty developing commitment to organizations and professions that foster such environments. The effects of cooperative environments were more robust, significantly impacting both affective and normative organizational and professional commitments. Thus, employees appear deeply affected by work environments characterized by cooperative relations among colleagues.

We found significant differences in the perceived ethical climate, goal interdependence and affective commitments between the Hong Kong and Singapore offices of the firm. The Singapore auditors perceived a stronger ethical climate in the firm (less instrumental and more principled) and more cooperative and less competitive goals. They also reported higher levels of affective commitment to the firm and to the public accounting profession relative to their colleagues in the Hong Kong office. These findings imply there is somewhat less emphasis in the Singapore office on the pursuit of self-interest and commercialism, and more emphasis on adhering to professional standards. As a result of the de-emphasis of self-interest and commercialism, the Singapore auditors apparently developed more cooperative and less competitive goals and more emotional attachment to the firm and profession.

Limitations and future research

The methodology, of course, limits the results of this study. The data are self-reported and subject to biases and may not be accurate, although some studies suggest that self-reported data are not as limited as commonly suspected (Spector, 1992). These data are also correlational and do not provide direct evidence of causal links between ethical values, goal interdependence, and commitment. Spector and Brannick (1995) have argued that the most effective way to overcome methodological weaknesses is to test ideas with different methods. Developing experimental verification of the effects of ethical climate on goal interdependence and effects of goal interdependence on commitment would very much strengthen this study's findings.

The generalizability of our findings is also limited in that we only examined two Asian offices of the accounting firm; thus, future studies should attempt to investigate a broader sample of offices in more jurisdictions to obtain more extensive cross-national comparisons. Given the keen interest of regulators in the USA on the effects of accounting firm cultures (Jenkins et al., 2008), additional work should be done in that context and in others worldwide.

The current study focused on the effects of goal interdependence on employees' commitment to their organization and profession. Studies should also address the impact of goal interdependence on public accountants' judgments and decision making. For instance, it seems somewhat intuitive that in highly competitive work environments, a range of dysfunctional behaviors may be more likely, such as the rationalization of substandard work in an effort to promote oneself in relation to colleagues. The added pressure of competitive work environments may also lead to more aggressive ethical decisions for issues that fall in the "gray area." In contrast, lower-pressure cooperative environments seem likely to promote higher standards of morality and ethics. Given the implications of these issues for the overall quality of a firm's services, they should be addressed in future studies.

Practical implications

If these results, which have not previously been documented in an accounting setting, can be replicated and extended, they have potentially important implications for managers of public accounting firms. They imply that a firm-wide emphasis on adhering to traditional professional values such as serving the public interest (and a concomitant de-emphasis of the pursuit of commercialism and self-interest) will promote cooperation and decrease competition among employees. These goal interdependencies in turn will increase employee commitment to the organization and to the public accounting profession. Committed employees should be more likely to stay with the firm and less likely to engage in dysfunctional and unethical behaviors (Hall et al., 2005; Meyer et al., 1993).

Regulators have implored accounting firms to de-emphasize commercialism and exert more effort to instill in their employees a commitment to traditional professional ideals (Jenkins et al., 2008), but prior empirical research has failed to investigate the processes through which these ideals can have their effects. The current study provides insights into these processes by demonstrating that the organizational culture of a firm (as reflected in its ethical climate) may work through goal interdependence to affect employee commitment levels. Since ethical climates are to some extent “manageable” (Cohen, 1993; Treviño et al., 1999; Grojean et al., 2004; Schminke et al., 2007), our findings suggest that salutary effects may be achieved by promoting traditional professional values in public accounting firms, consistent with the assertions of accounting regulatory bodies.

The results of this study also suggest that strengthening relationships through efforts specifically designed to develop cooperative goals can have beneficial effects on employee commitment in public accounting firms. Cooperative goals obviously have antecedents other than ethical climate, and previous research provides insights into some of these influences. For instance, studies have found that by developing common tasks and sharing rewards, colleagues can reinforce their cooperative goal interdependence (Hambrick, 1994; Hanlon et al., 1994; Pearce, 1997; Li et al., 1999). It would also seem that accounting employees and managers can be trained in central cooperative skills (Tjosvold and Tjosvold, 1995). For example, they can develop open-minded discussion skills by expressing their ideas directly, restating the other's arguments to put themselves in the other's shoes and demonstrate their understanding, combining the best ideas to create new solutions, and agreeing to the solutions that are most effective for all and implementing them. These actions should reinforce cooperative goals (Tjosvold, 2008).

Notes

1. According to Victor and Cullen's (1987, 1988) conceptualization, one or more climate types may emerge as dominant in a particular organization and be perceived as such by the majority of employees. But of course individual variation in employees' “perceptions” of the ethical climate in any organization will always exist. Employee perceptions of ethical climate clearly have practical significance, because such perceptions will affect their responses to the organizational environment. Accordingly, the great majority of empirical studies of organizational ethical climate have focused on measuring individual employees' perceptions of the climate in their organization (see Martin and Cullen (2006) for a review of this literature). The current study adopts a similar approach.
2. Note that multiple, sometimes conflicting, climates may coexist within organizations (Victor and Cullen, 1987, 1988). Thus, finding some organizational emphasis on serving the public interest and following professional standards does not preclude the existence of conflicting pressures such as the maximization of firm profits. Indeed, competing pressures of this type would be expected within any organization.

3. It is well known that professional auditing standards place a significant emphasis on serving the public interest. In addition, serving the public interest and maintaining professional objectivity are emphasized as broad principles in public accountants' codes of ethics in most jurisdictions, which imposes these obligations on professional accountants in all areas of practice. For instance, though tax accountants serve as advocates for their clients' legitimate tax return positions, they also have a significant public interest obligation to refrain from advocating tax positions that cross the line into illegal behavior. Though consultants may not have specific obligations to serve the public interest, the objectivity requirements in codes of ethics impose a relatively high standard of behavior on them as well. For instance, if a consultant recommended a particular product or service that they did not believe was in the client's best interest, they would be in violation of their professional code of conduct. Clearly, one would expect to find more emphasis on ethical considerations such as acting in the public interest and following codes of conduct in professional firms than in a typical commercial company.
4. According to Martin and Cullen (2006, p. 178), employees who perceive an "instrumental climate" in their organization feel that decisions are made from an egoistic and self-interested perspective to serve the personal interests of employees and the interests of the organization, even to the detriment of others. This definition is consistent with the foregoing discussion.
5. Although we adopt the general three-component conceptualization of commitment, we do not measure or test hypotheses relating to continuance commitment in the current study. We felt that, because ethical climate and goal interdependence are relatively emotionally charged issues, they were most relevant to affective and normative commitments, which involve intense personal feelings such as attachment and loyalty. Continuance commitment, in general, involves less intense emotional feelings, such as relatively objective assessments of one's employment alternatives. Indeed, it is commonly recognized that, due to the relative lack of emotional involvement of employees with high levels of continuance commitment, they are less likely to engage in behaviors that benefit their organization/profession and less interested in complying with organizational/professional standards than employees who are affectively or normatively committed (Meyer *et al.*, 1993). Nevertheless, we acknowledge that ethical climate and goal interdependence may influence continuance commitment to some extent. For example, continuance commitment involves an assessment of the potential costs of leaving the organization, and one such cost could be the prospect of giving up a perceived match between one's personal ethical values and those of the organization. Thus, researchers should also consider investigating the relations among ethical climate, goal interdependence and continuance commitment in future studies.
6. Prior accounting research has not investigated the relationship between goal interdependence and organizational commitment. However, some findings from the accounting literature are broadly consistent with *H2*. For example, Dean *et al.* (1988) found that new public accounting

employees' satisfaction with certain aspects of their work environment, including their relationships with their co-workers and supervisors, significantly impacted their organizational commitment.

7. For example, in the 2011 Transparency International Corruption Perceptions Index (available at: http://en.wikipedia.org/wiki/Corruption_Perceptions_Index), Singapore was ranked as the fifth least corrupt nation (behind New Zealand, Denmark, Finland and Sweden), while Hong Kong was ranked number 12.
8. As previously explained, we were primarily interested in the effects of egoistic/individual, egoistic/local, benevolent/cosmopolitan and principled/cosmopolitan climates in the current study. We also included the four items for the principled/local climate because this climate was documented in one recent study of Asian accounting firms (Shafer, 2008).
9. Participants completed additional instruments used in related studies. In particular, they responded to two brief ethical cases that were tailored to their areas of specialization (auditing, taxation, or consulting). This data is beyond the scope of the current paper.
10. The data reported in this study are part of a larger data set which comprised all professional employees from both the Hong Kong and Singapore offices of the firm, i.e. the full sample also included taxation, and consulting/advisory professionals. However, we did not feel it was appropriate to combine the results for these disparate groups into one data set in the current study.
11. There has been significant variation in factor loadings for the ECQ in recent studies (Shafer, 2009); thus, we did not feel that the use of confirmatory factor analysis for the ECQ was warranted. To be consistent in our analysis of the various instruments, we adopted exploratory factor analysis for each of the measures.
12. Due to the significant difference in gender distribution by country, we were concerned that the cross-country differences in mean responses could be due to gender rather than country. To address this issue, we ran one-way ANOVA models to test the effects of gender on each of the continuous variables. The effects of gender on mean responses did not approach significance in any of the models tested. These results indicate that the reported differences in mean responses were not influenced by gender.
13. Although this was not a primary focus of our study, the latter finding provides evidence relevant to Hall *et al.*'s (2005) call for research on the relationships among various dimensions of commitment among professional accountants. These authors note that while several accounting studies have examined the relationship between affective organizational commitment and affective professional commitment, the analogous relationships for normative and continuance commitment have not been addressed.
14. There are many alternative measures of SEM model fit, and also significant variation in the literature regarding the proper guidelines for assessing model fit (Smith and Langfield-Smith, 2004). However, as observed by Shafer *et al.* (1999), as a general rule fit indices in excess of 0.90

and RMSEA values less than 0.08 indicate a reasonably well-fitting model. Arbuckle (1997) cites several studies to illustrate that the recommended maximum value for the χ^2 statistic/degrees of freedom ranges from 2 to 5. Thus, the value of 2.1 computed for our model only slightly exceeds the most stringent of these guidelines.

15. For simplicity of presentation, we do not display the correlations among the constructs at each stage of the model (e.g. the correlations among the ethical climate factors or the correlations among the commitment constructs). However, following common practice for SEM these correlations were included in the model.
16. To test the divergent validity of the organizational and professional commitment measures in our SEM model, we adopted the Fornell and Larker (1981) procedure. These authors defined the average variance extracted (AVE) for latent constructs as the amount of variance explained by the construct in relation to the variance due to measurement error. If the squared correlation between two latent constructs (a measure of their shared variance) is less than their individual AVEs, this provides evidence for their divergent validity. This criterion was met for all combinations of our commitment measures.
17. Due to the differences in mean responses reported earlier, as a supplemental analysis we ran separate SEM models for the Hong Kong and Singapore samples to see if the basic results would hold true across the sub-groups. The results of these models should be interpreted with caution because the sample sizes for the separate countries were relatively small for SEM modeling. However, the separate models each provided a marginally acceptable fit to the data, with χ^2 /degrees of freedom statistics well below 3, fit indices somewhat below 0.90, and RMSEA statistics slightly above 0.08. Though there were some differences in the results of these two models, overall they suggest that most of the basic conclusions reached from the combined model held true across the sub-groups. Importantly, the effects of the instrumental climate on both cooperative and competitive goals remained uniformly and highly significant across the two countries. The effects of the benevolent/cosmopolitan climate on cooperative goals was only marginally significant (0.10 level) in the separate models, which may be due to the smaller sample sizes. Only two clear differences between the countries were noted for the relationships between goals and the four commitment measures: (1) for the Hong Kong sample, the effects of cooperative goals on affective organizational commitment were not significant, perhaps implying that cooperation has less emotional resonance for Hong Kong auditors; (2) for the Singapore sample, competitive goals were not significantly associated with normative organizational commitment. There is no readily apparent explanation for the latter finding.

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Appendix. Scale items

Cooperative goals ($\alpha=0.88$)

1. Colleagues in this organization "swim or sink" together.
2. My colleagues want each other to succeed.
3. My colleagues seek compatible goals.
4. The goals of my colleagues go together.
5. When my colleagues work together, we usually have common goals.

Competitive goals ($\alpha=0.79$)

1. My colleagues in this organization structure things in ways that favor their own goals rather than the goals of other organizational members.
2. My colleagues have a "win-lose" relationship.
3. My colleagues like to show that they are superior to each other.
4. My colleagues' goals are incompatible with each other.
5. My colleagues give high priority to the things they want to accomplish and low priority to the things other organization members want to accomplish.

Benevolent/cosmopolitan climate ($\alpha=0.78$)

1. It is expected that you will always do what is right for the public.
2. People in this organization have a strong sense of responsibility to the outside community.
3. People in this organization are actively concerned about the public interest.
4. The effects of decisions on the public are a primary concern in this organization.

Principled/cosmopolitan climate ($\alpha=0.79$)

1. The first consideration is whether a decision violates any law.
2. People are expected to comply with the law and professional standards over and above other considerations.
3. In this organization, people are expected to strictly follow legal or professional standards.
4. In this organization, the law or ethical code of the profession is the major consideration.

Instrumental climate ($\alpha=0.72$)

1. In this organization, people are mostly out for themselves.
2. People are expected to do anything to further the organization's interests.
3. Work is considered sub-standard only when it hurts the organization's interests.
4. In this organization, people protect their own interest above other considerations.
5. Decisions here are primarily viewed in terms of contribution to profit.
6. People in this organization are very concerned about what is best for themselves.

Affective organizational commitment ($\alpha=0.87$)

1. I do not feel a strong sense of “belonging” to my organization*.
2. I do not feel “emotionally attached” to my organization*.
3. This organization has a great deal of personal meaning to me.
4. I do not feel like “part of the family” at my organization*.

Normative organizational commitment ($\alpha=0.84$)

1. Even if it were to my advantage, I do not feel it would be right to leave my organization now.
2. I would feel guilty if I left my organization now.
3. This organization deserves my loyalty.
4. I would not leave my organization right now because I have a sense of obligation to the people in it.
5. I owe a great deal to my organization.

Affective professional commitment ($\alpha=0.87$)

1. I regret having entered the public accounting profession*.
2. I am proud to be in the public accounting profession.
3. I dislike being a public accountant*.
4. I do not identify with the public accounting profession*.

Normative professional commitment ($\alpha=0.80$)

1. I feel a responsibility to the public accounting profession to continue in it.
2. Even if it were to my advantage, I do not feel that it would be right to leave public accounting now.
3. I would feel guilty if I left public accounting.
4. I am in public accounting because of a sense of loyalty to it.

Note: *Item was reverse scored.