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2008

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AN INTEGRATED MODEL OF WORK CLIMATE

by

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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of Management
in the College of Business Administration
at the University of Central Florida
Orlando, Florida

Spring Term
2008

Major Professor: Marshall Schminke

ABSTRACT

Management scholars have become increasingly interested in the role of organizational context. As part of this trend, research on work climates has thrived. This contemporary climate research differs from traditional approaches by concentrating on facet-specific climate types like service or innovation, rather than general, global conceptualizations of climate. Consequently, the climate literature has become fragmented and disorderly. I seek to remedy this in my dissertation. Specifically, I propose and test an integrated model of work climate that examines both molar and facet-specific climates.

Chapter 1 is a review of the organizational work climate literature. This review seeks to review, reorganize, and reintegrate the climate literature. In addition, this review brought to light an issue that hinders the integration of the climate literatures: the literature does not contain a quality instrument for assessing the general characteristics of the molar work climate of an organization.

In Chapter 2, I develop a theoretically-driven measure of work climate by drawing on the competing values framework (Quinn & Rohrbaugh, 1983). Preliminary results from three studies suggest that the proposed four-component model of molar work climate appears to be viable. The results indicate the instrument has internal reliability. Further, the results demonstrate discriminant, convergent, and criterion-related validity.

In Chapter 3, I propose and test an integrated model of work climate by drawing on bandwidth-fidelity theory (Cronbach & Gleser, 1957). I predict that facet-specific climates will be more strongly related to specific outcomes and molar climates will be more strongly related to global outcomes. Further, I suggest weaker, indirect relationships between molar climate and

specific outcomes and between facet-specific climates and global outcomes. The results indicate support for my predictions.

Key words: work climate, facet-specific climate, global climate, molar climate

ACKNOWLEDGMENTS

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CHAPTER ONE: A FRAGMENTED LITERATURE?: A REVIEW , CRITIQUE, AND
PROPOSED RESEARCH AGENDA OF THE WORK CLIMATE LITERATURE

Organizational work climates are a set of shared perceptions regarding the policies,

practices, and procedures that an organization rewards, supports, and expects (Schneider &

Reichers, 1983). They have been studied in the management literature for over 60 years. When

climate research first hit the management scene, it seemed as if it would be the answer to many

questions in the workplace by providing a "needed alternative to motivation theories as

explanations for just about everything that happens to people at work" (Schneider & Reichers,

1983, p. 20). Unfortunately, theoretical and methodological issues arose and climate research

declined as researchers turned their attention to other areas.

However, with the recent interest in multilevel theorizing and modeling, researchers have

demonstrated an increased interest in the impact of organizational context on individuals in the

workplace. This has resulted in a rebirth of interest in organizational work climates. For

instance, in top-tiered management journals such as *Journal of Applied Psychology*, *Academy of

Management Journal*, *Administrative Science Quarterly*, *Organizational Behavior and Decision

Processes*, there has been a 300% increase in climate articles already in the 2000's (50 articles

through mid 2007) than all of the 1990s (17 articles). In addition, there are hundreds of articles

on climate in top niche journal such as *Journal of Business Ethics* and *Leadership Quarterly*.

Early climate researchers took a more molar approach to studying organizational work

climates by examining the global summary perceptions of how an organization deals with its

members and environment (Hellriegel & Slocum, 1974). However, the majority of the recent

work has focused on facet-specific climates. Facet-specific climates are climates 'for something'

and are related to a particular aspect of the organizational context such as justice climate

(Naumann & Bennett, 2000), ethical climate (Victor & Cullen, 1988), and safety climate (Schneider, White, & Paul, 1998). This new focus on facet-specific climates has increased our understanding of the influence of work climates and organizations in general. Yet, it has come at a cost as well.

In particular, there have been some challenges across all of these different work climates related to definitional, theoretical, and methodological issues. In addition, the facet-specific climate work has been almost subsumed under specific topical areas (e.g., service, ethics, safety) rather than comprising an increasingly strong base for a broad climate literature in and of itself. This has served to fragment our knowledge about work climates, as each of the research streams tells only part of the story. Thus, the field is in need of a re-evaluation and integration across the global and facet-specific climate literatures to assess what we really know about work climates.

While there are multiple review pieces of the global work climate literature (e.g., Campbell, Dunnette, Lawler, & Weick, 1970; Hellriegel & Slocum, 1974; James & Jones, 1974; Joyce & Slocum, 1979; Ostroff, Kinicki, & Tamkins, 2003; Schneider, 1975; Schneider, 1990) and some more recent on some of the facet-specific climates (e.g., safety (Clarke, 2006) and ethics (Martin & Cullen, 2006)), none of these reviews has examined multiple climate types together (i.e., both global and multiple facet-specific work climates). Therefore, the purpose of this chapter is to provide a review and appraisal of both the global and facet-specific climate literatures. In doing this, I will provide an assessment across the various climate literatures, outline guidelines for improvement where possible, provoke more careful thinking in other places, and encourage sharing between researchers studying various climate domains.

<u>Mapping the Terrain</u>

  This review focuses on published empirical research relating to organizational work climates. This includes research on facet-specific climates (e.g., ethics, justice, innovation, service, safety, diversity, sexual harassment, learning, training, decision-making, political, and achievement climates), as well as global organizational climate. I conducted a series of searches using *Academic Search Premier, Business Source Premier, PsychArticles, and PsychInfo* databases with the keyword "climate" in the default field. This search returned over 75,000 articles; many related to the weather. Given the sheer amount of articles returned, the scope of the review was limited to specific top management journals (e.g., *Academy of Management Journal, Journal of Applied Psychology, Organizational Behavior and Human Decision Processes*). Again, the key word "climate" was placed in the default field. Each article returned was then examined to see if it was related to organizational work climate. From here I identified specific topic areas where climate research has played a role (e.g., justice, ethics, diversity). Next, I asked experts in these areas what specialty journals would include climate research in these areas. I then searched for climate articles in these specialty journals (e.g., *Journal of Business Ethics, Leadership Quarterly, Social Justice Research*). This search process yielded a total of 207 studies for inclusion in this review. See Table 1 for a list of journals utilized for the review.

  The review is organized in four main sections. The first section provides a brief overview and history of organizational work climates and research related to them. The second section examines the antecedents, consequences, mediators, and moderators of work climates and provides a synthesis of the findings across the climates types. The third section examines conceptual and methodological issues that plague the field. The final section outlines

implications for scholars continuing to do work in the area, and suggests an agenda for future research.

<center>Overview Organizational Work Climates</center>

Schneider (1990) indicates that defining climate is like trying to 'nail Jell-O to the wall' (p. 1). Many definitions of work climate exist in the literature and numerous debates surround these definitions. Verbeke, Volgering, and Hessels (1998) identified 32 different definitions of work climate. Further complicating matters, there also have been many different ways of conceptualizing climate at different levels, such as psychological climate, collective climate, and organizational climate. Additionally, the distinction between climate and related constructs such as culture has often been obscured, with some researchers using the terms interchangeably. These issues are discussed in more detail below.

<center>Shared Perceptions or Attributes of the Organization?</center>

When reviewing the evolution of the climate construct, Schneider (1990) points out that the early climate researchers did not initially spend much time haggling over definitions of climate or possible nuances. This lack of clarity on how to define climate quickly created problems for researchers. Different perspectives arose on how to define climate, whether climate was a property of the individual or the organization. Researchers debated whether organizational climate should be *conditions* that were shared or as *perceptions* that were shared by individuals (Tagiuri & Litwin, 1968). A dominant approach emerged in the literature and the majority of climate researchers examine climate as perceptual in nature versus being an actual characteristic of the organization (James, 1982; James & Jones, 1974; James, Joyce, Slocum, 1988; Schneider, 1975; Schneider, 2000). One of the most commonly cited definitions of climate is that work climate is a set of shared perceptions regarding the policies, practices, and procedures that an

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organization rewards, supports, and expects (Schneider & Reichers, 1983). This is the definition of climate that serves as the foundation for this review.

Psychological vs. Organizational Climate

However, this brings up a second issue with climate: Is climate an individual-level construct (psychological climate) or an organizational-level construct (organizational climate; cf. Glick, 1985; James & Jones, 1974; Payne & Pugh, 1976; Schneider, 2000)? Psychological climate is defined as an individual employee's perceptions of the psychological impact of the work environment on his/her own well-being (James & James, 1989). When employees in a particular unit or organization agree on their perceptions of their work environment, these shared perceptions can then be aggregated and are called organizational climate. However, even though these perceptions are shared and can be aggregated to the unit level, they still remain the property of the individuals in the unit (James, 1982). Thus, individuals evaluate their environment and attach significance and meaning to what they perceive (psychological climate) and when these perceptions are aggregated with some level of agreement, this becomes a meaningful measure of organizational climate.

Climate versus Culture

Another major issue in the literature stems from the debate about the distinctiveness of the climate and culture constructs. There are many good papers that describe this debate (e.g., Denison, 1996), so I will not go into great detail here. For the purposes of this review, I side with those that suggest that the climate construct is distinct from culture, but recognize that it does have some overlap.

There are several different reasons to view climate and culture as distinct. First, organizational climate research has a much longer history than organizational culture research

and they have different academic roots. The culture literature stems from the anthropology literature while climate stems from Lewinian psychology (Schneider, 1990). This affects how climate and culture have been studied and measured. Second, in general, organizational culture encompasses deeper and different dimensions than organizational climate (e.g., artifacts, myths). This research focuses on trying to understand the underlying assumptions of the organization. Organizational culture also exists at a higher level of abstraction than climate. On the other hand, climate pertains more to surface-level manifestations or 'how things are done around here'. Finally, while the organizational culture researcher studies the manifestation of the phenomena through its forms (e.g. artifacts, legends, and symbols), which reveal shared values, the organizational climate researcher studies the process by which these shared values are attended to (Moran & Volkwein, 1992). Again, while there are differences between climate and culture, it is important to note that both constructs address a common phenomenon: the creation and influence of social contexts in organizations. Therefore, although climate and culture may be viewed as distinct constructs, there is some overlap in these streams of research.

Types of Climate

Global Climate

Climate researchers initially studied global climate, which reflects the general work environment. Litwin and Stringer (1968), in their seminal work on climate, suggest that a global climate model "hopes to provide a quantification, or, rather, a diagram of the total situational variables – a diagram that is relevant to the analysis and prediction of the total effects of the environment on groups of individuals" (p. 38). In this model, climate is a molar construct that allows researchers to examine determinants of behaviors in complex social situations. Thus, early climate literature attempted to understand the total situational influences in organizations

and their effects on individual and organizational global outcomes. It emerged as a way to understand organizational effectiveness (Kozlowski & Klein, 2000).

Historically, global climate research has been plagued with difficulties relating to definitional issues, theoretical grounding, and methodological issues. Three key issues have been identified as problematic to global climate work. First, there was no consensus on how to define global climate (Glick, 1985; James, 1982; James & Jones, 1974; James et al., 1988; Tagiuri & Litwin, 1968). Second, research involving global work climates was criticized for lacking a strong theoretical base. Many of the global climate dimensions studied in the field were developed and added without theoretical rationale (Schneider, 2000). Finally, methodological issues, such as appropriate ways and guidelines to aggregate individual climate perceptions to the group or organizational level, created problems for early climate researchers (Glick, 1985). This has led to a construct that has been called fuzzy and ambiguous (Guion, 1973).

Facet-Specific Climates

As a way to try to deal with the confusion over the definitional and conceptual issues with the global climate construct, researchers switched their focus to facet-specific climates. Facet-specific climates differ from global climates in that they are related to a particular aspect of the organizational context such as safety, justice, or service. They are a climate for something specific and work settings have many of these specific climates present at any given time. Some examples of facet-specific climates studied in the literature include: justice climate (Naumann & Bennett, 2000), safety climate (Zohar, 2000), innovation climate (Anderson & West, 1998), ethical climate (Victor & Cullen, 1987, 1988), service climate (Schneider et al., 1998), and diversity climate (Roberson, 2006). This focus on a specific aspect of the organization helped to

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clarify some of the confusion of how to define and measure climates within work organizations.

Modeling Work Climate

In this section, I provide a review and synthesis of the antecedents and consequences across the global and facet-specific work climates, as well as the principle mediators and moderators that have been explored in the climate literature. I start with the consequences of climate to first show that climates matter in organizations on different levels, across many outcomes. After that, the focus is shifted to understanding where climates come from and the antecedents of climate are examined. Finally, moderators and mediators are examined. (For a review of specific types of climate, see Appendix A. For summary tables of the research of different climate types, see Appendix B.)

A couple of caveats are in order when drawing conclusions from this review. First, many of the studies reviewed do not make a distinction between psychological climate and organizational climate. Thus, this distinction is not made when presenting the general findings. In addition, climate is not always measured consistently in the same way within the global or facet-specific climates. Both of these could affect the interpretations and generalizability of the results.

Consequences of Work Climates

Work climates have been shown to relate to a variety of important outcomes. For the purposes of this review, I consider two main groups of outcomes; those reflecting global outcomes and those reflecting specific outcomes. I do so because previous research suggests that facet-specific and global climates may be differentially related to global and specific outcomes (Carr, Schmidt, Ford, & Deschon, 2003; Schneider & Bowen, 1993). Global outcomes would be more general and broad in their focus such as department performance or organizational

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commitment. Specific outcomes include outcomes that are more narrow in their focus, related to specific facets of the climate, such as number of accidents or acts of innovation. In organizing this review, I further break down these categories into individual-level outcomes and unit-level outcomes. Thus, I examine four categories of outcomes: individual global outcomes (e.g., commitment), individual facet-specific outcomes (e.g., individual innovation), organizational or unit global outcomes (e.g., department performance), and organizational or unit facet-specific outcomes (e.g., group accident rates).

Individual Global Outcomes

Individual global outcomes of work climates include employee job attitudes such as job satisfaction, commitment, and turnover intentions. Many climates have been linked to job satisfaction: global organizational climate (Friedlander & Marguiles, 1969; Glisson & James, 2002; Kaczka & Kirk, 1967; Litwin & Stringer, 1968; Pritchard & Karasick, 1973; Schnake, 1983; Schneider, 1975), ethical climate, (Deshpande, 1996; Herndon, Ferrell, LeClair, & Ferrell, 1999; Koh & Boo, 2001; Schwepker, 2001; Sims & Keon, 1997) climate for achievement (Tziner, 1987), service climate (Yoon, Beatty, & Suh, 2001), participative climate (Tesluk, Vance, & Mathieu, 1999), and sexual harassment climate (Culbertson & Rodgers, 1997). However, political climate has had mixed results. Zhou & Ferris (1995) and Ferris and Kacmar (1992) found that political perceptions were related to job satisfaction, but two other studies did not find perceptions of politics to be related to job satisfaction (Christiansen, Villanova, & Mikulay, 1997; Parker, Dipboye, & Jackson, 1995).

Various work climates such as global climate (DeCotiis & Summers, 1987; Ostroff, 1993), ethical work climates (Cullen, Parboteeah, & Victor, 2003; Herndon, et al., 1999; Schwepker, 2001; Sims & Kroeck, 1994), climate for achievement (Tziner, 1987), participative

climate (Tesluk et al., 1999), and various justice climate types (Liao & Rupp, 2005; Simons & Roberson, 2005) have also been linked to commitment.

Finally, work climates have been related to turnover intentions: global climate (Ostroff, 1993; Steel, Shane, & Kennedy, 1990), ethical climate (Sims & Keon, 1997; Sims & Kroeck, 1994), sexual harassment climate (Culbertson & Rodgers, 1997), justice climate (Simons & Roberson, 2005), and political climate (Christiansen et al., 1997). Overall, employee attitudes are the most highly studied outcome across the climate types. Further, in general, these attitudes are related to a variety of climate perceptions.

Work climates have also been related to individual global behaviors such as organizational citizenship behaviors (OCBs), withdrawal behaviors, and work performance. For instance, organization-focused procedural justice and organization-focused informational justice climate predict OCBs (Liao & Rupp, 2005; Naumann & Bennett, 2000). Lehman and Simpson (1992) assessed the impact of job climate and personal factors on the relationship between substance use and job behaviors (psychological withdrawal (e.g., daydreaming, personal tasks at work, chatting excessively); physical withdrawal (e.g., leaving early, long breaks, sleeping on the job); antagonistic behaviors (arguing, spreading rumors, arguing with co-workers). They found that job climate had the strongest relationship with positive behaviors and psychological withdrawal behaviors, and was also significantly related to physical withdrawal.

Global climate has also been linked to absenteeism (Ostroff, 1993; Steel et al., 1990). In line with this, Hemingway and Smith (1999) found that the frequency of short-term absences and occupational injuries were not predicted by any of their global climate dimensions, only turnover intentions were predicted.

Only a couple of studies have linked climate to actual individual performance (e.g., Day & Bedian, 1991; Pritchard & Karasick, 1973, Tziner, 1987) or to work effort (Yoon et al., 2001). Although, there are limited behaviors that have been studied, work climates affect global individual behaviors.

Finally, a few studies of work climates have examined health-related outcomes such as stress and psychological well-being. For instance, global climate has been linked to stress (Day & Bedeian, 1991; Feldt, Kinnunen, & Mauno, 2000; Hemmingway & Smith, 1999) and role-ambiguity stressors (Hemmingway & Smith, 1999). Global climate has also been related to psychological well-being (Cummings & DeCotiis, 1973). Although we have some evidence that climate is linked to health-related outcomes, more work is needed in this area before conclusive results can be drawn.

<u>Individual Facet-Specific Outcomes</u>

In addition to these global outcomes, much of the facet-specific climate research has focused on individual outcomes related to the various facet-specific climates. For example, safety climate has been linked to safety outcomes and ethical climate has been linked to ethical outcomes. To help organize the various outcomes, I cluster the facet-specific climates into four main areas: climates related to social issues (e.g., justice, ethics, political climates), climates with an operations focus (e.g., safety, service climates), climates related to organizational support or involvement (e.g., participation in employee involvement climates), and climates that have a learning focus (e.g., learning, innovation, training climates).

Social issues climates

Social issues climates would include ethical climate, justice climate, and political climate. There are field and lab studies that overall show strong support that ethical work climates are

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linked to unethical behaviors in organizations such as ethical violations (Bartels, Harrick, Martell, & Strickland, 1998) stealing and lying behaviors (Wimbush, Shepard, & Markham, 1998) misbehavior in non-western samples (Vardi, 2001), organizational deviance (Peterson, 2002), and conflict (organizations with high ethical climates have less conflict between employees and managers; Schwepker, Ferrell, & Ingram, 1997). Only one study reviewed DeConinck and Lewis (1997), did not find a relationship between ethical climates and unethical behaviors. They found no relationship between sales managers' intentions to intervene once an unethical act had occurred and ethical climate.

Related to justice climate, Dietz, Robinson, Folger, Baron, & Schulz (2003) examined the impact of procedural justice climate on workplace aggression and found that it did not predict workplace aggression. Simons and Roberson (2005) found that collective procedural and interpersonal justice perceptions had an impact on discretionary service behaviors.

Finally, there have been mixed results on the consequences of political climate; most likely related to the different operationalizations of political climate. Christiansen et al. (1997) found that in general political climate was related to attitudes of conflict and trust in management. However, this varied some by the dimension of political climate. Parker et al. (1995) also examined consequences of perceived organizational politics. They looked at senior management support, endorsements of positive organization values, perceived innovation, and loyalty, but perceptions of politics was only related to perceived innovation; the higher the perceived politics, the less the organization was seen as supportive of innovation. In general, climates related to social issues have been linked to corresponding individual specific outcomes.

Operation-focused climates

Operation- focused climates would include service and safety climates. Both service and safety climate have been linked to respective specific outcomes. For instance, Liao and Chuang (2004) found that service climate is positively related to individual-level employee service performance. Research has shown that perceptions of safety climate are positively associated with safety compliance and negatively associated with safety incidences such as accidents, near misses, treatment errors, and unsafe behaviors (e.g., Griffin & Neal, 2000; Hofmann & Stetzer, 1996).

Learning focused climates

Learning focused climates (e.g., innovation climate, training climate, and transfer of training climate) have been examined related to learning outcomes. Innovation climate research has been related to innovation-specific outcomes such as individual innovation (Scott & Bruce, 1994), day-to day innovation (Tannenbaum & Dupree-Bruno, 1994), implementation of ideas (Clegg, Unsworth, Epitropaki, & Parker, 2002), and adoption of innovations (Tannenbaum & Dupree-Bruno, 1994). Bennett, Lehman, and Forst (1999) found that the total quality transfer climate significantly impacted employees' orientation toward customers; negative transfer climate hindered quality practices and positive climates helped. Smith-Jentsch, Salas, and Brannick (2001) found that perceptions of team training climate were better predictors of performance for those with a more external locus of control. In general, climates with a learning focus have been linked to related specific outcomes.

Organizational support and involvement climates

Finally, organizational support and involvement climates have been related to outcomes such as supportive relations with peers and participation in employee involvement. Bachrach,

Bamberger, and Vashdi (2005) examined the effects of unit support climate ("shared perception that that coworkers in a given work unit can be expected to provide both emotional and instrumental support"; p. 623) and found that shared perceptions of unit support had a positive effect on the relative prevalence of supportive relations with dissimilar peers. Tesluk et al. (1999) examined participative climate (a climate that supports employee participation in work planning, decision making, and on-the-job problem solving) and found that unit and district participative climate was related to participation in employee involvement outcome variables. Cooperative climate (leadership climate) has a positive relationship to job learning (Morrison & Brantner, 1992).

In addition to these, support and consideration climates have also been found to influence outcomes less obviously directly related to the specific-climate facet such as sexual harassment. For example, perceptions that the organization tolerates sexual harassment (sexual harassment climate) were positively related to actual experiences of sexual harassment (Fitzgerald, Drasgow, Hulin, Gelfand, & Magley, 1997; Harned, Ormerod, Palmieri, Collinsworth, & Reed, 2002). Overall, in general, facet-specific climates have been related to outcomes related to the domain of the facet-specific climate.

Unit and Organizational Global Outcomes

Relatively few climate studies have examined unit- or organizational-level outcomes. Colquitt, Noe and Jackson (2002) found a positive relationship between procedural justice climate and team performance and a negative relationship with team absenteeism. Ehrhart (2004) further examined the effects of procedural justice climate on unit-level OCBs and found that when the collective team felt that they were treated fairly, they were more likely to exhibit OCBs. Finally, research has examined the extent to which individuals perceive that ethical work

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climates are related to organizational success such as financial performance. Research indicates that individuals perceive that there is a positive relationship between ethical climate and being a successful organization (Deshpande, 1996a). Overall, there is little work that ties work climates into unit- or organizational level global outcomes. However, researchers often allude to the fact that climate affects organizational performance (e.g., Victor & Cullen, 1988).

Unit and Organizational Facet-Specific Outcomes

The majority of climate studies that have examined unit- and organizational-level outcomes can be found in the service climate literature. Gelade & Young (2005) examined the relationship between climate, employee attitudes, customer satisfaction, and sales performance. They found that bank branches with higher climate scores have higher customer satisfaction and stronger sales. Johnson (1996) examined the effects of service climate on different facets of customer satisfaction. He found that all of the service climate dimensions were related to at least one facet of customer satisfaction, with seeking and sharing information about customer needs and expectations, training and delivery quality service, and rewarding and recognizing excellent service being the most highly related to satisfaction with service quality.

Yoon et al. (2001) found that service climate indirectly impacted customers' perceptions of employee service quality. Schneider, Wheeler, and Cox (2002) analyzed panel interviews and coded themes related to service climate. They found the strongest correlates of service climate concerned things explicitly tied to service and human resource practices (e.g., soliciting and paying attention to customer opinions and having in place hiring procedures for staffing the unit). Finally, Borucki and Burke (1999) examined the effects of service climate variables (concern for employees and concern for customers) on sales personnel service performance and store financial performance. In general, they found that for face-to-face service encounters,

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concern for employees and concern for customers are predictive of sales personnel service performance and that, in turn, is predictive of store financial performance. Overall, service climate has been related to service outcomes.

One study examining justice climate examined the effects of collective procedural and interpersonal justice perceptions on organization-level outcomes (guest satisfaction) (Simons & Roberson, 2005). The authors found that these justice climate types ultimately impacted discretionary service behaviors at the department level.

A couple of climate studies related to learning have also examined unit- and organizational-level outcomes. Clark, Dobbins, and Ladd (1993) examined contextual factors such as group and supervisor transfer training climates on training motivation. They found that supervisor transfer training climate affected anticipated job utility; group transfer training climate was not significant. Jung, Chow, and Wu (2003) found that support for innovation was positively related to organizational innovation. Finally, Atwater (1995) found that organizations that were more characterized by the entrepreneurial and innovative decision making position power were higher than those with less innovative decision making.

Summary of climate consequences

Researchers have been studying organizational work climate research examining climate as an independent variable since the 1950's (e.g., Fleishman, 1953). The bulk of this research has examined individual-level outcomes. In general, organizational work climates have been consistently linked to attitudes such as satisfaction, commitment, turnover intentions, and behaviors such as absenteeism and helping behaviors. In addition, the facet-specific climates have been linked to specific outcomes related to the domain of the climate type. So for instance, ethical climate has been linked to unethical behaviors, safety climate to safety incidences, and

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innovation climate to innovative behaviors. This makes intuitive sense, and as Campbell (1990)

points out that when the latent structure underlying both the predictor and outcome is similar, the

correlations between them will be greater.

However, there is little research investigating organizational-level outcomes (e.g.,

organizational performance and effectiveness) in the literature. The few early studies that did

examine organizational outcomes lacked results that revealed strong relationships between

climate and these outcomes (Campbell et al., 1970; Friedlander & Greenberg, 1971; Hellriegel &

Slocum, 1974; Kaczka & Kirk, 1968; Payne & Pugh, 1975; Schneider, 1975). There are a few

recent studies that have examined organizational outcomes such as organizational effectiveness

(e.g., Lindell & Brandt, 2000; Ostroff & Schmitt, 1993). Facet-specific climate research has

been a little better at looking at unit- or organizational-level outcomes. Climate has been linked

to many facet-specific outcomes at the unit- or organizational-level such as accidents,

innovation, harassment incidents, and customer satisfaction. Yet, the answer to if and how

organizational climate relates to more global outcomes, such as organizational performance and

effectiveness, still remains largely unanswered.

Antecedents of Work Climates

From the previous section, we can conclude that climates have a broad impact on

organizations. However, it is also important to understand where organizational climates come

from. Thus, we turn the attention to antecedents of organizational work climates. To do this, I

will review the literature by examining individual-, group-, and organizational-level antecedents

across the climate types.

<u>Individual-level antecedents</u>

First, research has examined individual characteristics of employees such as gender, age, education, position level, and tenure. This research has produced mixed results, both across the different climate types and within the climate types. For instance, Luthar, Dibattista, and Gautschi (1997) found that females had a higher expectation about what the ethical climate of an organization should be and that older students were more cynical regarding ethical climate. They also found that the more education an individual had about business ethics the more they expected to find an ethical climate in organizations. Forte (2004) also found a significant relationship between age and perceived organizational ethical climate types, as well as a relationship between management levels and ethical climate. However, she found no relationship between gender or education level and perceived ethical climate types.

In the diversity climate literature, Mayhew, Grunwald, and Dey (2006) identified factors that create a positive climate for diversity on campuses and found that personal demographics, professional characteristics, and personal experiences with diversity all contributed to perceptions of campus climate for diversity. Kossek and Zonia (1993) also found that gender, racioethnicity, and level were related to perceptions of diversity climate. However in the political climate literature, Treadway, Adams, and Goodman (2005) found that perceptions of politics (political climate) are not different based on gender, race, age, or job title, although they did find differences based on the relative socialization experiences of employees and the career stage of employees. Parker et al. (1995) also examined personal characteristics and found only minority status predicted these political perceptions; gender, education, occupational group, and age had no effect.

Victor and Cullen (1987, 1988) found differences in the ethical climate as a result of tenure level. Specifically, they found that caring climates were most likely prevalent when employees were more senior. Finally, one study assessed genetic influences on global climate and found that genetics and the rearing environment influenced the supportive climate dimension, but not the time pressure dimension (Hershberger, Lichtenstein, & Knox, 1994). Overall, there does not seem to be consistent links of individual characteristics across the climate types.

Group-level antecedents

There are many studies examining group (e.g., team, department, unit) composition on climate types. For instance, Colquitt et al. (2002) found that team size and team collectivism were significant predictors of justice climate level. van der Vegt, van der Vliert, and Huang (2005) examined the relationship between demographic diversity, innovative climates, and power distance. They found that the benefits of demographic diversity seem to be culturally bound. A positive relationship was found between demographic diversity (e.g., tenure, functional background, age, and gender) and innovation in low-power distance countries and for task-oriented diversity, whereas in high-power distance countries location-level tenure and functional background diversity were negatively related to the innovation climates. These results were only found for tenure and functional background, and not age and gender. DeJong, deRuyter, and Lemmink (2004, 2005) look at self-managing team (SMT) service climate and found that team tenure affects SMT service climate. These results suggest group composition affects work climates, but more work is needed to tease out these relationships.

Other studies have examined the interactions between group members. For instance, Parker et al. (1995) found that perceived intergroup cooperation, clarity of roles and

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responsibilities, and fairness of rewards were the most predictive of perceptions of politics. Gilson and Shalley (2004) measured climate supportive of creativity and found that members of teams that were more engaged in creative processes reported higher team climate for supportive of creativity. DeJong et al. (2004, 2005) found a positive relationship between intra-team support, flexibility, and SMT service climate, but no relationship between team goal setting and SMT service climate. These results suggest that the type of group interaction can affect climate perceptions.

Researchers have also examined the structure of departments and jobs in relation to work climates. Ferris and Kacmar (1992) found that feedback, job autonomy, skill variety, and opportunity for promotion contributed significantly to perceptions of organizational politics. Wimbush et al. (1997) found that distinct ethical climates predominated in the various departments, suggesting that the structure of a department impacts the formation of ethical climates. However, Weber conducted two studies on the type of departments in organizations (Weber, 1995, 2002) and found that ethical subclimates may be determined by the strength of an organization's overall ethical climate, rather than the department's function. More work is needed in this area to draw conclusive results.

Finally, the role of leaders has been explored in relation to work climates. For example, Schminke, Ambrose, & Neubaum (2005) found that leader moral development affected the organization's ethical climate and employee attitudes. However, Elm and Nichols (1993) examined the relationship between a manager's level of moral reasoning and ethical climate and found no significant relationships. Ehrhart (2004) examined the relationship between servant leadership and procedural justice climate and found that when leaders exhibited characteristics of servant leaders, subordinates reported feeling that they were treated more fairly. Finally,

Barling, Loughlin, and Kelloway (2002) found that safety specific transformational leadership and role overload was mediated by perceived safety climate. Additional relationships between leaders and climate will be examined further in the section on how climates moderate relationships, but in general, leaders influence organizational climates.

Organizational-level antecedents

The broad managerial emphasis relating to work climates and the policies that support these climates has received some attention in the literature. For instance, Dejoy, Schaffer, Wilson, Vandenberg, and Butts (2004) look at the factors that determine safety climate. They indicate that safety policies and programs had the largest observed correlation with safety climate, followed by communication and organizational support (both organizational climates). Further, Borucki and Burke (1999) found that importance of service to management is positively related to service climate variables (concern for employees and concern for customers). Mayhew et al. (2006) found that perceptions of the institution's commitment to diversity contributed to perceptions of campus climate for diversity. Heaney, Price, and Rafferty (1995) found that organizations that facilitate meaningful employee participation in decision-making processes improved work team climate (climate for participation and influence in decision-making). Finally, Klein, Conn, and Sorra (2001) examine what they call implementation climate (importance of innovation implementation within the organization). They found that financial resource availability and management support for technology implementation lead to a strong implementation climate. However, contrary to their expectations, Andrews and Rogelberg (2001) found that small business owner service values and service climate were negatively correlated and other owner values such as innovation, aggressiveness, and decisiveness did not

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correlate with service climate. Overall, managerial emphasis of policies appear to affect organizational climate.

Other researchers have examined firm characteristics related to work climates. Neubaum, Mitchell, & Schminke (2004) examined the impact of newness and entrepreneurial orientation on the ethical climate of firms. They found that firm newness was more strongly related to ethical climate than was an entrepreneurial orientation and that firm size was related to several types of ethical climates. Brower and Shrader (2000) examined the differences between not-for-profit and for-profit organizations and found that boards of directors in not-for-profit organizations were more likely to describe their organizations' climate as having a benevolent ethical climate, whereas boards of directors from for-profit firms tended to view their organization as having an egoistic ethical climate. Although more research is needed related to firm characteristics, preliminary evidence would suggest that firm characteristics can affect work climates.

Finally, studies have examined the effect of the outside environment on work climates. Deshpande, George, and Joseph (2000) examined the prevalence of various ethical climates within a Russian organization. Their research suggests that societal forces such as community norms and national culture may impact the development of ethical climates in organizations. Bourne and Snead (1999) found regional differences in ethical climates, lending support to the notion that community norms may also impact the ethical climate in organizations.

Summary of climate antecedents

My review reveals that there is less research on the antecedents of climate than consequences of climate. There are some theory pieces that suggest how climates are formed (e.g., Ashforth, 1985; Roberson & Colquitt, 2005; Schneider & Reichers, 1985), but few

empirical studies focus on this area. Further, even though policies, practices, and procedures are expected to provide the foundation for climates, there is relatively little research testing this. Payne and Pugh (1976) also suggested that structure and organizational contexts should be related to the development of climates. However, again there is little empirical evidence testing this.

In summary, there are a few trends that can be seen in the literature. The research reviewed has focused mainly on group-level antecedents such as leadership and group composition (e.g. heterogeneity, interdependence). The results indicate that leader behavior does affect climates. Leaders or supervisors serve as interpretive filters of relevant organizational processes and practices for all group members, thus contributing to common climate perceptions (Kozlowski & Doherty, 1989). There have been mixed results on the heterogeneity of groups, but smaller groups and greater task interdependence are linked to less variability in climates. Finally, there is even less research on the antecedents of how climates change. What happens when there are changes in policies and practices? How do these changes affect psychological and organizational climate? According to Ostroff and Bowen (2000), changes in policies and practices may not necessarily change climate perceptions if they are not salient and understandable. Work is needed in this area.

<div align="center">Mediating Effects</div>

Work climates are often studied as the mediator of different relationships, but few studies have examined the mediators between work climate and outcomes. Some of the mediators that have been examined range from leadership to group behavior to outside influences. Offermann and Malamut (2002) found that leadership was a mediator of the relationship between climate and freedom to report in supervisory and unit leader harassment, but only a partial mediator of

other leader harassment. Naumann and Bennett (2000) found that group helping behavior mediates the relationship between procedural justice climate and perceived group performance (e.g., productivity, accuracy, dependability). Salanova, Agut, and Peiro (2005) found that the relationship between service climate and customer loyalty is partially mediated by customers' appraisal employee performance. Further, they suggest that there is a potential reciprocal affect between service climate and customer loyalty. More work is needed to understand mediators of work climate and outcomes.

<div align="center">Moderating Effects</div>

There have also been some moderators examined in the literature related to the relationship between climate and other variables. These can be broken down into moderators relating to the characteristics of individuals, those that are more related to the design of the job, and climate strength.

Related to individual characteristics, Verbeke, Ouwerkerk, and Peelen's (1996) found that the longer individuals are with the organization, the more ethical the climate will be. Also related to tenure, Gilmore, Ferris, Duleboun, and Harrell-Cook (1996) examined the moderating role of tenure with a supervisor on the relationship between perceptions of politics and attendance. They found that for lower tenure with supervisor, increases in perceptions of politics were associated with lower attendance, but there was no relationship with higher tenure with the supervisor.

Researchers have also examined moderators relating to the job design. For example, Dietz, Pugh, and Wiley (2004) examined boundary conditions for service climate and found that the more relevant and proximal the target of the service climate the stronger the relationship was to service climate and customer attitudes. In addition, the greater the amount of contact between

employees and customers moderated the relationship between service climate and customer attitudes.

Verbeke, Ouwerkerk, and Peelen's (1996) also found that frequent communication within an organization will positively affect the organization's ethical climate. In addition, ethical climate will be greater in the more behavior-control oriented organizations than for the more outcome-based oriented organizations. Smith-Jentsch et al. (2001) examined the effects of trainee characteristics, team leader support, and team transfer climate. They found that team training climate was a better predictor of performance for those with a more external locus of control.

Finally, one of the most studied moderators of work climate is climate strength. Climate strength is the degree of agreement among unit members with respect to their climate perceptions (Lindell & Brandt, 2000) or in other words, it reflects the degree of variation in individual perceptions around the average climate score. Evidence suggests that climate strength plays a moderating role on the relationship between a variety of climate types and outcomes. For example, González-Romá, Peiró, and Tordera (2002) found that strength of innovation climate moderated the relationship between level of innovation climate and job satisfaction and commitment, and strength of goals orientation climate moderated the relationship between level of goals orientation climate and commitment. Colquitt et al. (2002) suggests that procedural justice climate strength moderates the relationship between level of procedural justice climate and both team performance and team absenteeism. In addition, Schneider et al. (2002) found that strength of service climate moderated the relationship between service climate level and customer satisfaction experiences. Finally, Lindell and Brandt (2000) found some support for climate strength moderating the relationship between fifteen climate types and a range of

attitudes and behaviors. Overall, the relationship between climate level and different outcomes

is generally stronger when there is less variation of employees' climate perceptions.

<div align="center">Conceptual Issues</div>

Although researchers have made significant progress in the understanding of

organizational work climates, there are a number of issues that became apparent during this

review that still need to be addressed.   In this section, I will discuss conceptual issues that have

hindered the advancement of climate research as a whole such as how to define climate, level of

analysis issues, theoretical underpinnings of climate research, and the focus on specific climate

types. Then in the following section, I discuss methodological issues that still need to be

resolved regarding climate research in the following section.

<div align="center">Psychological Climate versus Organizational Climate</div>

The distinction between the psychological and organizational climates is widely

accepted, but there seems to be no theoretical reasoning behind which is used in studies. In the

articles reviewed, it was also confusing as to which one the researchers were studying. Many

times the authors would be theorizing about organizational climate when they actually measured

and studied psychological climate. It is acceptable to investigate either type of these climates in

management research. However, researchers need to be very explicit in their studies as to

whether they are examining psychological or organizational climate as this can affect the

interpretation and generalizability of results.

Further, it appears that the decision is often based on how the data can be collected or if

an appropriate agreement level is reached, rather than the research question or theory involved

(e.g., Zohar & Luria, 2004). Most researchers would agree that there is a difference between one

organizational member's perceptions of a climate and how that would be related to variables

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such as job satisfaction and an organization's performance versus these same outcomes with an aggregated measure of the department. For instance, Ostroff & Rothausen (1997) found different levels of fit when they examined individual perceptions versus aggregated perceptions. It is also disturbing to use one organizational member's perceptions to represent all the employees in an organization if researchers are examining group or organizational-level outcomes. However, if individual outcomes, such as job satisfaction, are being studied, it may be appropriate to ask about one individual's perceptions of the climate. Thus, researchers need to carefully consider their research question to decide whether it is more appropriate to use psychological or organizational climate and be clear as to which is used.

Level Issues

According to Kozlowski and Klein (2000), climate may exist at different levels in the organization, but researchers need to be specific about the level at which they are theorizing. Indeed, climate research has been operationalized and tested at different levels within the organization such as the individual, team, unit, department, or organization itself (e.g., Zohar, 2000, Zohar & Luria, 2005). With the rise in popularity of multi-level theorizing, even more confusion has been created among climate researchers. In many studies, it is unclear which level of analysis represents the most appropriate one for the research question at hand, and whether the study executes appropriately at that level. In the future, researchers need to be explicit if they are theorizing at the individual-, unit-, department- or organizational-level. If the theory will apply at any level of the social system (e.g., unit, department, or organizational), then one way to avoid this issue would be to talk about the climates as social systems within the organization and then be specific as to which level the models will be tested.

Theory Development

Another issue is the lack of clear theoretical basis for some of the climate types that have emerged in the literature. As a whole, research involving global and facet-specific work climates has traditionally not benefited from a strong theoretical base. For instance, Schneider (2000) states that "[global] climate research has languished as an increasingly large number of dimensions were added to its conceptualization, with new facets added each time a researcher thought climate might be useful for understanding some interesting phenomenon" (p. 5). These were added on without theoretical rationale. Unfortunately, facet-specific climates suffer from similar theoretical issues. Many facet-specific climates also have weak or no theory.

Single Climates Examined

Another concern is that most of the facet-specific literature has focused on only one specific climate at a time. Few researchers have examined multiple climate types together. Examining one climate at a time has increased our understanding of the relationship between facet-specific climates and specific outcomes. However, this limits the ability to see if the climates interact with each other. If, as research suggests, there are multiple climates in organizations, what happens when they exist simultaneously, or more importantly (and perhaps more plausibly), when they compete?

Many of the facet-specific climates have been shown to be related to similar outcomes (e.g., job satisfaction, organizational commitment) as well as have similar antecedents (e.g., leader behaviors, communication, work interdependence). In addition, Zohar (2000; Zohar & Luria, 2005) suggests that organizations can have competing goals such as safety versus efficiency. Thus, there may be a strong climate for safety that gets weakened by a priority on efficiency. Other examples of climates that might compete would include innovation versus

predictability (Anderson & West, 1998) and service quality versus transaction efficiency (Schneider et al., 1998). This may also help explain why facet-specific climates have not been linked to organizational performance. Focusing on one narrow aspect of the organization may not accurately reflect all that is happening in the work environment. Organizational effectiveness is considered to be a multidimensional construct and there are many different criteria in organizational settings which combine to determine how an organization performs. Thus, we may not have a full or accurate understanding of how work climates affect individuals within organizations or the overall performance of the organization by examining only single climates.

Methodological Issues

Next, we shift focus to some of the methodological issues that plague climate research such as issues regarding level of analysis, measurement, aggregation, and research design. There have been several nice reviews of the literature that have addressed many of the methodological issues raised in this review in more detail (cf. Glick, 1985; Hellriegel & Slocum, 1974; James & Jones, 1974; Schneider, 1990). Even though there have been some gains made regarding these ongoing methodological issues, many concerns still remain that were discussed in earlier reviews. Some of the methodological issues researchers seem to not address, while for others there are no clear solutions. No matter the reason for the persistence of these issues, I seek to bring these issues to light with the purpose of increasing awareness to researchers on specific issues so they can choose the best option with regards to their research.

Level Issues

As noted earlier, level-of-analysis issues have plagued the organizational climate literature (Denison, 1996; Schneider & Reichers, 1990) and with a burgeoning interest in

multilevel work in the management literature this problem is further exacerbated. Organizations are inherently multilevel, being comprised of individuals, work groups, departments, and so on. Such multilevel terrain presents researchers with significant challenges in designing and executing climate studies that speak to the theoretical concerns underlying their research.

Climate researchers have debated what the correct level to study climate should be. Indeed, climate has been studied at various levels within the organization such as team, department, or organizational climate (Kozlowski & Klein, 2000). No matter what the answer to this debate is, the level-of-analysis should always match the theory. So for instance, if the unit of theory is the organization, then the observation should be at the organization level and if the unit of theory is the department, the observation should be at the department level. In the current literature, theory does not always match the level being theorized. For example, researchers may talk about the organization level in the theory, but use the department level for the observation.

Another tangent to this debate is the source of the data used for the different levels. It is often difficult for researchers to gain access to entire organizations, so this is not always done in the literature. However, if the organization level is being studied, then a cross representation of the organization is needed. In other words, obtaining information from one department may not be representative of the organization as a whole. This could lead to results that may not be characteristic of the entire organization, but only to a specific unit in the organization.

The ethical climate literature is representative of another problem with levels in the climate literature. The definition that researchers use is that of a shared perception, suggesting a group-level or organizational construct, but it has traditionally been measured with individual perceptions, or psychological climate, only (see Cullen et al., 2003; Neubaum et al., 2004;

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Schminke et al., 2005 for exceptions). Again, this seems to be often decided based on what type of data can be collected rather than being driven by the research question and theory.

Finally, researchers studying climate have to be careful in how they interpret and generalize their data due to the different levels they examine. First, researchers examining organizational climate may commit a misspecification error called ecological fallacy (Diez-Roux, 1998). When this happens, researchers make inferences about the nature of individuals based solely upon aggregate statistics collected for the group to which those individuals belong. This is problematic because this makes an assumption that all members of a group will exhibit characteristics of the group, which we know is not always true. Further, relationships from aggregated data tend to be stronger than those at the individual level and may not hold at the individual level. On the other hand, researchers examining psychological climate may also commit a misspecification error: atomistic fallacy (Diez-Roux, 1998). This is the opposite problem where group level inferences are drawn from individual-level data. Therefore, climate researchers have to be careful in the types of conclusions that they draw from their studies. In sum, the level of analysis must match the level of inference.

<center>Measurement Issues</center>

Another recurring theme in the climate literature relates to problems measuring work climate. Climate is measured via individuals' perceptions; however, there are different ways that these perceptions can be measured. The work climate literature is not consistent in how climate is measured within or between the climate types. There are essentially four main ways climate has been measured: two of these are used to measure psychological climate and two to measure organizational climate.

When measuring psychological climate, the two ways both measure only a single respondents' perceptions, but differ in how the items are worded. First, respondents could be asked about the climate from their own perspective. For example, an item here would be something like "*I* typically wear a uniform or protective gear on the job" (Klein et al., 2001). Second, they may be asked what they believe the work unit in general would think about the climate (referent shift; Chan, 1998). For example, an item here would be something like, "*Employees* typically wear uniforms or protective gear on the job" (Klein et al., 2001).

To measure organizational climate, composition models are used to specify how psychological climate relates to organizational climate. "Composition models specify the functional relationships among phenomenon or constructs at different levels of analysis (e.g., individual level, team level, and organizational level) that reference essentially the same construct but that are qualitatively different at different levels (Hannar, 1971)" (Chan, 1998; p. 234). Essentially researchers would use one of the two methods for psychological climate and then if there is sufficient within unit agreement, the responses of the unit members would be aggregated to the organizational level.

Therefore, there are two main models that are used to assess organizational climate: direct consensus models and referent-shift consensus models (Chan, 1998). The direct consensus model "uses within-group consensus of the lower level units as the functional relationship to specify how the construct conceptualized and operationalized at the lower level is functionally isomorphic to another form of the construct at the higher level" (Chan, 1998, p. 237). "In referent-shift consensus composition, the lower level attributes being assessed for consensus are conceptually distinct though derived from the original individual-level construct" (Chan, 1998, p.

238). Here the referent shifts from an individual's report as to what they think to the extent to which they believe the unit in general would believe.

The literature is also not consistent across or even within facet-specific climates as to which model is used to measure climate. For instance, ethical climate has mainly been measured as psychological climate (individual perceptions of the organization's climate, not aggregated). On the other hand, the justice climate literature, for instance, has some studies that have used the referent shift aggregated to the unit level (e.g., Colquitt et al., 2002) as well as individual perceptions of justice that are aggregated to the unit level (e.g. Naumann & Bennett, 2000). Further complicating things, safety climate has a separate measure for organization and group climate-level climates; not just a simple referent-shift consensus model (Zohar, 2000; Zohar & Luria, 2005).

What is equally troubling is that research suggests that how the perceptions of climate are measured will affect the results. For instance, Klein, Conn, Smith, and Sorra (2001) found that using a group referent on the items, versus an "I" or "me" referent, resulted in greater within group agreement and more between group variability. In addition, their results suggest that socially undesirable items foster more within group agreement. Thus, researchers need to think about their research question and match the items to what they are trying to study. Finally, researchers should clearly explain and justify the way that they have measured climate in the study.

Uni- or Mulitdimensional

Another issue that remains unresolved is whether climates should be conceptualized as unidimensional or multidimensional. For instance, global climate has anywhere from one (Dewhirst, 1971) to over 17 dimensions (Patterson, West, Shackelton, Dawson, Lawthom,

Matlis, et al., 2005). For those climates that are traditionally viewed as multidimensional, there is often a lack of clear consensus as to what dimensions should be included. For example, ethical climate has been shown to have anywhere from three (Wimbush et al., 1997) to nine dimensions (Peterson, 2002) and service climate has two (Borucki & Burke, 1999) to four dimensions (Schneider et al., 1998). Some climates such as safety, service, and justice even have global facet-specific dimensions (e.g., global service climate; Schneider et al., 1998). Further, some climates have dimensions that are similar to other climate types. For example, global climate has some overlap with the facet-specific climates (e.g., health and well-being climate and safety climate). Thus, the different climate types have not been operationalized in the same manner, even within the same facet-specific climate. With the inconsistencies of how climate has been measured, it is suspect as to whether results from the studies can be directly compared and interchanged when the different dimensions are used to represent the same climate type.

Further, when there is a discrepancy in the number of dimensions for the climate types, the ways the dimensions have been determined is often questionable. For instance, in the ethical climate literature, some researchers just specify dimensions a priori and never confirm the factor structure with confirmatory factor analyses. Other researchers have conducted confirmatory factor analyses on their data, found additional dimensions, and then just add them. They do not split the data or collect more data to see if the factor structure is unique to the data set or whether a new dimension of ethical climate is warranted. In other words, these dimensions are often added on based on statistical techniques rather than theoretical justification.

Items used to Measure Climate

Climate research also has method problems relating to the specific items used to measure climate. Not all of the climate measures are asking about the same things (e.g., procedures,

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behaviors). For instance, climate measures such as safety and justice ask about doing things specifically related to the construct. So, safety climate asks about doing things related to safety (e.g., following safety rules, hazards at work). Justice climate asks about things related to be being treated fairly (e.g., being treated fairly, procedures being fair, outcomes being fair). On the other hand, ethical climate measures do not ask about doing ethical things, but ask about the conditions that researchers believe set the stage in organizations for doing things ethically (e.g., how decisions are made). In fact, Dickson, Smith, Grojean, & Ehrhart (2001) use the term "climate regarding ethics" rather than ethical climate. Thus, there are discrepancies as to what researchers are examining when they study a facet-specific climate in how the items are worded.

To complicate matters even more, items currently in use in the literature are also inconsistent as to whether they ask individuals to describe the work environment or to provide an affective evaluation of the environment. Schneider and Snyder (1975) suggest that people may share similar perceptions but differ in their evaluations of the same event. In other words, individuals may share the same perceptions as to "how things are done", but may differ on whether they actually like them or not. Therefore, they suggest climate items should be written such that they ask individuals how they perceive the environment, or a description of the environment, not an evaluation of it. This also helps to keep climate distinct from the job satisfaction construct.

Finally, it is also important that the items have the correct focus on the level of analysis and not just refer to an ambiguous work environment (e.g., items may ask about perceptions related specifically to the organization or they could ask about individuals' perceptions of the unit). Zohar (2000) made the observation with the original safety climate measure (Zohar, 1980) that more than one level was being tapped with the items. For the safety climate literature, this

observation led to the development of a specific group-level measure that focuses on group-level only perceptions, rather than group and organizational perceptions. Justice climate researchers who modify the Colquitt (2001) organizational justice scale could also have similar problems. The procedural justice items are a little more "global" asking about procedures in general related more to the organization. However, the interactional justice items are written such that the focus is on perceptions of personal treatment from the supervisor to the individual, suggesting a different focus than the organization. Schneider et al.'s (1998) service climate measure also faces similar challenges. Three of the four dimensions for service climate (global, customer orientation, customer feedback) are at the organizational level, while the managerial practices dimension is at the unit level ("my manager"). Thus, it is important that the items have a specific referent and that the referent is consistent across the items. This can be accomplished by different measures at the different levels or having a clear statement as to the referent (e.g., unit, department, organization) for the item.

Finally, the majority of measures being used in the facet-specific climate areas have not been validated. Validated measures could help address some issues in the climate literature. First, this could help to clarify dimensions in the different climates. Second, it could help raise the standards of this type of research, by utilizing validated measures. Finally, having standard measures for the climate types would help in the generalizability of the results across studies.

Aggregation

Kozlowski and Klein (2000) distinguish two processes of multi-level modeling: top-down and bottom-up processes. Climate research is concerned with bottom-up or emergent processes. Emergent processes are, "phenomena in organizations that have their theoretical foundation in the cognition, affect, behavior, and characteristics of individuals, which—through

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social interaction, exchange, and amplification—have emergent properties that manifest at higher levels. In other words, many collective constructs represent the aggregate influence of individuals." (Kozlowski & Klein, 2000; p. 15).

Kozlowski and Klein (2000) further distinguish between bottom-up processes: composition and compilation processes. Again, composition processes are those in which the lower-level construct is fundamentally the same as the higher-order construct; the higher level of analysis remains relatively unchanged from the lower-level construct. The climate construct as an example of a composition model, in that the lower-level individual and higher-order organizational factors "reference the same construct, have the same meaning, and share the same nomological network (Kozlowski & Klein, 2000: 17)." How these lower-level perceptions are aggregated into the higher-order climate construct has been long-debated.

Most climate researchers would agree that organizational climate is an aggregated perception and many of the fundamental issues of how to aggregate have been resolved; however, there are still some basic issues that remain unaddressed (Bliese, 2000; Klein et al., 2001). Some of these include: How many employees are needed to aggregate for an accurate measure of climate perceptions? Does the number of employees make a difference when aggregating to the unit-level versus organizational-level? In other words, is there a difference of looking at five people from a department of 10 versus five people from an organization of 10,000? If the aggregation is at the organizational level, do the employees need to come from multiple departments? Do we need to show agreement between departments to have an organizational climate and just aggregate from individual-level perceptions? What is different about aggregating individual perceptions to department versus organization if a referent-shift model is not used?

To date there are no clear answers to these questions. Therefore, it is important for researchers to address these questions based on their research question when designing studies. Further, they need to be clear regarding these issues in their method and limitations sections.

<u>Agreement</u>

Another question related to aggregation is the idea of agreement (see Bliese (2000) for a review). One school of thoughts suggests that an acceptable level of agreement is a necessary precondition for aggregation[1]. For those that subscribe to the belief that agreement is needed for aggregation, what this acceptable level should be and how it should be calculated is still a little ambiguous.

There are a variety of statistics that are reported to show agreement such as, r_{wg}, ICC(1), ICC(2), and AD_M. The degree of agreement for climates can be measured by calculating the r_{wg} statistic and this statistic is specifically used to assess interrater agreement (George & James, 1993). Typically a .7 or higher has been used to justify aggregation (George, 1990). However, some researchers suggest that it is also necessary to look at the between group agreement and not just within group agreement. Thus, some researchers report intraclass correlation (ICC) statistics: interrater reliability index (ICC1) and the reliability of group mean index (ICC2).

The ICC(1) is a comparison between the within group agreement and the group variability and is used to demonstrate whether there is a group or organizational level effect (Bartko, 1976; James, 1982). The median ICC(1) in the literature, .12, is typically used as the cut-off of acceptability (James, 1982). The ICC(2) is an assessment of the reliability of the group mean; it is not used to calculate whether individuals of the group agree, but whether the mean computed across individuals in the group is reliable. Glick (1985) recommended an ICC(2) value of .60 as the cutoff for acceptability.

Finally, the average deviation index (AD_M) is another statistic that can be used to compute interrater agreement. It is computed by finding the absolute deviation of each rating from the mean or median of the group rating and then taking the average of these deviations (Burke, Finkelstein, & Dusig, 1999; Dunlap, Burke, & Smith-Crowe, 2003). However, once an agreement method is chosen, even within each different statistics there are problems in how they are used. Some researchers report the range of the statistic, others the average, and still others the median values.

Another related issue is how to deal with groups that do not meet the appropriate level for aggregation. Some researchers drop these groups. Others leave these groups in the analysis if the average agreement score across the groups in the full sample meets the acceptable cutoff. Some researchers run the analysis both ways and if there is no difference, leave all of the groups in the overall results. Other researchers have reported that the appropriate aggregation standards were not met and then just report the data analysis using psychological climate instead of organizational climate (Zohar & Luria, 2004). Recent research on climate strength would suggest that all groups should be included in the analyses.

Dispersion Models

A tangential issue to agreement and aggregation arises in the climate strength literature. When examining climate strength, researchers are interested in the degree of agreement among unit members with respect to their climate perceptions.   However, typically, climate researchers have chosen to conceptualize and measure climate using a consensus model, in which climate is viewed as the average perception of work unit members (Gonzalez-Roma et al., 2002; Schneider et al., 2002). An underlying assumption of this perspective is that a high level of agreement must exist among unit members in order for the climate construct to be meaningful. However, this

requirement for high agreement masks the potential importance of variation in unit members' perceptions of climate. That is, by limiting our examination of climate to settings in which most members agree, there is risk of overlooking important insights related to the causes and consequences of variation in those perceptions. Is it that a climate does not exist or is it that the climate is not strong?

Fortunately, there are alternatives to the consensus model (Chan, 1988) and researchers are beginning to explore these alternatives. One alternative Chan describes is the dispersion model. Dispersion models allow for individual-level constructs to combine through social interaction to become organizational or work group phenomenon. That is with dispersion models, the within-group variability is treated as a focal construct. As such, the variance of the lower level variables (e.g., individual perceptions of climate) becomes a meaningful group level construct (e.g., climate strength). Thus, within-group agreement is a measure of the higher-level construct of climate strength.

<center>Design issues</center>

Finally, there are issues related to the design of climate studies, such as the means by which climate data are collected. The predominate methodology used in climate research is the use of surveys - asking organizational members about their perceptions regarding a specific climate and some outcome variable. This methodology has several limitations regarding its use. First, this type of design is susceptible to same source bias that can artificially inflate relationships. One way around this is to use a split-sample approach where groups are split into subgroups whose responses can be used to separately measure variables in a relationship (e.g., Ostroff, Kinicki, & Clark, 2002).

Along with this, most climate studies do not survey all members of an organization or department. Thus, questions arise about the representativeness of small samples, with respect to the larger populations they represent. A recent article by Newman and Sin (in press) suggests that "researchers discontinue the practice of dropping low-response groups from analysis prior to estimating intraclass correlations". Further, Schneider and his colleagues (Schneider, Hanges, Smith, & Salvaggio, 2003; Schneider et al, 2002) have shown that five random employees in a unit can be adequate to use in analyses. However, the type of research question should dictate what is needed for the sample.

Finally, there is the prominent use of correlational designs in climate research which does not allow for causal testing between variables. This is further impaired by the limited use of more sophisticated statistical methodology such as structural equation modeling. Climate researchers should think about their research question and design a study that reduces the limitations for that particular study.

Research Agenda

As can be seen, there has been a profusion of studies that have examined work climates in organizations. Despite the advances that have been made in understanding work climates, there are still a number of critical issues that need to be examined. To address some of these issues, I now present an outline for a future research agenda for climate researchers.

Theory Development

The climate literature has suffered due to a lack of solid theoretical grounding. As was mentioned earlier, there is a general lack of rigorous theorizing used in the climate literature, especially surrounding the different dimensions of the climate types. Although this can be seen across all of the climate types, the global climate literature has suffered the most from the lack of

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theory. Researchers should consider drawing upon existing theory, or developing new theory to substantiate climate research. In addition, this theorizing needs to match the level of the questions being studied.

Consequences of Climate

Most of the climate types have been linked to various attitudinal outcomes. Facet-specific climates have been related to specific behaviors related to the domain of the facet-specific climates (e.g., safety climate to safety-related outcomes such as number of accidents). However, there has been a paucity of empirical research linking either global or facet-specific climates to more global outcomes such as organizational performance. There has been some speculation regarding how climate can affect organizational performance (e.g., through increase cohesion in work groups and organizations which in turn will improve organizational performance), but not much empirical testing has been done on these relationships. The linkage to organizational outcomes either directly or indirectly would increase the interest of climate research and also help it expand into other domains such as strategy research.

There are different explanations for why climates have not been related to these general organizational outcomes. One reason may be that climate has not been studied at the correct level to test these relationships. A department or team climate may not have as much of an effect on global organizational outcomes as to department- or individual-level outcomes. Second, Carr et al. (2003) state, "determining which manifestation of climate is appropriate depends on the bandwidth of the outcomes of interest. This means that individuals interested in predicting a specific outcome (e.g., safe behavior) are best served by focusing on measuring perceptions of a specific climate (e.g., climate for safety). Conversely, individuals interested in predicting broader outcomes (e.g., job performance and withdrawal) are best served by the broader taxonomy of

molar climate constructs" (p. 605). Thus, there may be some value in reexamining global or molar c\\\climate. Recently, Ostroff et al. (2003) indicate that "more work is needed to determine the relative importance of global versus strategic climate dimensions for different sets of outcomes" (p. 575).

Explore Multiple Facet-Specific Climates Simultaneously

When work climate researchers called for a focus on facet-specific rather than global climates (Schneider, 1975; Schneider, Ehrhart & Holcombe, 2000), the focus switched to studying single facet-specific climates. This new focus has been valuable for increasing our understanding of the influence of work climates on individual and organizational outcomes. However, it has also hindered our understanding of how different climates interact within an organization and how individuals respond when they have conflicting climates present in their work environment. As was mentioned earlier, some research suggests that different climates (e.g., safety and efficiency may actually compete against each other or interact to affect outcomes (e.g., Schneider et al., 1998; Zohar, 2000). One possibility may be that employees use a more global climate to make sense of their environment when they receive conflicting messages from different facet-specific climates. Employees may be able to use global climate as a way to understand what the bottom-line priorities are within the organization and thus how to behave when there is conflict. Carr et al. (2003) suggest "that much could be gained by simultaneously examining multiple climates such that different configurations of climate are likely to be related to effectiveness of outcomes in different domains" (p. 614).

Integrate the Global and Facet-Specific Climate Literatures

Both the global and facet-specific climate literatures have been instrumental in adding to our understanding of work climate and, in particular, organizations in general. However, despite

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the contributions of these two lines of research, our knowledge of work climates remains fragmented. Each of these literatures only tells a part of the story. The global and facet-specific climates have a very different focus, seeking to answer different questions based on this global or more narrow focus. For instance, safety climate researchers typically investigate specific outcomes such accident rates or safety compliance, while researchers studying global climate would investigate more global outcomes such as organizational performance.

Little integration or sharing occurs between researchers interested in facet-specific climates either; justice climate is studied by justice researchers and safety climate is studied by safety researchers, leading to little conversation about climate in general between the various camps. An integration of the global and facet-specific climate literatures would allow us to more accurately reflect the way individuals conceptualize and react to their work environments. That is, they work in and react to both general climate forces as well as climates related to specific aspects of the organizational setting. Further, such an integrated model has the potential to reunite climate researchers whose foci have shifted to specific, narrow aspects of organizational context.

The idea of integrating global and specific climates has been hinted at in the safety and service climate literature (DeJoy et al., 2004; Schneider & Bowen, 1993; Schneider et al., 2000; Wallace, Popp, & Mondore, 2006). These researchers talk about foundational climates that are likened to a molar or general climate for a particular facet-specific climate. Schneider et al. (2000) found that general foundational climates are related to organizational outcomes through the more specific climates, such as service climate. Wallace et al. (2006) also had similar results. They demonstrate that management-employee relations and organizational support regarding safety impact organizational effectiveness, which in turn is connected to the bottom line in

companies (in their case accidents). More work is needed in these facet-specific climate areas, as well as returning to the roots of the climate literature and reexamining global climate.

Multilevel Modeling

Multi-level research has seen a steady increase in the management literature. Researchers from other streams of literature have argued that organizations have interdependence between individuals and subunits within organizations (House, Rousseau, & Thomas-Hunt, 1995), or cross-level relationships. This also creates multiple pressures and potential inconsistencies that individuals have to process. There are some of the facet-specific climates that have attempted to look at multi-level issues such as safety climate (Zohar & Luria, 2005), justice climate (Liao & Rupp, 2005), and creativity climate (Pirola-Merlo & Mann, 2004). However, multilevel modeling in climate research is still in its infancy. The use of multilevel modeling would allow for researchers to examine multiple influences on organizational work climates and provide a greater understanding of organizational work climates. It could also further our understanding of what causes climates and how they are formed.

Climate Formation/Climate Change

The review shows that less focus has been placed on how climates form and change. Schneider & Reichers (1983) describe three ways that climates can form. The first way is the symbolic interaction approach where social interaction is thought to lead to shared meanings. Second is attraction-selection-attrition (ASA) where through these three processes homogeneity evolves. Third is the structuralist approach where being exposed to the same policies, procedures and practices will create a climate. In the recent literature, Roberson & Colquitt (2005) theorize about climate and networks theory. However, there is a paucity of empirical research testing these theories.

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Climate Agreement (Climate Strength)

Finally, researchers have begun to explore the specific characteristics of climate such as climate level (mean value of individual perceptions of the climate reflecting relative priorities) and climate strength (degree of within-unit agreement among unit members' climate perceptions). With climate strength, the within-group variability is treated as a focal construct for the unit, such as department.

Because most climate strength research has focused on the work group or department as the appropriate level of analysis, climate strength in this context has mainly focused on within-group agreement, or agreement-based strength, within departments. However, as researchers begin to examine organizational level and global climates, is it appropriate to focus on the within-group agreement as a determinant of these climate strengths? This leads to the question as to whether there is between-group agreement within organizations and whether this has an effect on organizational outcomes. For instance, strong agreement about a climate within one department would not necessarily mean that this strong climate is beneficial to the organization or that it was a strong climate throughout the organization.

Ostroff et al. (2003) suggest that there may be three types of climate strength: agreement based strength, system-based strength, and alignment-based strength. Agreement-based strength is the extent to which employees interpret and encode organizational situations in the same way. System-based strength is the extent that the climate is pervasive throughout the organizational life and induces uniform behaviors. Alignment-based strength refers to the congruence between organizational practices and climate. These types of strengths could be related to the different types of climate. So for instance, system-based strength could be more strongly related to global

climates, while agreement based strength more strongly related to facet-specific climates. In addition, alignment-based strength could tie into issues of fit within organizations.

Conclusion

A substantial amount of research has been conducted on organizational work climate in the past 60 years and much has been learned about organizational work climate. In this review of the work climate literature, I have identified some of the key problems related to climate research such as lack of strong theory, methodological issues, and definitional issues. It was also noted that with the proliferation of facet-specific climates, the literature is becoming more and more fragmented. In my dissertation, I will address several of these issues. First, I provide a theoretical framework for global climate. Based on this framework, I develop and validate a new theoretically-driven measure of global climate (Chapter 2). Finally, I propose and test an integrated model of work climate. Specifically, I examine the relationships between facet-specific climates and global climate, and specific and global departmental outcomes (Chapter 3).

Footnotes

1. A second school of thought, found in the climate strength literature, is that agreement is

    not a necessary precondition for aggregation. With climate strength, the within-group

    variability is treated as a focal construct for the unit.   This literature suggests that

    including both strong and weak climates represents an interesting alternative.

Table 1
Example Journals Used in the Review

Academy of Management Journal
Administrative Science Quarterly
Business Ethics Quarterly
Group and Organizational Management
International Journal of Service Industrial Management
Journal of Applied Psychology
Journal of Business Ethics
Journal of Business and Psychology
Journal of Business Venturing
Journal of Management
Journal of Occupational and Organizational Psychology
Journal of Organizational Behavior
Journal of Personality and Social Psychology
Journal of Service Research
Leadership Quarterly
Organizational Behavior and Human Decision Processes
Organization Science
Personnel Psychology
Sex Roles: A Journal of Research
Social Justice Research
Strategic Management Journal

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CHAPTER TWO: DEVELOMENT OF A THEORY AND MEASURE OF MOLAR WORK
CLIMATE

Researchers have been increasingly interested in the impact of the organizational context

on important outcomes such as employee job attitudes, employee behaviors, and firm

performance. One of the most important of these contextual factors is work climate. Indeed,

there has been a resurgence of research in the management literature on organizational work

climates, which are defined as shared perceptions regarding the policies, practices, and

procedures that an organization rewards, supports, and expects (Schneider & Reichers, 1983).

The majority of the recent work has focused on facet-specific climates. Facet-specific

climates are climates "for something" and are related to a particular aspect of the organizational

context such as justice climate (Naumann & Bennett, 2000), ethical climate (Victor & Cullen,

1988), and safety climate (Schneider, White, & Paul, 1998). However, early climate researchers

took a more molar approach to studying organizational work climates by examining the global

summary perceptions of how an organization deals with its members and environment

(Hellriegel & Slocum, 1974). The purpose of this study is to bring back the study of molar

climate[1] as well with a new theoretical model and operationalization of molar work climate.

Facet-specific climate research has been a boon for increasing our understanding of the

influence of work climates on facet-specific outcomes (e.g., accident rates); however, the more

narrow focus of these climates has two major limitations. First, facet-specific climates do not

adequately describe individuals' experiences in the organization with their narrow focus. That

is, they do not take into account broad factors in the organizational environment. Second, they

are limited in the kind of outcomes to which they can be connected. In particular, they have been

linked to specific outcomes limited to the domain of the facet-specific climate (e.g., safety climate to accidents, innovation climate to innovative ideas, service climate to customer satisfaction) but for the most part, they have not been able to answer questions relating to global outcomes such as organizational performance (e.g., firm performance).

Yet, it is still important to examine the effects of climate on more global outcomes such as firm performance or organizational commitment. One way to address this limitation in the climate literature, caused by a predominant focus on facet-specific climates, is to reexamine molar climate. Researchers are alluding to the importance of global or molar climates again in the recent literature (e.g., Carr, Schmidt, Ford, Deshon, 2003; Ostroff, Kinicki, & Tamkins, 2003; Schneider, 2000). Ostroff et al. (2003) indicate that "more work is needed to determine the relative importance of global versus [specific] climate dimensions for different sets of outcomes" (p. 575).

However, the literature does not contain a quality instrument for assessing the general characteristics of the molar work climate of an organization. Early efforts to do so were plagued by theoretical and methodological concerns. In this chapter, I propose to address these concerns by: 1) creating a theory-driven model of molar work climate by drawing on the competing values framework (Quinn & Rohrbaugh, 1983), 2) developing a measure that will permit researchers interested in the role of molar climate to assess it accurately, and 3) validating this new measure of molar work climate.

Brief Overview of the Work Climate Literature

The initial climate research emerged as a way to understand organizational effectiveness (Kozlowski & Klein, 2000). It did so by focusing on the effects of the general organizational context or molar climate. Litwin and Stringer (1968), in their seminal work on climate, suggest

that a global climate model "hopes to provide a quantification, or, rather, a diagram of the total situational variables – a diagram that is relevant to the analysis and prediction of the total effects of the environment on groups of individuals" (p. 38). In other words, early climate literature attempted to understand all of the situational influences in organizations and their effects on individual and organizational global outcomes using a molar construct.

Molar climate has been related to job attitudes such as job satisfaction (Friedlander & Marguiles, 1969; Litwin & Stringer, 1968; Pritchard & Karasick, 1973; Schnake, 1983; Schneider, 1972) and commitment (DeCotiis & Summers, 1987), absenteeism and turnover (Steel, Shane, & Kennedy, 1990), psychological well-being (Cummings & DeCotiis, 1973), workplace violence (Cole, Grubb, Sauter, Swanson, & Lawless, 1997), harassment (Culbertson & Rogers, 1997), and theft (Kamp & Brooks, 1991). The few early global climate studies examining organizational global outcomes report weak or no relationships between global climate and global outcomes (Campbell, Dunnette, Lawler, & Weick, 1970; Friedlander & Greenberg, 1971; Hellriegel & Slocum, 1974; Payne & Pugh, 1976; Schneider, 1975).

The early molar climate literature was criticized as methodological and theoretical concerns emerged. To address these issues, researchers switched their focus to facet-specific climates. Facet-specific climates are those climates that are related to a particular aspect of the organizational context such as safety, justice, or service. They are a climate for something specific. Work settings have many of these specific climates present at any given time. This division of work climate into narrow, specific parts of the work environment allowed researchers to operationalize climate as different facet-specific climates.

Facet-specific climates have been useful in increasing our understanding of the impact of organizational context on a variety of outcomes in organizations. Yet, they are limited by their

narrow focus. For the most part, facet-specific climates have been linked to specific outcomes related to the domain of the climate type (e.g., safety climate has been related to accident rates (Hofmann & Stetzer, 1996; Zohar, 2000), but not to global organizational outcomes (e.g., firm performance).

Rousseau (1985) speaks to this issue stating that "the treatment of climate as a generic perception of situations has had the advantage of allowing summary assessments of context in research that is otherwise largely individual-level in focus" (p. 142). It is this summary quality that gives global climate an advantage over other more discrete topical areas (e.g., leadership, rewards). She further states that, "This shift to facet-specific climate is a movement away from the tradition of climate as undifferentiated summary perceptions. Ironically, specification of climate facets can blur the distinction between climate *per se* and studies of specific topics such as leadership and safety" (p. 148). In other words, although facet-specific climates have aided in our understanding of work climates in particular and organizations in general, climate research has shifted away from its original focus and purpose. That is, molar climate research examines the subjective perceptions of individuals regarding a molar work environment, rather than on a specific focus, and how these perceptions drive their behaviors and attitudes.

In summary, research is still needed on molar climate because this research can contribute to our understanding of the organization as a whole. James, James, & Ashe (1990) state, "while it is useful to conduct research in terms of a climate for something (for example, creativity, productivity, safety, or perhaps organizational well-being; see Schneider & Reichers, 1983), we do not believe that this is a parsimonious means for defining what climate is since there are great many more "somethings" than there are latent climate variables (p. 56). Further, Ashkanasy, Wilderom, and Peterson (2000) suggest that a global approach has advantages in that

it provides an "overall snapshot" of organizations. This in turn allows for a better picture of how the whole organization operates.

Issues to be Resolved in the Molar Climate Literature

However, before molar climate research can progress, researchers need to address previous concerns with this research. Historically, molar climate research has been plagued with difficulties relating to definitional issues, theoretical grounding, and methodological issues. As was mentioned earlier, definitional issues can be addressed by drawing on findings from the facet-specific climate research. Methodological advances made in recent years can contend with some of the methodological concerns. However, theoretical concerns still remain. Each of these is discussed below.

Methodological Issues

Three main methodological issues have hindered global climate research: how to measure it, how to distinguish it from other constructs, and how to operationalize it (cf. Glick, 1985; Hellriegel & Slocum, 1974; James & Jones, 1974; Schneider, 1990). First, new methodological advances, such as procedures to test agreement (e.g., r_{wg}, ICCs), have addressed many of the concerns about aggregating individual perceptions of climate to create organizational climate (see Bliese, 2000 for a review). Second, molar climate has been criticized for overlapping with organizational characteristics such as structure and technology, and psychological constructs such as satisfaction. Research has since been able to dispute these claims as climate has been shown to be distinct from structure (Campbell et al., 1970; Payne & Mansfield, 1973; Payne & Pugh, 1976) and job satisfaction (Payne, Fineman, & Wall, 1976; Schneider & Snyder, 1975). However, the construct still remains broad and amorphous and there is no clear consensus as to what dimensions should be included when describing

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organizational climate.

<p style="text-align: center;">Theoretical Issues</p>

Many of the climate dimensions studied in the field were developed and added without theoretical rationale (Schneider, 2000). This creates great disparity and criticism surrounding the dimensions that researchers have used to measure molar climate. Although there is some considerable overlap in measures, there are no agreed upon dimensions of a molar climate. Some measures of molar climate include only one dimension (Dewhirst, 1971), while others as many as 17 dimensions (e.g., Patterson, West, Shackleton, Dawson, Lawthom, Matlis, et al., 2005). In addition, many of the measures of global climate in the literature have similar dimensions to those used in the facet-specific literature (e.g., well-being, innovation, decision making). Schneider (1975) found that "a review of the literature reveals that many climate researchers have indeed assessed the specific climate in which they were interested rather than attempting to develop some omnibus measure" (p. 472). This ultimately creates a construct that is conceptually fuzzy (Guion, 1973) and what Schneider (2000) claims as a construct that no longer has meaning. However, this issue can be resolved if there was a strong theoretical foundation for molar climate.

<p style="text-align: center;">A New Theoretical Framework for Molar Climates</p>

To address this lack of a strong theoretical foundation for molar climate, I propose a new theoretical framework. The initial global climate researchers sought to understand organizational effectiveness. Therefore, I decided to return to the roots of global climate and looked at the effectiveness literature. I draw upon the competing values framework (CVF; Quinn & Rohrbaugh, 1983) from the effectiveness literature. The CVF focuses on the global impact of broad-based organizational values on outcomes. More specifically, it focuses on opposing

values that exist in organizations and how combinations of these values affect organizational outcomes.

Values and Climate

Values have been shown to be important to individuals' perceptions of climate. Schneider (1973) states that, "climate took the form of situation specific values which reflected those aspects of the situation to which individuals attach importance" (p. 248). In other words, values are used by individuals in the work environment to indicate what is important. Values of the organization's social systems (e.g., unit, department, organization) represent a source of situation specific values that permeate the work environment. Indeed, Denison (1996) states that climate is "rooted in the organization's value system" (p. 624). These values of the organization are incorporated into policies, procedures, and practices of the organization (Grojean, Resick, Dickson, & Smith, 2004). It is individuals' perceptions of these policies, procedures, and practices which then result in work climate perceptions. Thus, organizational values are indirectly linked to perceptions of climate; the values themselves are not climate.

Competing Values Framework (CVF)

Based on analyses of a comprehensive list of effectiveness indicators, Quinn & Rohrbaugh (1983) identified two major dimensions underlying conceptions of effectiveness: organizational focus (internal versus external) and structure (flexibility versus control). When these two dimensions are crossed, four different value orientations are created that reflect a variety of diverse, theoretically-driven facets of organizational values (Ostroff et al., 2003).

Organizational Focus Dimension

The first dimension of the CVF reflects whether an organization has an internal or external focus. In other words, is the focus of the organization inward, toward internal dynamics

or processes, or outward, toward the external environment? The internal-external continuum

represents how well the organization manages to maintain continuity while managing the

demands for change from the environment. Organizations with an internal focus have an

emphasis on *employees*. They stress the well-being of employees, the development of

employees, and employee relations. Here individuals are considered to be unique and in need of

appropriate information and consideration. An organization with an external focus has an

emphasis on the *organization*. The well-being of the organization and its development are

emphasized. Here the external view represents organizations that are logical and have the main

goal of accomplishing tasks and acquiring resources.

Structure Dimension

The second dimension of the CVF reflects a focus on flexibility versus control in

organizational structuring. In the competing values framework, the flexibility-control continuum

denotes how organizations are able to balance meeting external challenges, such as competition

and growth, while still maintaining control and continuity in their internal structures.

Organizations at the control end of the continuum are "associated with externalized (coercive)

mechanisms of control such as rules, policies, procedures, and direct supervision" (Zammuto,

Gifford, & Goodman, 2000; p. 264). Organizations on the flexible end are "associated with

internalized (normative), commitment-based mechanisms of coordination and control such as

training and socialization" (Zammuto et al. 2000; p. 264). Ultimately, where the organization

falls along this dimension will reflect how the organization is structured.

Four Competing Values

Crossing the organizational focus and structure dimensions results in four quadrants that

represent four competing values: human relations values (internal/flexibility), internal process

values (internal/control), open-systems values (external/flexibility), and rational goal values (external/control). These values reflect the primary value orientations of most organizations (Kalliath, Bluedorn, & Gillespie, 1999).

The competing values framework has been applied to many different streams of research including: strategy (Bluedorn & Lundgren, 1993), organizational change (Hooijberg & Petrock, 1993), leadership (Denison, Hooijberg, & Quinn, 1990) culture (Cameron & Freeman, 1991), and management information systems (Cooper & Quinn, 1993). This provides evidence that the CVF broadly impacts the organization in predictable ways, suggesting that it could be a promising theoretical foundation for molar climate.

<div align="center">CVF and Molar Climate</div>

Patterson et al. (2005) draw upon the CVF to develop a 17 dimension measure of organizational climate. This measure was designed to address a broad range of dimensions that are representative of organizational climate (e.g., involvement, innovation and flexibility, training), rather than a specific measure of molar climate. They use the four competing values as a framework by placing 17 climate dimensions that have been previously studied in the literature (e.g., training, innovation, efficiency) under one of the four competing values. Then, they created items to tap into each of these 17 dimensions and conducted validity testing. They did not predict nor find any second-order factors (e.g., molar climate types). Thus, the resulting measure is not a measure of molar climate, rather it was designed for researchers to select specific organizational climate dimensions to use based on what facet-specific climate relates to what they are studying. Indeed, the authors state that to use all of the dimensions at once "might suggest a lack of theoretical focus" (p. 399).

Although I draw on the CVF as a theoretical framework, I take a different approach than

the previous authors. For my purpose, molar climate is a construct in and of itself. The molar

climate of an organization represents the shared perceptions of priorities in the broad

environment relating to the general focus and structure of the social system, not just a

combination of different facet-specific climates. Because global organizational values represent

the priorities in organizations, I use the CVF as the basis for four distinct molar climate types.

Global values are reflected in the policies, procedures, and practices of the organization. It is

individuals' perceptions of these policies, procedures, and practices that make up the climate in

organizations. As a result, molar climate within organizations should parallel the four competing

values quadrants. Thus, I suggest that the four competing values' framework be the basis for

four molar climate types: human relations climate, internal process climate, open-systems

climate, and rational goal climate (see Figure 1).

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Insert Figure 1 about here

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Human Relations Climate

The first molar climate type is the human relations climate. Human relations climate

refers to shared perceptions of cohesion, morale, and human resource development. Social

systems with this climate type are perceived to emphasize an *internal focus* and *flexibility*.

Cohesion, morale, and human resources development are stressed in the social system. The

social system has a concern for the employees with a focus on recruiting, training, and

motivating people. The focus is on developing positive working relationships among workers so

there is a balance of various interests and maintaining a level of satisfaction and loyalty.

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Internal Process Climate

The second molar climate type is the internal process climate. Internal process climate refers to shared perceptions of information management, communication, stability, and control. Social systems with this climate type are perceived to emphasize an *internal focus* and *control*. Information management, communication, stability, and control are stressed. This climate stems from a common concern with organizing and structuring the social system. The focus is on aligning internal workings to accomplish the social system's mission.

Open-Systems Climate

The third molar climate type is the open-systems climate. Open-systems climate refers to shared perceptions of growth, resource acquisition, and external support. Social systems with this climate type are perceived to emphasize an *external focus* and *flexibility*. Growth, resource acquisition, and external support are stressed in the social system. The focus of the social system is on maintaining congruence with the changing environment. The social system has to be able to monitor and coordinate with other social systems while adapting to externally imposed changes by acquiring resources.

Rational Goal Climate

The final molar climate type is the rational goal climate. Rational goal climate refers to shared perceptions of an external focus for the social system and focus on planning and productivity. Social systems with this climate type are perceived to emphasize an *external focus* and *control*. Planning and productivity are stressed in the social system. Here the focus of the social system is producing outputs valued by environmental sectors to remain viable. Therefore, the focus is on whether the social system is maintaining their position in relation to other social

systems or according to changing trends. However, the social system must not only focus on current demands, but also plan for and adapt to new demands.

The two dimensions of the CVF are represented as orthogonal constructs in the framework. However, research has indicated that various values can exist simultaneously in an organization (McDonald & Gandz, 1992). They are not mutually exclusive and various aspects of the different models can exist simultaneously in an organization. Thus, all organizations develop combinations of these four climates, with one or two of the quadrants often becoming more dominant than others (McDonald & Gandz, 1992).

In sum, drawing on the CVF provides a strong theoretical basis for conceptualizing molar climate. This framework yields four molar climate types that are reflective of different global values of social systems within organizations. Theoretically, these molar climate types display two critical characteristics: they exist at a global level, and they are theorized to be distinct from the more narrowly-focused facet-specific climates.

<div align="center">Method</div>

<div align="center">Overview of the Process for Scale Development</div>

In developing a new survey measure of molar work climate, I follow the process suggested by Spector (1992) for survey measure development. These steps include: 1) defining the construct; 2) designing and reviewing an initial version of the instrument; 3) pilot testing the instrument; 4) administering the instrument to a new sample to further develop internally consistent scales; and 5) initial instrument validation, including evidence of discriminant, convergent, and criterion-related validity.

Study 1 is used to specify the domain of the construct and design and test an initial version of the instrument. This involves the item generation phase, the process by which items

were developed for inclusion in the measure, and employs exploratory factor analysis to evaluate item fit. Study 2 is a further refinement of the measure. Study 3 examines the extent to which individual perceptions of molar work climate may be aggregated to a higher-level construct. In addition, I conduct a multilevel confirmatory factor analysis to examine the extent to which the items are reflective of the latent construct at the individual or system level of analysis. Finally, I examine convergent, discriminant, and criterion-related validity at the aggregate level.

Study 1- Initial Scale Development

Item Generation

Study 1 establishes an initial version of the molar climate measure by generating items that reflect the molar climate domain and pilot testing these items. Because of the strong theoretical foundation for molar climate (i.e., competing values framework), deductive scale development was used to generate items (Schwab, 1980). In this technique, a theoretical definition of the construct is developed and then used as a guide for the development of items.

First, I modified items in the literature that had been used to measure the four competing values. Specifically, items were modified from Buenger, Daft, Conlon, and Austin's (1996) items for assessing competing values. Their measure had four human relations, four open-systems, four rational goal, and eight internal process items and all were modified to reflect climate items. In addition, I generated four more items for human relations climate, open-systems climate, and rational goal climate to total eight items for each climate type. I drew on the Kalliath et al. (1999) measure and wrote additional items to reflect the main tenets of the competing values framework.

Substantive Validity: Item Review

Next, I examined the scales' substantive validity, or the extent to which a measure is

judged to be reflective of, or theoretically linked to, some construct of interest (Anderson &

Gerbing, 1991). To do this I employed an item-sort task (Anderson & Gerbing, 1991) to see if

the items could be clearly identified as reflecting the four molar climate types. Four trained

doctoral students sorted the 32 items into the molar climate types and, using a 75% substantive

agreement cutoff (Hinkin, 1998), all items were retained.

Sample and Procedures

These items were then distributed to individuals called for jury duty by a county circuit

court in the southeastern United States. Potential jurors were addressed at the beginning of the

day as they waited to see if they would be required to serve on a jury. They were informed that

the survey had nothing to do with the jury or court system, but rather I sought to understand

more about issues that affect individuals at work. Currently employed individuals were invited to

participate in the study. Participants picked up surveys from and returned surveys to the

researcher. Data were collected over the course of three weeks with 471 respondents. The

average participant age was 41.83, 58.6% were female, and the respondents averaged 7.75 years

of tenure at their job.

The survey contained instructions, demographic questions, and questions assessing

perceptions of the four types of molar climates.   Individuals were asked to rate their agreement

utilizing a 7-point scale (1 = strongly disagree, 7 = strongly agree). The items were presented in

random order.

Analyses and Results

First, following the recommendations of Kim & Mueller (1978), I examined the interitem

correlations of the variables for each molar climate type before conducting exploratory factor

analysis. Variables that correlated less than .4 with the other items in the factor were deleted.

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The items deleted included: human relations items 7 and 8; internal process item 7; open-systems items 5, 7, and 8; and rational goal items 6 and 8 (see Appendix C for items). Then, an exploratory factor analysis with a principle components extraction and oblique rotation was conducted (Ford, MacCallum, & Tait, 1986). The results reveal a four-factor solution (see Table 2). However, there were several significant cross-loadings which required measure refinement.

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Insert Table 2 about here

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Study 2 – Further Refinement of the Instrument

The purpose of Study 2 is to further refine the model by reexamining the theoretical underpinnings of the CVF. Here the goal was to refine the items, evaluate the factor structure of the new measure, and reduce the 32- item scale to 16 items using exploratory factor analysis.

Following other applications of the CVF, I originally focused on the two main dimensions of the CVF: organizational focus (internal versus external) and structure (flexibility versus control). However, the original CVF has a third dimension: means versus ends. The means relates to processes (e.g., planning or flexibility) while the ends relates to the final outcomes (e.g., productivity or growth). Climate is employees' perceptions of the policies, practices, and procedures and should be more related to the means, or processes, than to the ends (actual growth or human resource development). Therefore, I modified the items to reflect only processes (the means dimension) rather than having items that also measured outcomes (the ends dimension). I adapted the wording of several items and wrote 10 additional items (see Appendix D).

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<u>Sample and Procedures</u>

Surveys were distributed to 60 organizational employees and 100 working students at a university in the southeastern U.S. One hundred fifty-two surveys were returned for a 95% response rate. The average participant age was 28.8, 48% were female, and the respondents averaged 2.9 years of tenure at their job.

Again, the survey contained instructions, demographic questions, and questions assessing perceptions of the four types of molar climates. Individuals were asked to rate their agreement utilizing a 7-point scale (1 = strongly disagree, 7 = strongly agree). The items were presented in random order.

<u>Analyses and Results</u>

Again, following the recommendations of Kim & Mueller (1978), I examined the interitem correlations of the variables for each molar climate type before conducting exploratory factor analysis. Variables that correlated less than .4 with the other items in the factor were deleted. Then, an exploratory factor analysis with a principle components extraction and oblique rotation (Ford et al., 1986) was conducted. The results reveal that clear factor structures and reliable scales emerged for each component of the revised instrument (see Table 3).

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Insert Table 3 about here

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From these factor loadings, the next step was to further reduce the items to four per molar climate type. Research indicates that short measures reduce response bias caused by boredom and fatigue (Schriesheim & Eisenbach, 1990). In addition, it is suggested that four items are needed to test the homogeneity of items within constructs (Harvey, Billings, & Nilan, 1985).

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Based on the factor loadings, I chose to retain items with the highest loadings. The loadings are presented in Table 4.

Insert Table 4 about here

Two of these items require further attention. Two of the open-systems items (3 and 4) had significant cross-loadings (i.e., were not double the next highest loading). However, I chose to retain these items for several reasons. First, the primary loading for both of these items was in the predicted factor. In addition, the loadings for both items were greater than .40 (Hinkin, 1998). Further, Bennett and Robinson (2000) suggest that there should be more than a .10 difference between the weights of the two factor loadings. Both open-systems items 3 and 4 met this requirement with a .31 and .32, respectively, difference between the next highest weight and the open-systems weight. They were also better than the alternative items. Finally, looking at face validity, the wording of the items fit best in the rational goal factor rather than the factor of the second highest loading.

Finally, once the unidimensionality of each of the four climate types was established, the reliability of the subscales was assessed using Cronbach's alpha (Cortina, 1993). According to Nunnally (1978), a coefficient alpha of .70 or greater for exploratory measures indicates strong item covariance. All of the molar climate types show strong item covariance: human relations climate α =.85, internal process climate α = .83, open-systems climate α = .82, and rational goal climate α = .80.

The final molar climate measure has four factors (human relations climate, internal process climate, open-systems climate, and rational goal climate) with four items for each factor.

Although the molar climate measure was shown to be internally consistent and to possess content validity, the goodness of fit of the factor structure needs to be examined (Bagozzi, Yi, & Phillips (1991). Further, the initial instrument validation, including evidence of discriminant, convergent, and criterion-related validity needs to be assessed. These are examined in study 3.

<center>Study 3 – Instrument Validation</center>

Dyer, Hanges, and Hall (2005) suggest the nature of constructs can differ across levels of analysis, and that a scale measuring a group-level construct should be examined at the aggregate level of analysis to ensure that it exhibits the desired dimensionality properties at the aggregate level of analysis. Thus, in study 3, I collected new data utilizing work departments to test this by showing the appropriateness of aggregation and by conducting a multilevel confirmatory factor analysis (MCFA). Finally, I provide evidence regarding the convergent, discriminant, and criterion-related validity of the instrument.

<u>Sample and Procedures</u>

Data were collected from 120 departments from 120 different organizations in the southeast U.S. including technology, government, insurance, financial, food service, retail, manufacturing, and medical organizations. Survey packets were hand delivered to a minimum of five employees in each department plus the supervisor. Participants were assured of the confidentiality of their responses. A postage paid envelope was included in the packet to return the survey. A total of 551 usable responses out of 875 surveys (58% of employees; 63% of supervisors) were received and tabulated (i.e., had more than four respondents per group). The average number of respondent per department was 5.59. Employees responding were 53% female, 60.3% white (8.2% African-American and 11.4% Hispanic), averaged 30.44 years of age with 4.27 years of experience in the organization and 3.22 years in the department.

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Supervisors responding were 45% female, 67.4% white (9% African-American and 7%

Hispanic), averaged 39.46 years of age with 8.28 years of experience in the organization and

6.10 years in the department.

Measures

All surveys contained instructions, demographic questions (i.e., age, gender, education,

department tenure, and organization tenure), and measures for the four types of molar climate.

Additional measures provided provide information to assess convergent, divergent, and criterion-

related validity. The measures were presented in random order.

Employee surveys

In addition, department employees completed surveys with measures to assess the

relationship between molar climate and other constructs in its nomological network. This

included measures that assessed convergent validity, or measures that are expected to be similar

to molar climate. The first is a measure of process clarity (3 items; Sawyer, 1992). Process

clarity is conceptually related to molar climate because climate is the perceptions of practices,

policies, and procedures which are reflected by the clarity of processes in the organization.

Climate research also indicates that leader behavior serves to inform employees about climates

(e.g., Gonzalez-Roma, Peiro, & Tordera, 2002). Thus, I included a measure of leader informing

behavior (3 items; Gonzalez-Roma et al., 2002).

I also included measures not expected to be strongly related to molar climate to assess

discriminant validity. First, climate should be different than work interdependence. Researchers

have suggested that tasks that are interdependent should have stronger climates (e.g., Klein et al.,

2001). However, molar climate should be distinct from this construct. Second, climate should

also be different than employees feeling their tasks are significant and worthwhile. Therefore, I

included measures of work interdependence (3 items; Campion, Medsker, & Higgs, 1993), and meaning (3 items; Kirkman, Rosen, Tesluk, & Gibson, 2004). Finally, I included several measures of facet-specific climates to see if the measure of molar climate could be distinguished from facet-specific climates. I included a measure of safety climate (10 items; Zohar, 1980), service climate (7 items; Schneider et al, 1998), innovation climate (6 items; Anderson & West, 1998), and training climate (5 items, Tracey & Tews, 2005). I chose these facet-specific climates because I thought they have some overlap with the molar climate types and there were standard measures of them in the literature.

Finally, to assess criterion-related validity, employees completed measures of general work attitudes. This included 8 commitment items (Meyer & Allen, 1991) and 5 job satisfaction items (Brayfield & Rothe, 1951).

Supervisor surveys

To further assess discriminant validity, supervisors completed a measure of structure (7 items; Khandwalla, 1977). Past research has shown that organizational climate is different from the structure of organizations (Campbell et al., 1970; Payne & Mansfield, 1973; Payne & Pugh, 1976). To assess criterion-related validity, supervisors completed measures of perceived department performance (7 items; Delaney & Huselid, 1996), department deviance (12 items; Bennett & Robinson, 2000), and compliance with organizational policy (6 items; Tyler & Blader, 2005).

Analyses and Results

Aggregation

In order to ascertain whether department level aggregation is appropriate, the degree of agreement for the four molar climate types was assessed by calculating the r_{wg} statistic (George

& James, 1993). The r_{wg} statistic is used to determine interrater agreement. A 1.00 would reflect perfect agreement. The mean r_{wg} statistic for human relations climate was 0.95 (range: $r_{wg}=.89$ to 1.0). For internal process climate the mean r_{wg} was .92 (range: $r_{wg}=.83$ to 1.0). For open-systems climate the mean r_{wg} was .89 (range: $r_{wg}=.82$ to 1.0). For rational goal climate the mean r_{wg} was .90 (range: $r_{wg}=.72$ to 1.0). This suggests there is strong agreement within workgroups for all the molar climate types.

Multilevel confirmatory factor analysis (MCFA)

Conducting a multilevel confirmatory factor analysis can provide evidence as to which items are reflective of the latent construct at the individual or system level of analysis. I follow the steps of Muthen (1994) recommends for conducting a MCFA. This process is used to justify conducting a multilevel analysis and provide initial information about the factor structure of the scale at different levels of analysis. I report only the ICC values and the actual MFCA results. Mplus was utilized for these analyses.

First, I examined whether it is appropriate to use multilevel analysis with the data by estimating the between group variation for the observed variables in the model. To do this, intraclass correlation coefficients (ICCs) are calculated to determine the extent of systematic variance for each indicator, using Muthen's (1994) ICC, which is similar to ICC (1). The ICC values will range from 0-1, and if values are less than .05 there may be little value in conducting multilevel modeling (Bliese, 2000). When calculating Muthen's ICC, random level effects are assumed rather than fixed level effects as with the regular ICC because of the multilevel nature of the data.   In addition, a ratio of the maximum likelihood is calculated to estimate the latent within and between variance components because of this assumption of random versus fixed-level effects. The ICCs ranged from .15 to .44, with a mean ICC of .28. Given these ICC

values, there was sufficient between-group variation to justify the use of multilevel analysis. Moreover, the residual variances of the within level were high and significant, further justifying the need to use MCFA.

Once, it was determined that MCFA was appropriate to use for this sample, I conducted the MCFA. As with the traditional confirmatory factor analysis, the fit of the model is assessed. Similar fit statistics (e.g., chi-square, comparative fit index (CFI), and root mean square error of approximation (RMSEA)) are used as in a traditional CFA. Hu and Bentler (1999) recommend fit indices of CFI .95 or higher, RMSEA .05 or less, and a small chi square relative to the degrees of freedom to judge the model fit as good. However, Hox (2002) suggest that a CFI of at least .90 is needed to judge the model fit as acceptable. First the fit of a four-factor model (human relations climate, internal process climate, open-systems climate, and rational goal climate was assessed. This analysis indicates the four-factor model provides an acceptable fit to the data (χ^2 =517.11, df = 198; RMSEA = .05, CFI = .93). Next, this was compared to the fit of a two factor model by examining flexibility versus control focus. This model does not fit the data well (χ^2 = 994.71, df = 211; RMSEA = .08, CFI = .82). Then I conducted a second two-factor model examining internal versus external focus. This model does not fit the data well (χ^2 = 1020.42, df = 211; RMSEA = .08, CFI = .81). Finally, the four-factor model was compared to a one factor model (χ^2 = 1232.03, df = 208; RMSEA = .09, CFI = .76). The four-factor model is a significantly better fit than either of the two-factor models (χ^2 difference = 477.6, df = 13, p<.01; χ^2 difference = 503.31, df = 13, p<.01) or the one-factor model (χ^2 difference = 714.92, df = 10, p<.01). These results suggest that the four molar climate types are distinct from each other at both the individual and group level.

Construct validity

Establishing construct validity involves placing a construct in the nomological network of relationships with other variables (Cronbach & Meehl, 1955). Thus, validation involves understanding a construct in relation to other constructs in its domain by examining convergent, discriminant, and criterion-related validity (Gurtman, 1992).

Table 5 reports the correlations, means, and standard deviations of all variables used in the validation of the molar climate measure. As expected the four molar climate dimensions are highly related to one another. The average correlation was .60-.74 at the aggregate level (.52-.64 at the individual level).

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Insert Table 5 about here

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Convergent validity

I assessed convergent validity, by examining the extent to which the molar climate types covary with other measures purported to measure similar constructs. Here I identified measures that are conceptually related to molar climate and predict that these measures will be highly correlated with the molar climate types. I identified a facet-specific climate type that I thought should be related to each of the molar climate types: training climate, safety climate, innovation climate, and service climate. As predicted, all of these measures are moderately to highly correlated with the facet-specific climate types with correlations ranging from .38-.76 (see Table 5). In addition, I examined two additional constructs (leader-informing behavior and process clarity) that are conceptually related to molar climate. As predicted, all of these measures are moderately to highly correlated with the molar climate types (see Table 5). The correlations ranged from .30-.49, further supporting the convergent validity of the molar climate measure.

Discriminant validity

I assessed discriminant validity in two ways using correlational and MCFA analyses. These tests were used to assess whether the four molar climate types could be distinguished from facet-specific climate measures in the literature (e.g., training climate, innovation climate, safety climate, and service climate) as well as other constructs

First, I identified three constructs that should not be conceptually closely-related to molar climate: structure, task interdependence, and meaning. I predicted that these constructs would not be highly correlated with molar climate. As predicted, these constructs were not highly correlated with the molar climate types. The correlations ranged from .03-.23, providing evidence of discriminant validity.

In addition, I re-examined the four facet-specific climates (training climate, safety climate, innovation climate, and service climate) to see if they could be distinguished from the molar climate types even though they are closely related. I predicted that even though these climate types were highly correlated with the molar climate types, they should not converge totally with the molar climate types. In other words, these facet-specific climate types that display convergent validity should also have evidence of discriminant validity and be distinct from the molar climate types. Thus, I test the relationships between the four molar climate types and the four facet-specific climates (training climate, safety climate, innovation climate, and service climate).

Following Chen, Gully, and Eden (2001), I conduct a series of MCFAs. For each of the four facet-specific climates, I compare the fit of six models: a five-factor model (the four molar climate types and the facet-specific climate are all viewed as distinct), four four-factor models (the correlation between the comparison factor and each of the molar climate types was set to 1),

and a one-factor model (all four molar climates and the facet-specific climate are loaded onto a single factor).   For each facet-specific climate, I compare the fit of the five-factor model to the four four-factor models and the one-factor model (See Table 6). In all cases, the five-factor model provides an adequate fit to the data. In addition, the five-factor models provide a significantly better fit to the data than any of the other alternate models. These MCFAs provide further evidence of discriminate validity of the molar climate types from facet-specific climate types. Together, this indicates strong support that molar climate has discriminant validity.

Insert Table 6 about here

Criterion-related validity

Criterion-related validity of the molar climate types was examined by assessing the correlations of the molar climate types with several anticipated outcomes (cf., Tracy & Tews, 2005; Zohar & Luria, 2005). The competing values framework was originally used to understand organizational effectiveness so this would suggest that molar climate should be related to measures of global outcomes. Thus, I examine department performance, compliance with organizational policies, department deviance (all assessed by the supervisor), and general attitudes (assessed by employees). Table 4 shows that all 16 of the correlations between the four molar climate scales and the four global outcomes are significant and in the anticipated direction. Department performance ranged from .20-.30, compliance with organizational policies ranged from .25-.31, departmental deviance ranged from -.18 to -.33, and general attitudes ranged from .32-.39. Overall, these reports support the criterion-related validity of molar climate.

<center>Discussion</center>

The early global climate literature has been criticized for the lack of a theoretical foundation and operationalization. Although researchers have settled on a definition of global work climate, or what I call molar climate, the field has struggled with operationalizing and measuring the construct. Little attention has been placed on the development of a theoretically-based molar climate measure. I address this issue by drawing on the competing values framework (CVF) as a basis for developing a measure of molar climate and conducting initial validity testing of this measure.

The theoretical rationale for these molar climates comes from the effectiveness literature and draws on the organizational value literature. Values are considered to play an important role in the recognition and development of work climate (James, Demaree, & Wolf, 1994). Values in the organization's social systems (e.g., unit, department, organization) serve as a way for individuals in an organization to understand the goals and priorities within their organization. Global values are reflected in the policies, procedures, and practices of the organization. It is individuals' perceptions of these policies, procedures, and practices that make up work climates. Ostroff et al. (2003) suggest a framework where values affect procedures, practices, routines, which in turn provide the context for work climate.

The initial results for the molar climate measure are promising. This preliminary evidence suggests that the proposed four-component model of molar work climate appears viable. First, the results indicate that the instrument has high internal reliability. Further, the results demonstrate convergent and discriminant validity within the nomological net. Most importantly, although the molar climate types are related to facet-specific climates, they demonstrate discriminant validity from facet-specific constructs such as training climate,

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innovation climate, safety climate, and service climate. The results from the MCFAs suggest that molar climate is distinct from the facet-specific climate constructs. In addition, the molar climate types are related to global outcomes such as department performance, department deviance, compliance with organizational policies, and general attitudes. Finally, the measure is also more parsimonious compared to other global climate measures (e.g., Litwin & Stringer (1968) have over 50 items), which lends itself for use in survey research. Overall, these results suggest that molar climates do exist in organizations and can be distinguished from facet-specific climates.

The results from these studies are also consistent with some of the original research on global work climate. A number of dimensions that have been previously used to operationalize global climate align with the two primary dimensions reflected in the CVF framework: organizational focus and structure. For example when Campbell et al. (1970) examined existing climate measures, they found that most of the measures include a dimension that relates to organizational support or consideration (e.g., Brown & Leigh, 1996; Litwin & Stringer, 1968; Pritchard & Karasick, 1973; Schnake, 1973). This relates to the first dimension's focus (internal versus external focus) of the organization as to whether it is on the people or the organization. More recently, Wallace, Popp and Mondore (2006) examine foundational or more general climates for safety climate: organization support climate and management-employee relations climate. Their results indicate that management-employee relations and organizational support impact organizational effectiveness, which in turn is connected to the bottom line in companies (in their case accidents). Again, both of these foundational climate dimensions have a similar focus as the internal/external dimension of the proposed molar climate. Thus, a dimension examining the focus of the organization is consistent with the existing climate literature.

The second dimension relates to the social systems' structure focusing on flexibility versus control. Again, according to Campbell et al. (1970), early climate researchers often included a dimension related to individual autonomy or structure (e.g., Payne & Pugh, 1976; Pritchard & Karasick, 1973; Schnake, 1973). More recently, Dickson, Resick, & Hanges (2006) examined mechanistic and organic climates and climate strength. They find that stronger climates exist in mechanistic organizations, because they have the most structured socialization patterns which make environmental features more salient. In addition, the extremes of the mechanistic-organic continuum are also stronger, where they are most defined. Again, the previous use of dimensions relating to structure in the literature indicates that a dimension examining an organization's flexibility versus control is appropriate for molar climate.

<div align="center">Limitations</div>

As with all studies, there are limitations to these three studies. First, common method variance could be a concern because all data were collected via surveys. Even though two separate sources were used for the predictor and outcome variables (employees and supervisors), many key variables resulted from aggregating individual scores, and respondents represented a wide array of organizational and demographic backgrounds it common method variance could exist.

In addition, I followed Podsakoff, MacKenzie, Lee, and Podsakoff's (2003) recommendation of performing principle components analysis on all the scale items. If common method variance is present, the principle components analysis should reveal either one single factor or a dominant general factor that accounts for a majority of the variance in individual responses. This analysis showed that the multi-factor models were the better fitting models suggesting that the variables are different constructs.

Podsakoff et al. (2003) also recommend some non-statistical methods for reducing common method variance. They recommend protecting the anonymity of respondents and making sure respondents understand that there are no right or wrong answers when providing information. For these studies, respondents were assured of their anonymity. In addition, the instructions also explicitly stated that there was no right or wrong answers.

A second possible limitation is that the results are based entirely on self-reports. Even though Specter (1992) suggests that there is good validity in self-reports in general, it is important to note that self-reports are vulnerable to social desirability. For instance, supervisors could attempt to make their department appear better, biasing the results. To help alleviate some of this issue, all participants were assured of confidentiality. In addition, all surveys were mailed directly to the researcher.

A third limitation could be that the outcome variables were all perceptual variables. However, Wall, Michie, Patterson, Wood, Sheehan, Clegg, and West (2004) state that, "Findings relating the use of management practices to subjective measures of performance were essentially equivalent to those for objective performance". In addition, multiple outcome measures were utilized. Nonetheless, future research could explore objective outcomes such as actual department performance, turnover rates, or absenteeism rates.

Finally, the outcome variables do not constitute an exhaustive list of outcomes related to molar climates in organizations. The scales used represent a diverse set of constructs and scales, but each of the validity assessments could benefit from additional comparison constructs. This would provide additional information to fill out the picture of the nomological net of molar climate. Further, no measure can ever be said to be validated in any final sense. Nunnally (1978) suggests that only over time and numerous studies can it be argued that the evidence leans

toward supporting or not supporting the validity of a particular measure. The results of this research provide a good start to assess the construct and criterion validity of the molar climate. However, more research is needed to provide additional support to these conclusions.

Implications

A strong theoretical basis for global or molar climates has been lacking in the field. The proposed operationalization draws on the competing values framework, providing a strong theoretical base for a molar climate measure. Such a measure has a number of potential benefits for researchers examining climate. First, this molar measure can help researchers address a different set of questions than are currently being studied in the facet-specific climate literature. For instance, it could be applied to strategy research such as mergers and acquisitions to see how similar or different the participating organizations climates are. Second, it can also be used to examine more global organizational outcomes. To date, climates have not been consistently and strongly related to global organizational outcomes.

In addition, the measure developed is considerably shorter than other global climate, which may allow researchers and managers to utilize the measure easier in organizations. Previous measures of global climate contained over 100 items (e.g., Patterson, et al., 2005).

Finally, this molar climate measure can also be used to assist in furthering climate researchers' understanding organizational work climate by providing a means to integrate the work climate literature. In other words, researchers could examine the effects of facet-specific and global climates simultaneously. Current research typically only examines one climate type at a time, limiting our understanding of how work climates interact within organizations.

This type of measure could also be useful to managers. First, it allows managers to examine global climates within their organizations, rather than only focusing on facet-specific

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climates. In turn, this provides a more accurate assessment of the overall work environment

within organizations. Second, this measure could be used as a tool to help managers assess

whether their work climates are in line with the organization's strategies. Finally, it is a more

parsimonious measure than existing climate measures.

Conclusion

The preliminary results suggest that it is possible to operationalize and measure molar

work climates within organizations. However, I am not suggesting that work examining facet-

specific climates should stop. Rather, this is just one step in more fully understanding the role of

work climates in organizations. A molar climate measure, such as I have developed, will allow

climate researchers to answer different questions, more specifically those related to global

outcomes such as overall performance. In addition, it will permit researchers to integrate the

global work climate and facet-specific climate literatures, providing a more accurate depiction of

the effects of climates in organizations.   In Chapter 3, I do this by developing and testing an

integrated model of work climate.

Footnotes

1. Some researchers refer to global climate as molar or general climate (e.g., Carr et al., 2003;

Wallace et al., 2006)

2. Recently researchers are examining global facet-specific climates called foundational climates

(Schneider et al., 1998; Wallace et al., 2006). These foundational climates are a global construct

for a particular facet-specific climate (e.g., service, safety), but not as encompassing or as

general as a global work climate. These foundational climates have not been examined with

global organizational outcomes, but only with facet-specific outcomes. Although this is a step in

the direction of examining more global climates, these are not the same thing as a molar climate

that is general to the whole work environment.

Flexibility

Human Relations Climate - Refers to shared perceptions of cohesion, morale, and human resource development.

- Social system is perceived to have concern for employees.
- Focus on developing positive working relationships among workers.

Open Systems Climate - Refers to shared perceptions of growth, resource acquisition, and external support.

- Social system is perceived to emphasize an external focus and flexibility.
- Focus on maintaining congruence with the changing environment.

Internal   *External*

Internal Process Climate - Refers to shared perceptions of information management, communication, stability, and control.

- Social system is perceived to emphasize an internal control.
- Focus on aligning internal workings to accomplish the social systems' mission.

Rational Goal Climate - Refers to shared perceptions planning and productivity.

- Social system is perceived to have concern for planning and productivity to maintain position and according to changing trends.
- Focus on producing outputs valued by environmental sectors to remain viable.

Rigid

Figure 1. Molar climate types

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Table 2

Initial Items and Item Loadings from Exploratory Factor Analysis of Molar Climate

Items	HR	IP	OS	RG
Employees develop supportive, positive working relationships among organization members.	**.76**	.26	.17	.24
The environment is such that members of the unit get along well with each other.	**.77**	.22	.23	.16
Each employee has an opportunity for growth and development.	**.75**	.23	.16	.08
There is high morale among organization members.	**.76**	.31	.14	.13
In my organization we have little conflict between our department members.	**.54**	.26	.20	.50
In my organization employees help each other when needed.	**.65**	.33	.22	.37
Employees perform work that is of consistently high caliber.	.17	**.71**	.28	.22
Employees make sure that work activities are organized and predictable.	.27	**.72**	.01	.29
Employees have a reputation for doing their job efficiently.	.32	**.71**	.30	.26
We maintain a high level of productivity at all times.	.19	**.79**	.24	.15
We strive to achieve maximum efficiency.	.26	**.69**	.29	.22
There is control over work activities and people to ensure reliable performance.	.29	**.65**	.15	.13
We are able to obtain the necessary resources needed to attain high levels of output.	.24	**.59**	.28	.42
Employees are able to make changes in daily, weekly, or monthly operation routines as required.	.27	.30	**.67**	.14
We are able to respond to crises or emergencies in an effective manner.	.24	.30	**.70**	.23
We are able to adapt quickly and well to new demands on, or changes to, the organization.	.21	.36	**.70**	.24
Employees are flexible enough to take on new tasks.	.05	.18	**.72**	.05
In my organization employees are focused on keeping up with changes in the business market.	.27	-.08	**.56**	.47
We search for better ways to do work by bringing in new ideas, inventions, or methods.	.22	.32	.37	**.64**
We are able to acquire the latest technology as quickly as possible.	.09	.24	.07	**.87**
Employees search for new innovative ways to do things.	.23	.24	.37	**.65**
We get "state of the art" technology and personnel with highly specialized knowledge.	.12	.24	.11	**.81**
In my organization employees are not allowed to try to improve work processes.	-.32	-.11	**.38**	-.33
In my organization employees are aware of the long-term plans and direction of the organization.	.35	.29	.18	**.55**

Note. Numbers in boldface indicate dominant factor loadings.

Table 3

Modified Items and Item Loadings from Exploratory Factor Analysis of Molar Climate

Items	HR	IP	OS	RG	A	B
Employees develop supportive, positive working relationships among department members.	**.80**	.20	.25	.07	.13	.20
The environment is such that members of the department get along well with each other.	**.78**	.20	.11	.24	.24	-.04
There is high morale among department members	**.69**	.35	.18	.27	.26	-.09
We have little conflict between our department members.	**.80**	.04	.21	.11	.09	.04
Members of this department are committed to each other.	**.72**	.08	.41	-.00	.14	.24
Each department employee has an opportunity for growth and development	.29	.18	.30	**.60**	-.06	.00
Work activities in the department are well coordinated	.21	.14	.08	.06	**.89**	-.03
Rules and policies are clearly communicated to department members.	.11	**.56**	.11	.12	.41	.26
Established procedures and policies generally govern what employees do in their jobs.	.09	**.86**	.04	.09	.18	.08
Employees in my department are encouraged to follow their job descriptions.	.21	**.68**	.20	.13	.06	.15
Employees have specific routines they follow closely for their job duties.	.32	.37	.16	.05	**.65**	.01
Department employees make sure that work activities are organized and predictable.	.27	**.61**	.08	.26	.43	.08
Department employees are given the necessary resources to make changes when needed.	.14	.27	.44	.18	**.50**	.28
Employees are always ready to take on new challenges	.29	.41	**.65**	.13	-.14	-.03
Employees are able to adapt to new demands when they arise.	.22	.04	**.78**	.05	.02	.10
Department employees are flexible enough to take on new tasks as they arise.	.15	.40	**.62**	.21	.12	-.13
Change is embraced within the department.	.34	-.01	**.71**	.12	.27	.15
Department employees are able to make changes in daily, weekly, or monthly operation routines as required.	.13	-.01	**.67**	.37	.28	.12
My department plans for us to have the appropriate tools to do our jobs.	.12	.14	.15	.26	-.02	**.90**
Department employees always plan to make improvements.	.08	.24	.02	.50	.11	**.66**
A big concern of the department is to reach our set goals.	.27	.40	.37	**.53**	.09	.33
There is an emphasis on setting goals for the department.	.03	-.01	.14	**.86**	.02	.09
It is important that we plan for the future.	.24	.19	-.06	**.70**	.16	.21
Department employees are rewarded for reaching goals.	.02	.17	.25	**.75**	.14	.25

Note. Numbers in boldface indicate dominant factor loadings.

Table 4

Reduced Items and Item Loadings from Exploratory Factor Analysis of Molar Climate

Items	Human Relations	Internal Process	Open System	Rational Goal
Employees develop supportive, positive working relationships among department members. [a]	**.82**	.22	.23	.14
The environment is such that members of the department get along well with each other. [a]	**.76**	.30	.16	.16
We have little conflict between our department members. [b]	**.78**	.08	.18	.09
Members of this department are committed to each other. [c]	**.83**	.13	.29	.10
Rules and policies are clearly communicated to department members. [c]	.09	**.70**	.12	.28
Established procedures and policies generally govern what employees do in their jobs. [c]	.07	**.87**	.12	.08
Employees in my department are encouraged to follow their job descriptions.	.24	**.65**	.16	.11
Department employees make sure that work activities are organized and predictable. [a]	.30	**.73**	.12	.22
Employees are able to adapt to new demands when they arise. [b]	.28	.28	**.73**	.05
Department employees are flexible enough to take on new tasks as they arise. [a]	.26	-.03	**.79**	.10
Change is embraced within the department. [b]	.13	.38	**.70**	.07
Department employees are able to make changes in daily, weekly, or monthly operation routines as required. [a]	.21	.08	**.67**	.36
A big concern of the department is to reach our set goals. [c]	.15	.13	.08	**.76**
There is an emphasis on setting goals for the department. [c]	.06	.26	.09	**.85**
It is important that we plan for the future.	.01	.01	.26	**.73**
Department employees are rewarded for reaching goals.	.24	.25	.01	**.68**

Note. Numbers in boldface indicate dominant factor loadings.
[a] = items from Buenger et al. (1996), [b] = items from Patterson et al. (2005), [c] = items from Zammuto & O'Connor (1992)

Table 5
Means, Standard Deviations, and Correlations for Discriminant Validity Study[a]

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
hrc	3.92	0.54	(.85)																
ipc	3.85	0.52	0.74	(.83)															
osc	3.80	0.46	0.67	0.71	(.82)														
rgc	3.82	0.60	0.68	0.69	0.60	(.80)													
trainc	3.33	0.69	0.57	0.63	0.55	0.71	(.90)												
servc	3.71	0.51	0.73	0.76	0.70	0.66	0.71	(.87)											
safec	3.17	0.34	0.44	0.37	0.38	0.48	0.41	0.55	(.76)										
innovc	3.59	0.58	0.73	0.72	0.69	0.72	0.71	0.83	0.52	(.93)									
lib	3.83	0.83	0.45	0.45	0.34	0.47	0.44	0.51	0.35	0.50	(.90)								
pc	4.11	0.82	0.30	0.39	0.30	0.28	0.20	0.36	0.19	0.29	0.47	(.88)							
structure	4.23	1.04	0.18	0.13	0.23	0.04	0.09	0.17	0.20	0.16	0.07	-0.02	(.80)						
interdep	3.60	0.82	0.14	0.03	0.08	0.06	0.03	0.09	0.25	0.16	0.09	0.00	0.12	(.79)					
meaning	4.04	0.77	0.17	0.13	0.12	0.15	0.05	0.07	0.09	0.16	0.07	0.00	0.16	0.04	(.91)				
dperf	4.12	0.52	0.30	0.26	0.20	0.23	0.18	0.19	0.22	0.24	0.10	0.12	0.15	0.08	0.48	(.85)			
opcomp	4.13	0.53	0.29	0.31	0.29	0.25	0.26	0.23	0.15	0.25	0.14	0.08	0.09	0.16	0.49	0.45	(.88)		
gatt	3.37	0.70	0.39	0.34	0.32	0.37	0.31	0.46	0.38	0.38	0.46	0.29	0.14	0.10	0.01	0.02	0.12	(.82)	
gdev	2.42	1.00	-0.23	-0.29	-0.33	-0.18	-0.14	-0.19	-0.09	-0.22	-0.05	-0.10	-0.15	-0.08	-0.28	-0.21	-0.52	-.09	(.90)

Correlations above .11 are at the .01 significance level; Correlations between >08-.10 are significant at the .05 level.
[a]Scale reliabilities on the diagonal

hrc=human relations climate; ip =-internal process climate; osc=open-systems climate; rgc=rational gola climate; trainc=training climate; servc=service climate; safec=safety climate; innovc=innovation climate; lib=leader informing behavior; pc=process clarity; structure=structure; interdep=work interdependence; meaning=meaning; dperf=department performance; opcomp= compliance with organizational policies; gatt=general job attitudes; gdev=group deviance

Table 6

Tests for Discriminant Validity of Molar Climates and Facet-Specific Climates

Hypothesized model	X^2	df	ΔX^2	Δdf	RMSEA	CFI	RMSR (btw / w/i)
Training Climate							
5-factor: Four molar climates, TRC distinct	1020.90	365			.05	.90	.08/.06
4-factor: r $_{(HRC, TRC)}$ = 1	1624.61	373	603.71	8	.07	.80	.25/.21
4-factor: r $_{(OSC, TRC)}$ = 1			model did not converge				
4-factor: r $_{(IPC, TRC)}$ = 1	6689.29	420	5668.39	55	.07	.81	.25/.21
4-factor: r $_{(RGC, TRC)}$ = 1	1387.83	373	366.93	8	.07	.84	.26/.19
1-factor: All combined			model did not converge				
Service Climate							
5-factor: Four molar climates, SVC distinct	962.35	404			.05	.91	.07/.05
4-factor: r $_{(HRC, SVC)}$ = 1	1317.05	413	351.7	9	.06	.85	.10/.08
4-factor: r $_{(OSC, SVC)}$ = 1	1310.61	413	348.26	9	.06	.85	.10/.08
4-factor: r $_{(IPC, SVC)}$ = 1	1272.47	413	310.12	9	.06	.86	.09/.08
4-factor: r $_{(RGC, IVC)}$ = 1	1292.33	462	329.98	58	.06	.85	.14/.11
1-factor: All combined	2081.10	425	1118.75	21	.08	.72	.11/.10
Innovation Climate							
5-factor: Four molar climates, INC distinct	1207.16	492			.05	.91	.06/.06
4-factor: r $_{(HRC, INC)}$ = 1	1707.52	497	500.36	5	.06	.84	.09/.10
4-factor: r $_{(OSC, INC)}$ = 1	1677.67	500	470.36	8	.06	.85	.08/.09
4-factor: r $_{(IPC, INC)}$ = 1	1678.78	497	471.62	5	.06	.85	.08/.10
4-factor: r $_{(RGC, INC)}$ = 1	1650.59	500	443.43	3	.06	.85	.07/.10
1-factor: All combined	2723.01	512	1515.85	20	.08	.71	.11/.14
Safety Climate							
5-factor: Four molar climates, SFC distinct	710.13	358			.04	.94	.07/.05
4-factor: r $_{(HRC, SFC)}$ = 1	1635.93	369	925.8	11	.08	.77	.20/.16
4-factor: r $_{(OSC, SFC)}$ = 1	1598.30	420	888.17	51	.07	.77	.18/.13
4-factor: r $_{(IPC, SFC)}$ = 1	1616.87	369	906.74	11	.08	.77	.21/.15
4-factor: r $_{(RGC, SFC)}$ = 1	1698.44	420	988.31	51	.08	76	.18/.15
1-factor: All combined	2714.41	380	2004.28	22	.10	.57	.27/.20

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CHAPTER THREE: TESTING AN INTEGRATED MODEL OF WORK CLIMATE

Work climate research examines the subjective perceptions of individuals regarding their work environment and how these perceptions drive their behaviors and attitudes (Schneider, 2000). This research has been instrumental in several ways furthering our understanding of why individuals behave in specific ways in organizations. First, climates have been related to important outcomes such as organizational citizenship behaviors (Naumann & Bennett, 2000), job attitudes (Colquitt, Noe, & Jackson, 2002), innovation (Anderson & West, 1998), safety behaviors (Zohar, 2000), ethical behaviors (Vardi, 2001), and customer satisfaction (Schneider, White, & Paul, 1998). Further, not only are work climates predictive of individual and organizational outcomes, but climates help explain the processes individuals use to understand their work environments. Individuals do not directly respond to their work environments, rather they engage in sensemaking processes where they first perceive and then interpret their work environment (Campbell, Dunnette, Lawler, & Weick, 1970). Consequently, understanding climates is essential to knowing how individuals interpret the organizational context. Finally, insights into work climates serve as a bridge between individual and organizational levels of analysis, or micro and macro perspectives studied in the management literature.

Work climates refer to the shared perceptions regarding the policies, practices, and procedures that the organization rewards, supports, and expects (Schneider & Reichers, 1983). However, the focus of work climate research has changed over the past 50 years. Early research focused on a global or molar climate, where climate is viewed as global summary perceptions of how an organization deals with its members and environment (Hellriegel & Slocum, 1974). More recently, climate research has shifted away from a global

conceptualization of climate, towards a focus on facet-specific climates. Facet-specific climates are climates 'for something' and are related to a particular aspect of the organizational context such as safety climate (Zohar, 2000), ethical climate (Victor & Cullen, 1988), and service climate (Schneider et al., 1998).

Both of these streams of research have been instrumental in adding to our understanding of work climate and, in particular, organizations in general. However, despite the contributions of these two lines of research, our knowledge of work climates remains fragmented. Each of these literatures tells only part of the story. The global and facet-specific climates have a very different focus, seeking to answer different questions based on this global or narrow focus. For instance, safety climate researchers typically investigate specific outcomes such accident rates or safety compliance, rather than more global outcomes such as organizational performance. Currently there is no framework that explains why facet-specific and global climates are related to different types of outcomes. Further, little integration or sharing occurs between researchers interested in facet-specific climates; justice climate is studied by justice researchers and safety climate is studied by safety researchers, leading to little conversation about climate in general between the various camps.

An integration of the global and facet-specific climate literatures would allow us to reflect more accurately the way individuals conceptualize and react to their work environments. That is, individuals work in and react to both general climate forces as well as climates related to specific aspects of the organizational setting. Further, such an integrated model has the potential to reunite climate researchers whose foci have shifted to specific, narrow aspects of organizational context.

To date, such an integration has not been feasible due to theoretical and measurement issues surrounding the global climate construct. Schneider (2000) asserts that many of the global climate dimensions examined in the literature were developed and added without theoretical rationale, ultimately creating a construct that is conceptually fuzzy. Indeed, Schneider (1975) found that many of the measures used in the global climate literature were actually assessing a specific climate rather than a global climate. In chapter 2, I proposed a new theoretical foundation for global climate, or what I called molar climate[1]. I drew upon the competing values framework (Quinn & Rohrbaugh, 1983) to provide a theoretical foundation for molar climate that has a global perspective and is distinct from facet-specific climates. In addition, a new measure of molar climate based on this theoretical rationale was developed. With this new operationalization of molar climate in place, an integration of the climate literature is feasible.

Thus, the purpose of this paper is to provide a more comprehensive model of work climate by proposing and testing an integrated model of organizational work climates. More specifically, I investigate the effects of molar and facet-specific climates on a variety of global and specific outcomes. Drawing on bandwidth fidelity theory, I predict that facet-specific climates will be more strongly related to specific outcomes and molar climates will be more strongly related to global outcomes. Further, I suggest weaker, indirect relationships between molar climate and specific outcomes and between facet-specific climates and global outcomes (see Figure 2).

Insert Figure 2 about here

Overview of Molar/Global Climate

Early global climate research examined the general work environment. This research focused on understanding the general impact of organizational context and their effects on individual and organizational outcomes. However, interest in this area of research has declined as global climate research was criticized for theoretical and methodological concerns.

From a theoretical perspective, the existing global climate research has no commonly-identified theoretical base with which to organize this research (Schneider, 2000). This has created difficulties operationalizing and measuring molar climate. In turn, measurement issues have led to two major problems with global climate research. First, researchers have often found contradictory findings such as weak relationships or no relationships with global organizational outcomes (Campbell et al., 1970; Friedlander & Greenberg, 1971; Hellriegel & Slocum, 1974; Kaczka & Kirk, 1967; Payne & Pugh, 1976; Schneider, 1975). Second, when relationships are found, these are often not generalizable due to the different ways that global climate has been measured. Global climate has been measured with as little as one dimension (Dewhirst, 1971), to as many as 17 dimensions (e.g., Patterson, West, Shackleton, Dawson, Lawthom, et al., 2005).

Thus, we need a strong theoretical grounding for global climate. Doing so will provide a stronger, stable conceptualization of global climate. This will allow us to determine whether stable relationships exist between global climate and various organizational outcomes, and whether those relationships are generalizable across organizational settings. Further, it will allow us to examine the relationship between global and facet-specific climates.

New Framework for Molar Climates – Competing Values Framework

In this paper, I utilize a new operationalization of global climate, or what I refer to as molar climate, based on the competing values framework (CVF; Quinn & Rohrbaugh, 1983). The CVF provides a solid theoretical grounding for four main reasons. First, the CVF stems from the effectiveness literature. This goes back to the roots of the initial global climate literature, which emerged to understand organizational effectiveness. Second, it has a global perspective reflecting the overall global or general environment of the organization's social systems. Previous theoretical operationalizations of global climate have drawn on individual-level theories. Third, the CVF is grounded in the values literature, which has been linked to work climates. Values are considered to play an important role in the recognition and development of climate perceptions (James, James, & Asche, 1990). Indeed, Denison (1996) states that climate is "rooted in the organization's value system" (p. 624). Finally, the CVF has been applied to many other areas of research (e.g., strategy (Bluedorn & Lundgren, 1993), culture (Cameron & Freeman, 1991), leadership (Denison, Hooijberg, & Quinn, 1995), and organizational change (Hooijberg & Petrock, 1993)) providing evidence that it broadly impacts the organization in predictable ways. Therefore, it offers a promising theoretical foundation for a model integrating molar and facet-specific climates.

Competing Values Framework

The CVF provides a framework for understanding how different values within organizations affect the actions of leaders and employees. Specifically, it focuses on opposing values that exist within organizations and how various combinations of these values affect different outcomes.

Quinn and Rohrbaugh (1983) identified two major dimensions underlying organizational effectiveness: organizational focus (internal versus external) and structure (flexibility versus control). When these two dimensions are crossed, four different value orientations are created that represent a variety of diverse, theoretically driven facets of organizational values (Ostroff, Kinicki, & Tamkins, 2003; Van Vianen, 2000; Zammutto, Gifford, & Goodman, 2000). These dimensions include: the human relations values dimension, which is represented by an internal focus and flexibility; the internal process values dimension, which is represented by an internal focus and stability; the open-systems values dimension, which is represented by an external focus and stability; and the rational goal values dimension, which is represented by and external focus and flexibility. These values reflect the primary value orientations of most organizations (Kalliath, Bluedorn, & Gillespie, 1999). Organizations can develop combinations of these four global values, with one or two of the quadrants often becoming more dominant than others.

Global Values and Climate

There is a strong relationship between organizational values and climate (Denison, 1996; James, et al., 1990; Schneider, 1973). Global values (such as those from the CVF) are used to set the priorities for the organization and what are considered to be effective outcomes for the organization. These priorities are integrated into organizational strategies, which are then incorporated into policies, procedures, and practices of the organization (Grojean, Resick, Dickson, & Smith, 2004). It is individuals' perceptions of these policies, procedures, and practices which constitute work climate. (See Chapter 2 for more details about the process by which this happens). Thus, these four types of global values of organizations will be reflected in the molar climate of social systems within organizations.

Molar climate is how the values are exhibited in the way things get done and are rewarded in the organization.

Four Types of Molar Climate

I propose a model of moral climate that parallels the dimensions of the competing values framework: organizational focus (internal/external) and structure (flexibility/control). The first molar climate dimension involves individuals' perceptions regarding the focus of the social system as to whether it is more internal or external. The second dimension concerns individuals' perceptions of the structure of the social system as to whether it has flexibility or is more controlled. Crossing these two dimensions results in four theoretical molar climates: human relations climate (internal/flexibility), internal process climate (internal/control), open-systems climate (external/flexibility), and rational goal climate (external/control).

Human Relations Climate

The first molar climate type is the human relations climate. Human relations climate refers to shared perceptions of cohesion, morale, and human resource development. Social systems with this climate type are perceived to emphasize an *internal focus* and *flexibility*. Cohesion, morale, and human resources development are stressed in the social system. The social system has a concern for the employees with a focus on recruiting, training, and motivating people. The focus is on developing positive working relationships among workers so there is a balance of various interests and maintaining a level of satisfaction and loyalty.

Internal Process Climate

The second molar climate type is the internal process climate. Internal process climate refers to shared perceptions of information management, communication, stability, and control. Social systems with this climate type are perceived to emphasize an *internal focus* and *control*. Information management, communication, stability, and control are stressed. This climate stems from a common concern with organizing and structuring the social system. The focus is on aligning internal workings to accomplish the social system's mission.

Open-Systems Climate

The third molar climate type is the open-systems climate. Open-systems climate refers to shared perceptions of growth, resource acquisition, and external support. Social systems with this climate type are perceived to emphasize an *external focus* and *flexibility*. Growth, resource acquisition, and external support are stressed in the social system. The focus of the social system is on maintaining congruence with the changing environment. The social system has to be able to monitor and coordinate with other social systems while adapting to externally imposed changes by acquiring resources.

Rational Goal Climate

The final molar climate type is the rational goal climate. Rational goal climate refers to shared perceptions of an external focus for the social system and focus on planning and productivity. Social systems with this climate type are perceived to emphasize an *external focus* and *control*. Planning and productivity are stressed in the social system. Here the focus of the social system is producing outputs valued by environmental sectors to remain viable. Therefore, the focus is on whether the social system is maintaining their position in

relation to other social systems or according to changing trends. However, the social system

must not only focus on current demands, but also plan for and adapt to new demands.

The two dimensions of the CVF are represented as orthogonal constructs in the

framework. However, research has indicated that various values can exist simultaneously in

an organization (McDonald & Gandz, 1992). Thus, as with values, all organizations can

develop combinations of the four molar climates, with one or two of the quadrants often

becoming more dominant than others.

In sum, drawing on the CVF provides a strong theoretical basis for conceptualizing

molar climate. This framework yields four molar climate types that are reflective of different

global values of the social systems within organizations. Theoretically, these molar climate

types display two critical characteristics: they exist at a global level, and they are theorized

to be distinct from the more narrowly-focused facet-specific climates. In Chapter 2, these

four molar climate types were shown to exist and to be empirically distinct from facet-

specific climates such as training climate, organizational safety climate, innovation climate,

and global service climate. Here my goal is to determine how molar and facet-specific

climates relate to different types of outcomes.

<div align="center">Overview of Facet-Specific Climates</div>

Researchers have also focused on facet-specific climates. Facet-specific climates are

those climates that are related to a particular aspect of the organizational context such as

safety, ethics, or service. They are a climate for something specific (e.g., safety, service,

ethics), rather than reflecting the general organizational context (Schneider, 1975). Because

there are so many practices, policies, goals, and events that occur within an organization,

work settings are believed to have many climates present at any given time. Therefore, there

<div align="center">134</div>

are a multitude of facet-specific climates that have been studied in the literature (e.g., safety climate, service climate, justice climate, sexual harassment climate, innovation climate).

For the most part, facet-specific climates have been linked to specific outcomes related to the domain of the climate type. For example, innovation climate has been linked to innovative behaviors (e.g., Anderson & West, 1998; Clegg, Unsworth, Epitropaki, & Parker, 2002; Scott & Bruce, 1994), safety climate to accidents (e.g., Hofmann & Stetzer, 1996; Zohar, 2000), and service climate to customer satisfaction (e.g., Gelade & Young, 2005; Schneider et al., 1998)). Although facet-specific climates have advanced our knowledge of organizations, they are limited by their narrow focus. Few facet-specific climate studies have examined more global organizational outcomes, ones not explicitly related to the facet-specific climate type (e.g., safety climate has been related to accident rates). With this narrow focus, facet-specific climate research has shifted away from the original focus and purpose of climate research (Rousseau, 1985). That is, the original climate research examined the subjective perceptions of individuals regarding the general work environment, rather than on a specific focus, and how these perceptions drive their behaviors and attitudes.

<u>An Integrated Model of Work Climate</u>

Climates are important because they influence important individual and organizational outcomes. However, the literature has been disorganized with respect to establishing what climates are most closely tied to which outcomes. In other words, many different outcomes have been examined, but there is no overarching model that ties them to global and specific climates in particular ways. Below I summarize the patterns of research findings of the facet-specific and global climate literatures related to different outcomes. Then I propose a framework to help understand and integrate the climate literature.

Facet-Specific Climates and Outcomes

Examining the facet-specific climate literature, we find that, in general, facet-specific-climates exhibit strong relationships to outcomes related to the domain of the facet-specific climate. For instance, safety climate has been linked to specific outcomes such as safety compliance and safety incidence, including, accidents, near misses, and medical treatment errors (e.g., Hofmann & Stetzer, 1996; Katz-Navon, Navah, & Stern, 2005; Zohar, 2000). Similarly, service climate has been linked to customer satisfaction, customer loyalty, and customer perceptions of service quality (e.g., Johnson, 1996; Schneider et al, 1998; Yoon, Beatty, & Suh, 2001). And innovation climate has been found to be positively related to individual innovative behavior (Scott & Bruce, 1994).

Research regarding the relationship between facet-specific climates and global outcomes (e.g., firm performance and organizational commitment) has produced more mixed results. Tannenbaum and Dupree-Bruno (1994) found that the relationship between facet-specific climates and global organizational outcomes, such as firm performance, has either been weak or nonexistent (see Simons & Roberson, 2003 as an exception). However, various facet-specific climates have been linked to global attitudes such as job satisfaction and organizational commitment (e.g., Cullen, Parboteeah, & Victor, 2003, Herndon, Ferrell, LeClair, & Ferrell, 1999; Mossholder, Bennett, & Martin, 1998; Schwepker, 2001; Sims & Keon, 1997).

Global Climate and Outcomes

Research examining the relationship between global climate and global outcomes has also been mixed. The link between global climate and global individual outcomes has been fairly well established. For instance, global climate has been related to individual global

outcomes such as job satisfaction (Friedlander & Marguiles, 1969; Kaczka & Kirk, 1968; Litwin & Stringer, 1968; Pritchard & Karasick, 1973; Schnake, 1983; Schneider, 1972), absenteeism and turnover (Steel, Shane, & Kennedy, 1990), and organizational commitment (DeCotiis & Summers, 1987). However, the few global climate studies examining organizational global outcomes have not show strong relationships between climate and global outcomes (Campbell et al., 1970; Friedlander & Greenberg, 1971; Hellriegel & Slocum, 1974; Kaczka & Kirk, 1968; Payne & Pugh, 1976; Schneider, 1975).

There are also contradictory findings when examining the relationship between global climate and specific outcomes. For instance, global climate has been related to a few specific outcomes such as workplace violence (Cole, Grubb, Sauter, Swanson, & Lawless, 1997), harassment (Culbertson & Rogers, 1997), and theft (Kamp & Brooks, 1991), as well as to psychological well-being (Cummings & DeCotiis, 1973), but not to all specific types of outcomes. For example, research has revealed no consistent relationship between global climates and occupational injuries (Hemmingway & Smith, 1999).

In sum, although climates have been linked to a broad range of outcomes, there is no clear conceptual picture of how all of these pieces are related. However, integrating the global and facet-specific climate literatures will require a model capable of unifying these untidy results. In this paper, I propose a model to provide such a framework by drawing on the bandwidth-fidelity theory (Cronbach & Gleser, 1957).

Bandwidth-Fidelity Theory

Previous researchers have suggested that facet-specific and molar climates may be differentially related to global and specific outcomes. For instance, Schneider and Bowen (1993) suggest that facet-specific climates should be more strongly correlated to specific

outcomes and global or more general climates would not be as strongly correlated to specific outcomes. Further, Carr, Schmidt, Ford, and Deschon (2003) state, "determining which manifestation of climate is appropriate depends on the bandwidth of the outcomes of interest. This means that individuals interested in predicting a specific outcome (e.g., safe behavior) are best served by focusing on measuring perceptions of a specific climate (e.g., climate for safety). Conversely, individuals interested in predicting broader outcomes (e.g., job performance and withdrawal) are best served by the broader taxonomy of molar climate constructs" (p. 605).

We can draw on Cronbach and Gleser's bandwidth-fidelity theory to expand on this idea (Cronbach & Gleser, 1957). Cronbach and Gleser (1957) describe bandwidth as the amount or complexity of information reflected in a construct, which may range from narrow to broad. Narrow constructs are constructs that tend to be more concrete and have a more specific behavioral connotation. On the other hand, broad constructs are more inclusive, global, or abstract. The bandwidth-fidelity theory states that there is an optimal bandwidth for any problem. More specifically, Cronbach and Gleser (1957) suggest that the bandwidth of predictors should be matched to the bandwidth of outcomes. One main premise of the bandwidth-fidelity theory is that broad, global constructs should predict broad outcomes with moderate validity and narrow, specific constructs should predict specific outcomes with maximal validity (Cronbach & Gleser, 1957).

Stronger/Direct Relationships

Applying bandwidth-fidelity theory to the climate literature, facet-specific climates would be considered specific constructs with their narrow focus on a specific aspect of the environment. Molar climate would fall into the broad-construct category with its focus on

the broad or general environment. Based on this theory, we would expect that facet-specific climates and molar climate should have different relationships with specific and global outcomes. In particular, I would expect facet-specific climates to be more strongly related to specific outcomes (e.g., accident rates, rates of innovation) and molar climates would be more strongly related to global outcomes (e.g., firm performance).

There is some evidence in the extant climate literature that supports a strong link between facet-specific climates and specific outcomes. For example, research has shown that perceptions of safety climate are positively associated with safety compliance and negatively associated with safety incidences such as accidents, near misses, treatment errors, and unsafe behaviors (e.g., Griffin & Neal, 2000; Hofmann & Stetzer, 1996). Thus I predict,

Hypothesis 1: Facet-specific climates will be more strongly related to corresponding specific outcomes than to global outcomes.

Bandwidth-fidelity theory predicts moderate and direct relationships between molar climate and global outcomes. Nevertheless, the literature exploring this relationship reveals mixed results (Campbell et al., 1970; Friedlander & Greenberg, 1971; Hellriegel & Slocum, 1974; Kaczka & Kirk, 1968; Payne & Pugh, 1976; Schneider, 1975). However, it is not necessarily the case that these results confirm a weak link between molar climate and global outcomes. For example, it is important to note again that many different operationalizations have been used for global climate. This has created a host of different dimensions that have been used to reflect various aspects of global climate. Further complicating the issue, some of these dimensions are not really reflective of a global measure of climate. For instance, researchers have examined dimensions of global climate dimensions such as rewards (Litwin & Stringer, 1968), structure (Litwin & Stringer, 1968), autonomy (Pritchard & Karasick,

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1973), and communication (House & Rizzo, 1972). These dimensions have a more global focus rather than a narrow focus. However, some dimensions used to study global climate are more specific and have actually been studied as facet-specific climates such as decision making (Downey, Hellriegel, Phelps, & Slocum, 1974), innovation (Pritchard & Karasick, 1973), and employee welfare (Patterson et al., 2005).

I argue that the weak emergent relationship between molar climate and global outcomes may be weak due to definitional variation and imprecise operationalization of the molar climate construct. Building on the new operationalization of molar climate put forth in Chapter 2 that has a global focus, I predict,

> *Hypothesis 2: Molar climate will be more strongly related to global outcomes than to specific outcomes.*

<u>Weaker/Indirect Relationships</u>

Relationship between molar climate and specific outcomes

Although bandwidth-fidelity theory suggests that molar climates will have a stronger relationship with global outcomes than facet-specific outcomes, it does not preclude molar climates from being related to specific outcomes. Indeed, the bandwidth fidelity theory allows that molar climates could be indirectly related to specific outcomes. For example, it suggests that broader constructs are related to the more specific outcomes via their impact on the more proximal causes of those specific outcomes (e.g., Ones & Viswesvaran, 1996). In other words, broad constructs like molar climate influence specific outcomes via their impact on more narrowly-defined constructs such as facet-specific outcomes. That is, facet-specific outcomes mediate the relationship between broad constructs and specific outcomes.

Applied to the climate literature, this suggests that molar climates would be antecedents of facet-specific climates, which are the more proximal antecedents of specific outcomes. This implies that facet-specific climates would mediate the relationship between molar climates and specific outcomes.

There is some basis in the literature to suggest that molar climates may serve as a distal antecedent to facet-specific climates. (See Chapter 1 for a complete review.) Molar climates reflect two broad sets of organizational policies as reflected by the competing values framework: rigid versus flexible structure and internal versus external focus. There is evidence in the literature that organizational characteristics associated with each of these dimensions may influence facet-specific climates. That is, several antecedents emerge as consistent predictors of facet-specific climate types. These include predictors descriptive of the general work setting such as size (e.g., Colquitt et al., 2002), leadership (e.g., Borucki & Burke, 1999; Ehrhart, 2004; Hofmann, Morgeson, & Gerras, 2003), work interdependence (e.g., Klein et al., 2001; Mayer, 2006), and social interaction (e.g., Gonzalez-Roma, Peiro, & Tordera, 2002; Klein, Conn, & Sorra, 2001). Closer consideration reveals that these antecedents are all features of the organizational context, which are related to the two proposed dimensions of molar climate.

For example, one common antecedent seen in the facet-specific climate literature relates to various aspects of leadership. Several studies across the facet-specific climate literature indicate that leaders affect climates (e.g., Barling, Loughlin, & Kelloway, 2002; Borucki & Burke, 1999; Ehrhart, 2004; Hofmann et al., 2003; Katz-Navon et al., 2005). Types of leadership are related to the second dimension of molar climate, organizational focus, which varies on an internal versus external focus. For example, Ehrhart (2004) found

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that servant leaders (i.e., leaders that are seen as having a moral responsibility to not only the organization but also to subordinates, customers, and other organizational stakeholders) were positively related to justice climate. In this case, the focus of the leader is on the well-being of employees, reflective of an internal focus stressing the well-being of employees, employee development, and employee relations.

Recent research examining what are called foundational climates (e.g., Wallace, Popp, & Mondore, 2006) is also germane to this issue. Foundational climates are related to a particular facet-specific climate such as safety or service, but are more broad than the facet-specific climate (yet not as broad as molar climates). Foundational climates are seen as antecedents to a particular facet-specific climate. For instance, Schneider et al. (1998) suggested that service climate has two foundational issues: the quality of internal service in an organization and general facilitative conditions. Similarly, Wallace et al. (2006) suggest that safety also has two foundational climates: organizational support related to accidents exhibited through safety communication and commitment, and the perceptions of exchange relationships between managers and employees which signal to employees to behave in safe ways. These foundational climates have been shown to directly influence on the respective facet-specific climate and indirectly affect the facet-specific outcomes (Schneider et al., 1998; Wallace et al., 2006). These studies provide evidence that there are more global influences in play within organizations. Further, the relationship between these more global facet-specific influences is mediated by facet-specific climates (Schneider et al., 1998; Wallace et al., 2006). It makes sense that similar relationships would be expected from molar climate, which is an even more global construct than the foundational climates.

In all, I propose that molar climate will exert an indirect effect on specific outcomes, via its influence on facet-specific climates. More specifically,

> *Hypothesis 3: Facet-specific climates will mediate the relationship between molar climate types and the respective facet-specific outcomes.*

Relationship between facet-specific climate and global outcomes

Again, bandwidth-fidelity theory predicts a stronger relationship between facet-specific climates and specific outcomes, but does not imply that these facet-specific climates will not be related to global outcomes at all. Rather it allows for weaker, indirect effects of facet-specific climates on global outcomes as well.

To explain how facet-specific climates could be indirectly related to global outcomes, we can draw on the organizational theory literature. According to general systems theory (von Bertalanffy, 1950), organizations are complex dynamic goal-oriented processes. Because of this, organizational effectiveness is considered to be a multidimensional construct. There are many different criteria in organizational settings which combine to determine organizational effectiveness. In other words, the organization may have different subsystems that all interact with the environment and how these subsystems cope will become the criteria of effectiveness. Thus, a variety of more narrow goals can make up an overall construct of organizational effectiveness.

Examining previous climate research, Tannenbaum and Dupree-Bruno (1994) found that examining the relationship between facet-specific climates and global organizational outcomes revealed only weak relationships. Indeed, only a handful of examples exist in the literature where facet-specific climates have been related to global outcomes. Exceptions include Colquitt et al. (2002) who found a positive relationship between procedural justice

climate and team performance and a negative relationship with team absenteeism. Similarly, Ehrhart (2004) examined the effects of procedural justice climate on unit-level OCBs and found that when the collective team felt that they were treated fairly, they were more likely to exhibit OCBs. Finally, research has examined the *perceived* relationship between ethical organizations and financial performance. Research indicates that individuals perceive that there is a positive relationship between ethical climate and being a successful organization (Deshpande, 1996). However, most studies have not found direct relationships.

In all, I propose that facet-specific outcomes will exert an indirect effect on global outcomes, via its influence on specific outcomes. Specifically,

Hypothesis 4: Specific outcomes will mediate the relationship between facet-specific climates and global outcomes

Level of Analysis

One additional issue needs to be addressed before the integrated model of work climate can be tested: the level of analysis. Climate research has been theorized about and tested at different levels within the organization, such as unit, department, and organization (e.g., Colquitt et al., 2002; Zohar, 2000, Zohar & Luria, 2005). According to Kozlowski and Klein (2000), climate researchers need to be specific about the level at which they are theorizing. As with other climates, perceptions of molar climate should occur at any level of the social system (e.g., team, unit, department, organization). Indeed, these molar climate types have been shown to exist at the department and organizational level (see Chapter 2).

I have chosen to examine the relationship between molar and facet-specific climates at the department level. This allows me to tease out the difference between facet-specific climates and molar climate while holding the issue of level constant. If the level is not held

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constant, there could be a possible confound between the level of climate and different types of climates. For example, it is possible that molar climates could be more equated to the organizational level and facet-specific outcomes to the department level. Thus, I have chosen to hold the level of analysis constant at the department level for this initial study. If these molar climate types and facet-specific climates are eventually shown to be differentially related to outcomes, then we can examine a more encompassing multi-level model of work climate.

Method

Research Domain

For this study, I am interested if the proposed relationships will hold across multiple climate types, rather than just focusing on a particular facet-specific climate type. Therefore to assess the generalizability of model across different facet-specific climate types, I examine four facet-specific climates: safety climate (e.g., Zohar & Luria, 2004, 2005), service climate (e.g., Schneider et al. 2002), training climate (e.g., Tracey & Tews, 2005), and innovation climate (e.g., Anderson & West, 1998). These climates were chosen for two reasons. First, each these facet-specific climates has received considerable attention in the recent literature. Second, each of these facet-specific climates benefits from the existence of an established measure.

Sample and Procedure

Data were collected data from 144 departments from 140 different organizations in the southeast U.S. including technology, government, insurance, financial, food service, retail, manufacturing, and medical organizations. Survey packets were hand-delivered to five employees in each department. In addition, a survey was given to the supervisor of the

department. All participants were assured of the confidentiality of their responses. A postage paid envelope was included in the packet to return the survey to the researcher.

A total of 680 surveys (out of 875 distributed) were returned by employees for a response rate of 77.7%. A total of 149 surveys (out of 175 distributed) returned by supervisors for a response rate of 85.1%. Previous research suggests three responses is a sufficient number to aggregate to the department level (Colquitt et al., 2002; Richardson & Vandenberg, 2005; Schneider et al., 1998; Tracey & Tews, 2005). One hundred-nine departments yielded five or more surveys, 29 returned four, and six returned three. Five departments from four organizations yielded only one or two responses and were eliminated from the sample. Thus, the final sample consisted of 671 employees (76.7%) and 144 supervisors (82.3%) from 144 departments in 140 organizations. The employee respondents were 47% male and 57.7% Caucasian (18.4% Hispanic and 9.5% African-American). They averaged 30.87 years of age with 4.2 years of experience in the organization and 3.09 years in the department. The supervisor respondents were 55% male and 67.4% Caucasian (8.3% Hispanic and 9.0% African-American). They averaged 39.46 years of age with 8.28 years of experience in the organization and 6.10 years in the department.

The employee survey contained measures of work climate and job attitudes (i.e., job satisfaction, organizational commitment), and demographic questions. The supervisor survey contained scales measuring departmental outcomes (i.e., safety, service, innovation, training, and overall department performance), questions assessing the size of the department and organization (number of employees), and demographic questions. The measures were presented in random order.

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Measures

Molar climate

Molar climate was measured using the molar climate measure developed in Chapter 2. Employees were asked to indicate their agreement with a series of statements along a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Human relations climate was assessed with four items such as, "Employees develop supportive, positive working relationships among department members" and "There is a high morale among department members" (α = .84). Internal processes climate was assessed by four items such as, "Employees in my department make sure that work activities are organized and predictable" and "We maintain a high level of productivity at all times" (α = .82). Open-systems climate was assessed with four items such as, "Employees in my department are able to make changes in daily, weekly, or monthly operation routines as required" and "Employees in my department are flexible enough to take on new tasks" (α = .82). Rational goal climate was assessed with four items such as, "Employees in my department come up with new innovative ways of doing things" and "We are able to acquire the latest technology as quickly as possible" (α = .80).

Training Climate

Training climate was measured by modifying the organizational support dimension of the General Training Climate Scale (Tracey & Tews, 2005) to the department level. Employees were asked to indicate their agreement with a series of statements along a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). The measure includes five items such as, "There are rewards and incentives for acquiring and using new knowledge and skills" and "My department offers opportunities for excellent training programs" (α = .90).

<u>Service climate</u>

Service climate was measured using Schneider et al.'s (1998) seven-item global service climate dimension. Employees were asked to indicate their agreement with a series of statements along a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). The measure included items such as, "How would you rate the overall quality of service provided by your department?" and "How would you rate the tools, technology, and other resources provided to department employees to support the delivery of superior quality service?" (α = .86).

<u>Innovation climate</u>

Innovation climate was measured using Anderson and West's (1998) support for innovation measure. Employees were asked to indicate their agreement with a series of statements along a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). It includes eight items such as, "People in this department are always searching for fresh, new ways of looking at problems." And "Assistance in developing new ideas is available" (α = .93).

<u>Safety climate</u>

Safety climate was measured using an adapted version of Zohar's (1980) safety climate scale. Employees were asked to indicate their agreement with a series of statements along a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). The measure includes 10 items such as, "As long as there is no accident, department employees don't care how the work is done" and "Whenever pressure builds up, department employees just want to get the job done, rather than do it by the rules" (α = .86).

Global department performance

To measure global department performance, supervisors were asked to make

comparisons of their department's performance with other departments doing similar work

using a six-item measure by Delaney and Huselid (1996). Supervisors were asked to indicate

their agreement with a series of statements along a 5-point Likert-type scale (1 = strongly

disagree, 5 = strongly agree). Sample items included, "Over the past year, what is your

department's performance in comparison to other departments in the same line of work?" and

"To what degree has your department achieved most of its goals?" (α = .85).

Department training

Department training was measured using a three-item measure developed for this

study. Supervisors were asked to indicate their agreement with a series of statements along a

5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Sample items included,

"Compared to other departments that do similar work, we have comparable training

programs" (α = .86).

Department service quality

Department service was measured using a three-item measure developed for this

study. Supervisors were asked to indicate their agreement with a series of statements along a

5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Sample items included,

"Overall my department's customers/clients (either internal or external) are very satisfied

with the quality of our service" and "Compared to other departments that do similar work,

the quality of service provided by my department is superior." (α = .76).

Department innovation

Department innovation was measured by adapting Scott and Bruce's (1994) six-item innovation measure to the department level. Supervisors were asked to indicate their agreement with a series of statements along a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Sample items included, "Searches out new technologies, processes, techniques, and/or product ideas." and "Generates creative ideas" (α = .86).

Department safety

Department safety was measured using a three-item measure developed for this study. Supervisors were asked to indicate their agreement with a series of statements along a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Sample items include, "Compared to other departments that do similar work, we have few accidents." and "Compared to other departments that do similar work, the employees in my department exhibit safe behaviors" (α = .81).

Aggregation

To assess whether aggregation is appropriate, I examined the degree of agreement among department members with respect to their assessment of each climate type by calculating the r_{wg} statistic (George & James, 1993). The r_{wg} statistic is used to determine interrater agreement. A 1.00 would reflect perfect agreement. The mean r_{wg} statistic for human relations climate was .92. For internal process climate the mean r_{wg} was .94. For open-systems climate the mean r_{wg} was .93. For rational goal climate the mean r_{wg} was .94. The mean r_{wg} statistic for training climate was .91. For service climate the mean r_{wg} was .97. For innovation climate the mean r_{wg} was .88. For safety climate the mean r_{wg} was .89. These

results suggest that overall, there is strong agreement within workgroups for all the climate types.

Analyses and Results

Descriptive Statistics

Descriptive statistics and correlations for the study variables are presented in Table 7.

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Insert Table 7 & 8 about here

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Test of the Measurement Model

Dyer, Hanges, and Hall (2005) suggest the nature of constructs can differ across levels of analysis (e.g., individual versus group). They indicate that a scale measuring a group-level construct should be examined at the aggregate level of analysis to ensure that it exhibits the desired dimensionality properties at the aggregate level of analysis. In the case of molar climate, it should be functioning at the group level and we need to show that is operating at this level and not the individual level. Conducting a multilevel confirmatory factor analysis can provide evidence as to which items are reflective of the latent construct at the individual or unit level of analysis. Thus, a multilevel confirmatory factor analysis (MCFA) was conducted for each of the climate types.

I follow Muthen's (1994) recommendations for conducting a MCFA. The process he recommends is used to justify conducting a multilevel analysis and provide initial information about the factor structure of the scale at different levels of analysis. Below I report the ICC values and the MFCA results. Mplus was utilized for these analyses. I will

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present the results for the model examining innovation climate and molar climate to show the process used; however, the results for all of the climate types are presented in Table 9.

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Insert Table 9 about here

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First, I examined whether it is appropriate to use multilevel analysis with the data by estimating the between-group variation for the observed variables in the model. To do this, intraclass correlation coefficients (ICCs) are calculated to determine the extent of systematic variance for each indicator using Muthen's (1994) ICC, which is similar to ICC (1). The ICC values will range from 0-1, and if values are less than .05 there may be little value in conducting multilevel modeling (Bliese, 2000). However, to calculate Muthen's ICC, random level effects are assumed rather than fixed level effects of the regular ICC because of the multilevel nature of the data.   It also differs in that a ratio of the maximum likelihood is calculated to estimate the latent within and between variance components because of this assumption of random versus fixed-level effects. The ICCs for this study ranged from .17 to .44, with a mean ICC of .30. These ICC values indicate a sufficient level of between-group variation to justify the use of multilevel analysis.

The actual MCFA was conducted by assessing the fit of the model. Similar fit statistics (e.g., chi-square, comparative fit index (CFI), and root mean square error of approximation (RMSEA)) are used as in a traditional CFA. Hu and Bentler's (1999) recommendations for fit indices are used to assess the fit of the models; CFI .95 or higher, RMSEA .05 or less, and a small chi square relative to the degrees of freedom to assess the fit of all the models. First, the fit of a five-factor model (human relations climate, internal

process climate, open-systems climate, rational goal climate, innovation climate) was assessed. This analysis indicates the five-factor model provides an acceptable fit to the data ($\chi^2 = 1209.08$, $df = 493$; RMSEA = .05, CFI = .91, SRMR$_{within}$ = .07, SRMR$_{between}$ = .07). Next, this was compared to the fit of a two-factor model (molar climate as one factor, training climate as another). This was not a good fitting model ($\chi^2 = 1966.64$, $df = 511$; RMSEA = .07, CFI = .81, SRMR$_{within}$ = 08, SRMR$_{between}$ = .09). Finally, the five-factor model was compared to a one-factor model ($\chi^2 = 2723.05$, $df = 513$; RMSEA = .08, CFI = .71, SRMR$_{within}$ = .11, SRMR$_{between}$ = .14). The five-factor model is a significantly better fit the two-factor model (χ^2 difference = 757.56, $df = 18$, p<.01) or the one-factor model (χ^2 difference = 1513.97, $df = 20$, p<.01). This pattern of results was the same for training climate, service climate, and safety climate and the fit statistics are presented in Table 9. These results indicate that the molar climates are distinct from each other, as well as distinct from the facet-specific climates.

The Structural Model

The data were analyzed via structural equation modeling (SEM), utilizing MPlus 4.1. The theoretically specified structural model used for the hypothesis testing is shown in Figure 2. Across all four facet-specific climate types, the proposed model fits the data fairly well. The fit statistics for all models are presented in Table 10. The standardized path coefficients and *t*-values are presented in Tables 11-13.

Insert Tables 10-13 about here

Hypothesis 1 predicted that facet-specific climates will be more strongly related to the corresponding specific outcome than global outcomes. Hypothesis 2 predicted that molar climates will be more strongly related to global outcomes than facet specific outcomes. To test these hypotheses, a series of models were examined. The models examined included the four molar climates, and a facet-specific climate with the respective specific outcomes and department performance. Therefore, a total of four models were examined, one for each of the facet-specific climates (training, safety, innovation, and service).

For each outcome, there are 16 different combinations to be assessed. For example, for innovation climate, this model included the four molar climates (human relations climate, internal process climate, open-systems climate, and rational goal climate), innovation climate, department performance, and department innovation. Thus, for hypothesis 1, I examined the relationships between innovation climate and department innovation and compared these to the relationships between the molar climates and department innovation. For hypothesis 1, in 12 of 16 cases the facet-specific climates were more strongly related to the specific outcomes than were the molar climates. Among the four that did not conform to my expectations, open-systems climate and human relations climate were more strongly related to department service than to service climate. In addition, open-systems climate and internal process climate were more strongly related to department training than training climate. Overall, this indicates strong support for hypothesis 1.

As for hypothesis 2, in 15 out of 16 cases, molar climates were more strongly related to department performance than the facet-specific climates. The only exception was

innovation climate was more strongly related to department performance than human

relations climate. These results indicate strong support for hypothesis 2.

Hypothesis 3

Hypothesis 3 examined the extent to which facet-specific climates mediated the

relationship between perceptions of molar climate and facet-specific outcomes. The SEM

approach to mediation was utilized to test this hypothesis. This method employs the rule of

parsimony and uses the full mediation model as a baseline. To show mediation, the

antecedent must be significantly related to the mediator and the mediator has to be

significantly related to the outcome variable. Thus, in this approach, there are two structural

equations tested: the antecedent on the mediator and the mediator on the outcome. Then a

goodness-of-fit test is conducted to test for full or partial mediation. Here I use the Sobel test

per MacKinnon, Lockwood, Hoffman, and Sheets. (2002). In their comparison of 14

methods of assessing mediation effects, they suggest that the Sobel test (and its variants) is

superior in terms of power and intuitive appeal (Preacher & Hayes, 2004).

First, the paths from the molar climate types to the facet-specific climate were

assessed (referred to as Hypotheses 3 model 2 in Table 12). Next, the path from the facet-

specific climate to the facet-specific outcome was assessed (referred to as Hypotheses 3

model 3 in Table 12). I am interested in the general relationships between molar and facet-

specific climates, not specific paths. It is not expected that all of the molar climate types will

be related to all of the facet-specific climate types. Thus to find support for hypothesis 3, in

general, molar climates should be related to facet-specific climates.

With respect to the relationships between the molar climates and the four different

facet-specific climates, nine of the 16 molar climate paths were significantly related to the

facet-specific climates types. For each of the four models with the different facet-specific

climates, at least two of the paths were significant. Thus, in general, the pattern of results

suggests that molar climates drive the facet-specific climates and in all cases, facet-specific

climates are significant predictors of the respective specific outcome.

To test the amount of influence the mediator carries from the independent variable to

the dependent variable, a Sobel test was conducted. The Sobel test examines whether the

mediator (the facet-specific climates) fully or partial mediates the relationship between molar

climates and specific outcomes. For each of the significant paths in the models (see Table

12), all of the Sobel tests were significant, suggesting full mediation (See Table 12). In

addition, when direct paths were added from the molar climate types to the specific outcome,

these paths were not significant and the fit of the models did not improve. This further

suggests full mediation. Thus, the results indicate support for Hypothesis 3 (see Figures 3-6).

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Insert Figures 3-6 about here

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Hypothesis 4

Hypothesis 4 proposed that facet-specific outcomes would mediate the relationship

between facet-specific outcomes and global outcomes. Hypothesis 4 was tested following a

similar procedure as above. Again, each facet-specific climate was analyzed separately, as I

was interested in seeing if in general facet-specific climates were indirectly related global

outcomes.

First, paths from the facet-specific climate to the respective specific outcome were

assessed. In all cases, the facet-specific climate was a significant predictor of the specific

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outcome (referred to as Hypotheses 4 model 2 in Table 13). Next, the path from the specific

outcome to global department performance was examined. With respect to the relationships

between facet-specific climates and specific outcomes, in all cases, the relationship was

significant (referred to as Hypotheses 4 model 3 in Table 13).

As above, Sobel tests were conducted to test for full or partial mediation. In all cases,

full mediation was supported, as all of the Sobel tests were significant (See Table 13). In

addition, when direct paths were added from the facet-specific climates to the global

outcome, these paths were not significant and the fit of the models did not improve. The

results indicate support for Hypothesis 4 (see Figures 7-10).

Insert Figures 7-10 about here

Post Hoc Testing

Lastly, as a post hoc analysis, I tested the initially-proposed model from a multilevel

perspective. Again, multilevel analysis is recommended when intraclass correlations (ICCs)

are substantially large (e.g., greater than .05 for ICC(1); Heck, 2001), which were found

during the MCFAs. Advances by Muthen and his colleagues (Muthen, 1989, 1991, 1994;

Muthen & Sattora, 1989) allow researchers to combine full structural equation models with

multilevel models. This technique allows for simultaneous estimation of the within and

between individual/department variation.

Specifically, the data were clustered by work departments and analyzed using

multilevel structural equation modeling using MPlus 4.1. This technique analyzes two

covariance matrices: within-unit and between-unit. The within-unit matrix assesses the

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individual relationships among the constructs, and the between-unit matrix considers across unit covariation among the constructs. The within-unit results are similar to the results presented above. The between-unit results indicate that the general results hold at the department level also. That is, in general, molar climates are a driver of facet-specific climates irrespective of the level. Further, the multilevel models fit the data well at both the group level (e.g., CFIs ranged from .91-.98).

Discussion

The goal of this study was to provide a more comprehensive model of work climate by proposing and testing an integrated model of organizational work climates. In doing so it accomplishes two objectives. First, it substantiates the findings found in Chapter 2 by providing further evidence that molar or global climates 1) exist in organizations, 2) can be distinguished from facet-specific climates, and 3) are related to important organizational outcomes. Second, and perhaps more importantly, it builds on this work and provides a framework to integrate the facet-specific and global climate literatures. Specifically, bandwidth-fidelity theory is used to provide a framework to develop an integrated model of work climate that suggests different relationships between molar and facet-specific climates on a variety of specific and global outcomes.

My model predicted that facet-specific climates would be more strongly related to specific outcomes and that molar climate would be more strongly related to global outcomes. Further, my model predicted that molar climates would have a weaker, indirect relationship with specific outcomes and facet-specific-climates would have a weaker, indirect relationship with global outcomes. In general, the results support these hypotheses. Each of these is discussed in more detail below.

As predicted by the bandwidth-fidelity theory, facet-specific climates were shown to be more strongly related to specific outcomes related to the domain of the facet-specific climate than to global outcomes like department performance. This is consistent with previous climate research. The link between specific climates and outcomes related to their domain has been fairly well established in the literature (e.g., Griffin & Neal, 2000; Liao & Chuang, 2004; Zohar, 2000). These results are consistent with the job performance literature. Indeed, Hogan and Roberts (1996) state, "because the characteristics of the predictor ought to be driven by the characteristics of the criteria, narrow bandwidth measures will be inappropriate for either the predictors of, or the criteria for, job performance" (p. 628).

Next, this study shows that molar or global climates do exist in organizations, and that they are related to global outcomes in organizations such as performance. Many researchers have alluded to the fact that climates affect global outcomes, but the link has not found strong empirical support (e.g., Victor & Cullen, 1988). In general, this link between molar climates and global outcomes has not been strongly or consistently made in the literature

One reason for these disparate results may be that many different operationalizations have been used for global climate. This has created a host of different dimensions that have been used to reflect various aspects of global climate. As was mentioned earlier, some of these dimensions are not really reflective of a global measure of climate. Indeed, Schneider (1975) found that "a review of the literature reveals that many climate researchers have indeed assessed the specific climate in which they were interested rather than attempting to develop some omnibus measure" (p. 472). Thus, some of the global climate dimensions used

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previously may actually be related more to the facet-specific climates than global climate. Overall, this lack of consistency in how global climate is measured has led to studies with inconclusive findings.

However, the new operationalization of molar climate provides a better way to measure molar climate. This new operationalization of molar climate has a strong theoretical foundation based in the organizational effectiveness literature. It also has a focus on the global organization (i.e., global organizational values) in contrast with previous operationalizations that have focused on the individual. Thus, the link between molar climates and global outcomes can be made more strongly using this new theoretically-driven operationalization of molar climate.

Additionally, this study indicates molar climate also plays a role in influencing specific outcomes. When the relationship between molar climates and facet-specific outcomes was examined, the results show that facet-specific climates fully mediate the relationship between molar climates and specific outcomes. This may help in understanding of some of the inconsistent results in the climate literature such as why some of the previous measures of global climate were related to some specific outcomes, but only weakly and not in all cases.

In general, the results show that molar climates drive facet-specific climates. However, as expected, not all of the molar climates were significantly related to each facet-specific climate type. It would be interesting to examine the specific relationships between the molar climate types and different facet-specific climates. For instance, it would make sense that innovation climate would have the strongest relationship with the molar climate type open-systems. Both innovation climate ("the expectation, approval, and practical

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support of attempts to introduce new and improved ways of doing things" (Anderson &

West, p. 240)) and open-systems climate (global shared perceptions of growth, resource

acquisition, and external support) have some overlap.   However, innovation climate has a

more narrow, specific focus, while the open-systems climate has a more general or broad

focus encompassing more than the innovation climate.

If we look at the four molar climate types, internal process climate is opposite of

open-systems climate with its internal focus and controlled structure. Logically, we would

predict that of the four molar climate types, innovation climate would be the one that had the

weakest relationship. We would expect innovation climate to be somewhat related to the

adjacent climate types (human relations climate and rational goal climate), because they

would cross over on one of the dimensions (either external focus or flexible structure).

Looking at the path coefficients, open-systems had the strongest relationship (.32, $p<.01$),

followed by human relations climate (.26, $p<.01$) and rational goal climate (.24, $p<.01$).

Internal process climate (.13, $n.s.$) was not significantly related to innovation climate. Future

research should theorize about and examine the relationships between the different molar

climate types and facet-specific climates.

Overall, these results are also consistent with research regarding foundational

climates or broad facet-specific climates (Schneider et al., 1998; Wallace et al., 2006). I

found that the facet-specific climates mediated the relationship between global climates and

specific outcomes. Wallace et al. (2006) also found that broad specific climates

(foundational climates) impact organizational effective indices connected to things such as

accident rates.

Finally, facet-specific climates were indirectly related to global outcomes through facet-specific outcomes. This supports general systems theory in that global performance is a multi-dimensional construct.

Implications

This study has implications for theory, research, and practice. From a theoretical perspective, it provides a framework that attempts to provide a formal structure for understanding the relationship between molar climates, specific climates, and outcomes. Further, it helps us to understand how and why climates are related to different types of outcomes. Applying bandwidth-fidelity theory to work climates, helps to provide a framework to make sense of the results in the literature.

Perhaps the most important result of this study is that it provides a more complete conceptualization of the role of work climates in organizational settings. Previous models do not consider both global and facet-specific climates as current research typically focuses on only one aspect of the work environment at a time (e.g., safety climate or global climate). By examining both climate types in the same model, we can more accurately reflect the way individuals perceive their work environments and how this affects their attitudes, behaviors, and ultimately firm performance. This study shows that individuals react to both general climate forces as well as climates related to specific aspects of the organizational setting.

Further, Ostroff et al. (2003) state that "it is generally acknowledged that multiple types of climate exist within an organization…yet the work on climates-for has almost exclusively examined one climate at a time. It may be fruitful to simultaneously examine multiple climates." Examining only one climate at a time limits the understanding how different configurations of climates interact with each other to affect organizational

outcomes. This study is one of the few climate studies to include more than one climate type by examining molar and facet-specific climates together.

A final theoretical contribution is that this research extends bandwidth-fidelity theory to include work climates. This theory has mainly been applied to the personality literature (e.g., Ashton, 1998; Chapman, 2007; Ones & Viswesvaran, 1996; Paunonen, 1998). The climate literature can also benefit from this type of framework.

For research, these results suggest that the research question being studied should dictate what type of climate should be used. So for instance, my results indicate that global climates are stronger predictors of general performance than facet-specific climates. If a researcher is interested in these more global outcomes, they should use molar climate. If a researcher is interested in a specific outcome in the organization, it is more appropriate to examine a corresponding facet-specific climate, while still controlling for molar climate.

For researchers interested in climate issues, this research has the potential to reunite climate researchers whose foci have shifted to specific, narrow aspects of organizational context. This research suggests that there are global influences (e.g., molar climates) at play within organizations that affect multiple climate types. Thus, this research suggests the need for climate researchers to share research findings across the climate types.

This research also has practical implications for managers. Understanding the differential effects of the different climate types on different types of outcomes is important to managers. This research suggests that managers need to take into account molar climates. Most of the previous climate literature has not been shown to affect global outcomes such as firm performance. My results suggest that molar climates do in fact affect department

performance. Thus, if managers are trying to improve global performance, they should focus on interventions directed at the molar climate perceptions.

Further, the results of this study suggest that global perceptions related to the organization are also critical to specific outcomes. In other words, managers should be mindful of molar climates as well as facet-specific climates even if they are interested in more specific outcomes. Often in the facet-specific climate literatures, it has been suggested to focus interventions on individuals or possibly policies and procedures related to the facet-specific climate. The results from this study indicate that broader contextual factors also influence these facet specific climates and interventions should also target molar climates. For instance, if organizations want to increase innovation, they should not just focus on innovation climate, but should also focus on molar climates.

Limitations

Like all studies, this one has limitations. First, common method variance is a concern because all data were collected via surveys. Although two separate sources were used for the predictor and outcome variables (employees and supervisors), and many key variables resulted from aggregating individual scores, and respondents represented a wide array of organizational and demographic backgrounds, common method variance could still be a potential concern.

To examine this issue further, I followed Podsakoff, MacKenzie, Lee, and Podsakoff's (2003) recommendation of performing principle components analysis on all the scale items. If common method variance is present, the principle components analysis should reveal either one single factor or a dominant general factor that accounts for a

majority of the variance in individual responses. This analysis showed that the multi-factor models were the better fitting models suggesting that the variables are different constructs.

Further, Podsakoff et al. (2003) recommend some non-statistical methods for reducing common method variance. For instance, they recommend procedures such as protecting the anonymity of respondents and making sure respondents understand that there are no right or wrong answers when providing information. Respondents were assured of their anonymity. The instructions also explicitly stated that there was no right or wrong answers.

Another limitation of the study is that only a small number of respondents from each department were sampled. Although previous research has used a similar number of respondents in climate research (e.g., Colquitt et al., 2002; Richardson & Vandenberg, 2005; Schneider et al., 2002; Tracey & Tews, 2005), we cannot know for sure that the respondents' perceptions are necessarily representative of the workgroup as a whole, particularly for large workgroups.

Additionally, I used a snowball method for this data collection. One individual served as a contact for the department. This person hand delivered surveys to members of their department. Potentially, this could create a situation where the individuals chosen were the most similar in their views of the department. This could create some bias in the results. However, Spector (personal communication October 22, 2007) states that there are times when you want a heterogeneous sample with people coming from many different occupations and organizations. For such cases, snowball sampling is appropriate. This type of sampling allowed me to sample from a variety of organizations and industries which increases the generalizability of the findings.

Another limitation may be that all of the participants were from one region of the US. Although the participants were from a variety of departments across 140 organizations, all were located in the southeastern part of the U.S. Therefore, I cannot be sure that the results generalize across other parts of the U.S. and beyond. Future research should include sample from other regions of the U.S.

Further, the data are cross-sectional, which limits any conclusions about the causal ordering of the variables in the model. Future research should examine how the relationships develop over time using a longitudinal design.

Finally, the outcome variables assessed were all perceptual variables in order to compare results across different departments and organizations. Wall, Michie, Patterson, Wood, Sheehan, Clegg, and West (2004) state that "Findings relating the use of management practices to subjective measures of performance were essentially equivalent to those for objective performance". However, it would be good to utilize some objective performance measures. Future research could explore objective outcomes such as actual department performance, accident rates, and customer satisfaction surveys.

<center>Conclusion</center>

In conclusion, this study goes back to the roots of the climate literature and re-examines the role of the general work environment, or molar climate. This is done by examining an integrated model of work climate, one that examines molar and facet-specific climates together. The results suggest that, in general, molar climates are more strongly related to global outcomes and facet-specific climates are more strongly related to specific outcomes. Additionally, facet-specific climates mediate the relationship between molar climates and facet-specific outcomes, and specific outcomes mediate the relationship

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between facet-specific climates and global outcomes. This research has the potential to increase our understanding of the different roles that different types of climate play in predicting both specific and global outcomes. Further, it suggests that the research question being explored, should dictate the types of climate that is examined. This study is just one step in more fully understanding work climates. More research is needed examining multiple climate types together.

Footnotes

1.   When the other facet-specific climates are controlled for in each model, the pattern

of results does not change.

Molar Work Climates
- **Human Relations Climate**
- **Internal Process Climate**
- **Open-Systems Climate**
- **Rational Goal Climate**

H2

Global Outcomes

Facet-Specific Climates

H1

Specific Outcomes

H3

H4
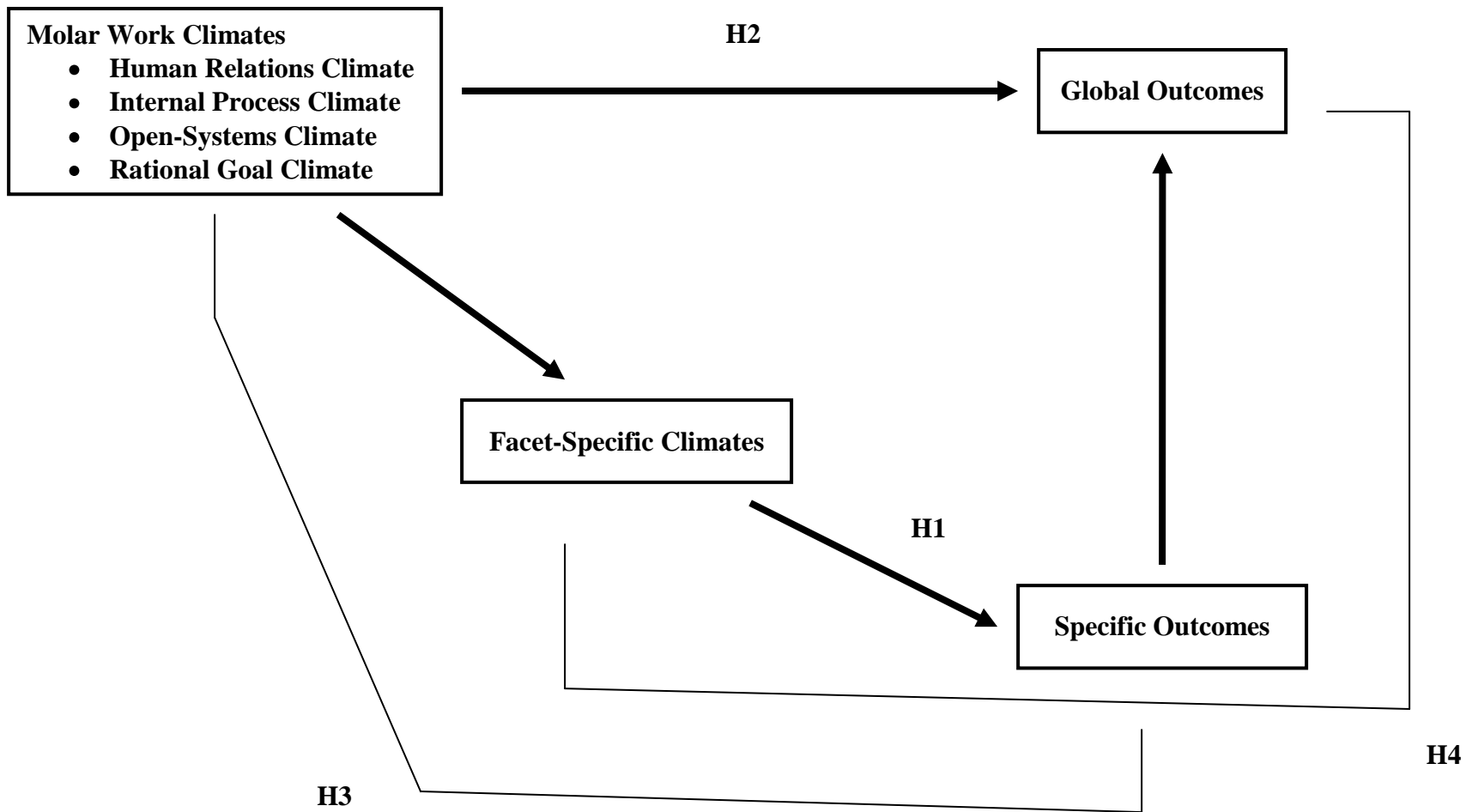
Figure 2
Integrated Model of Work Climate
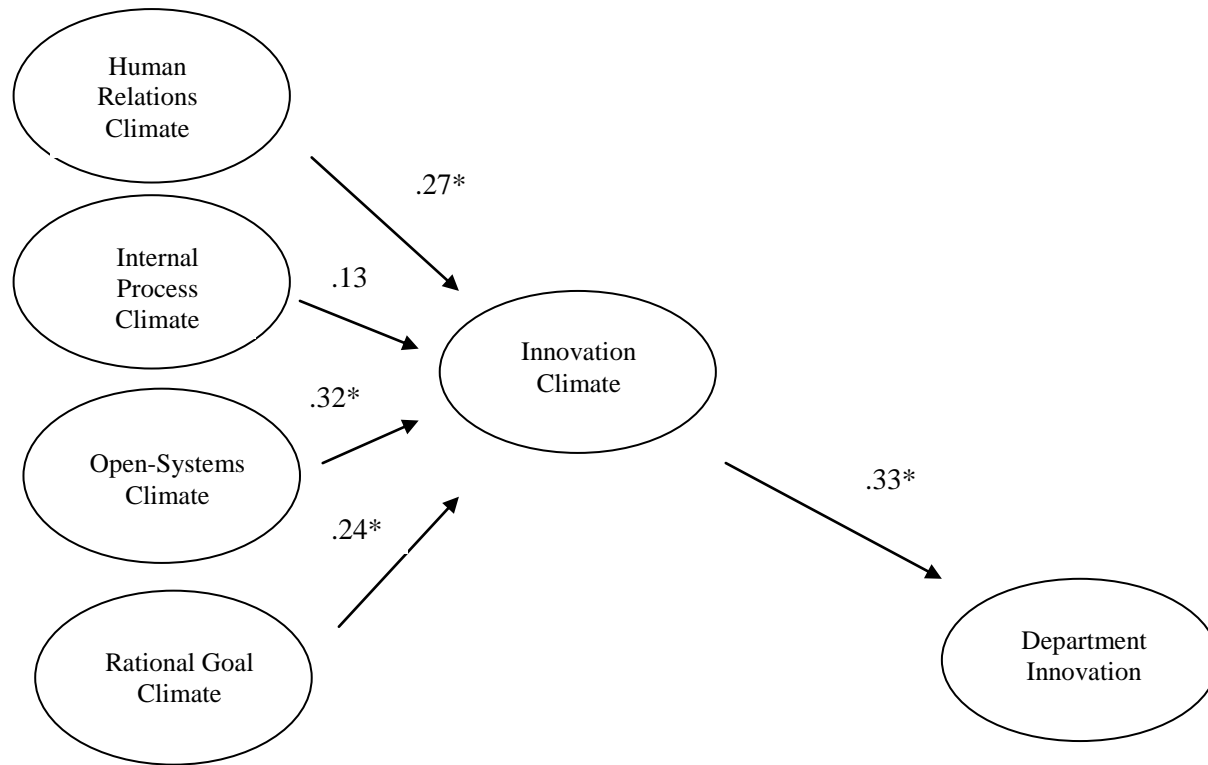
Figure 3
Structural Equation Modeling Results for Hypothesis 3 Innovation Climate
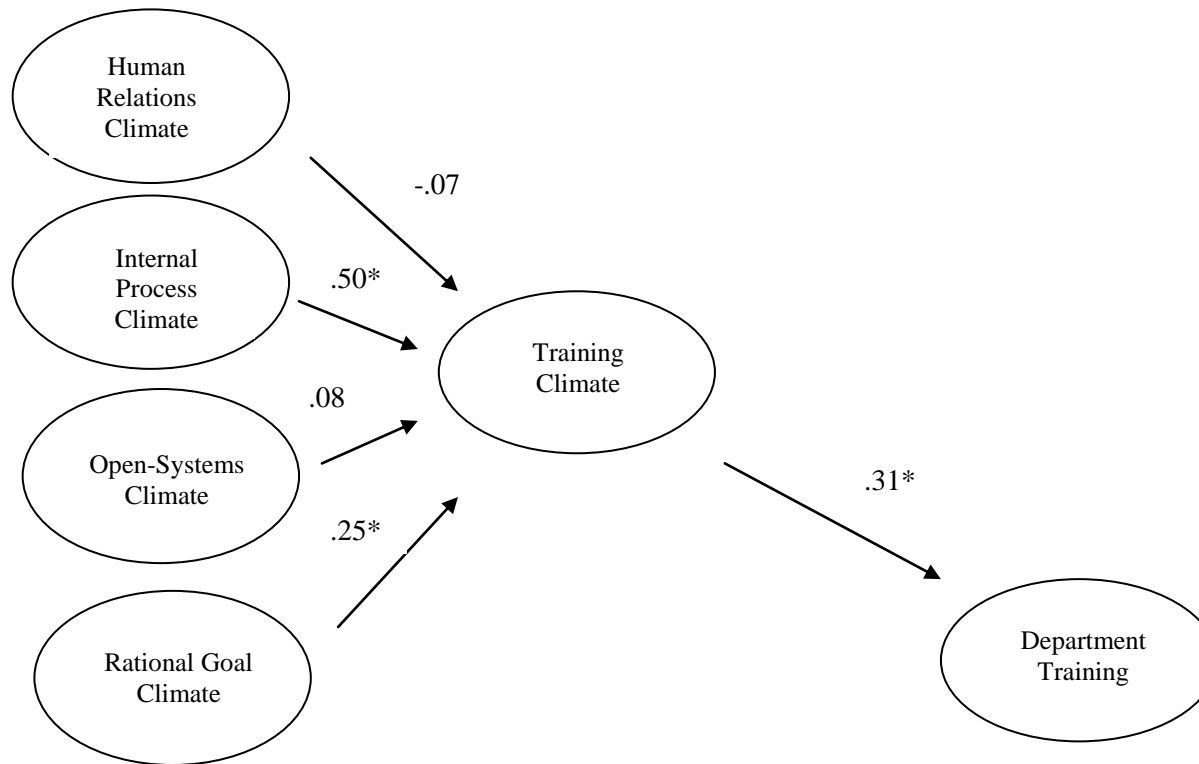
Figure 4
Structural Equation Modeling Results for Hypothesis 3 Training Climate
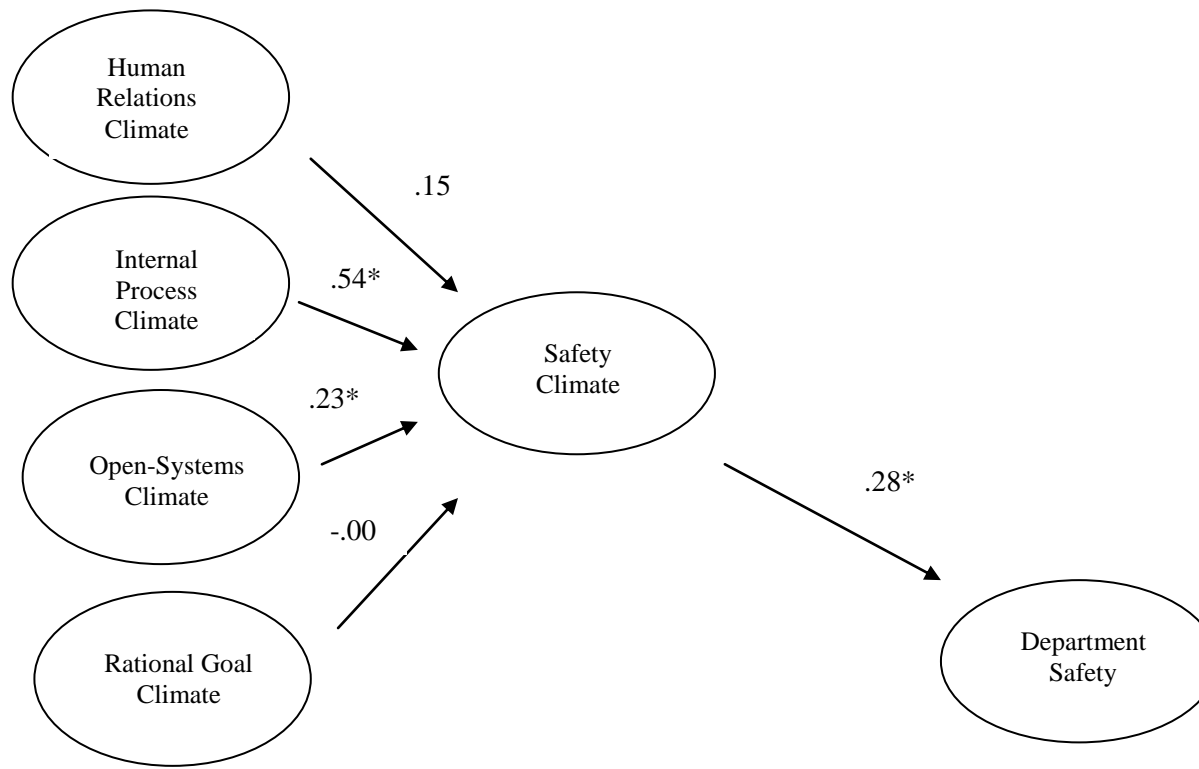
Figure 5
Structural Equation Modeling Results for Hypothesis 3 Safety Climate
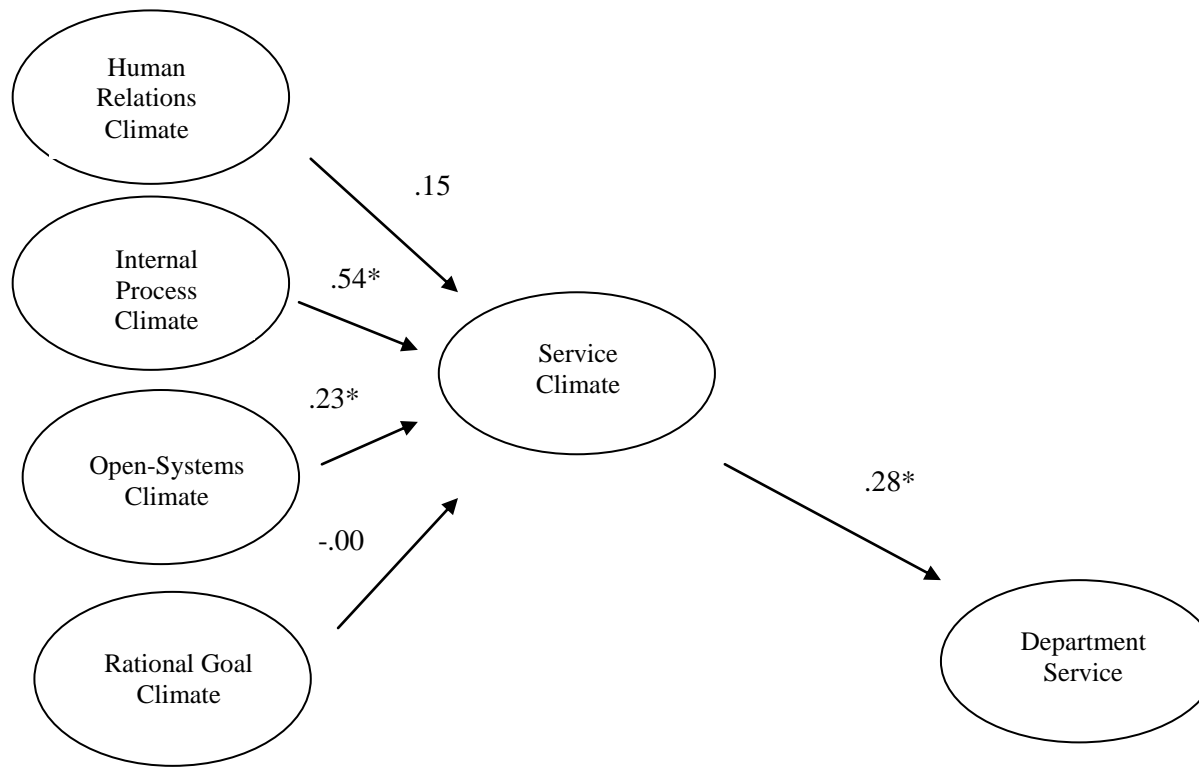
Figure 6

Structural Equation Modeling Results for Hypothesis 3 Service Climate
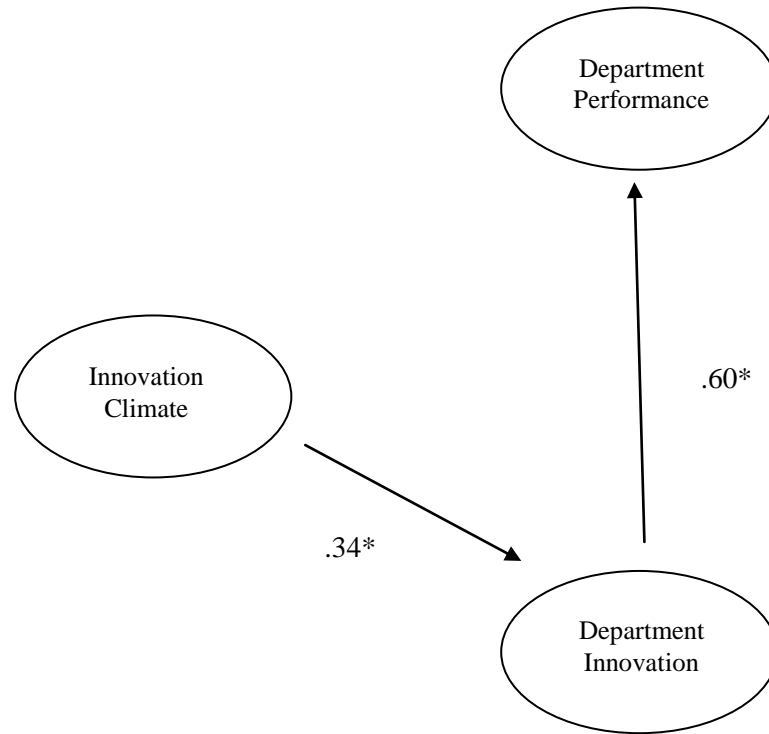
Figure 7
Structural Equation Modeling Results for Hypothesis 4 Innovation Climate
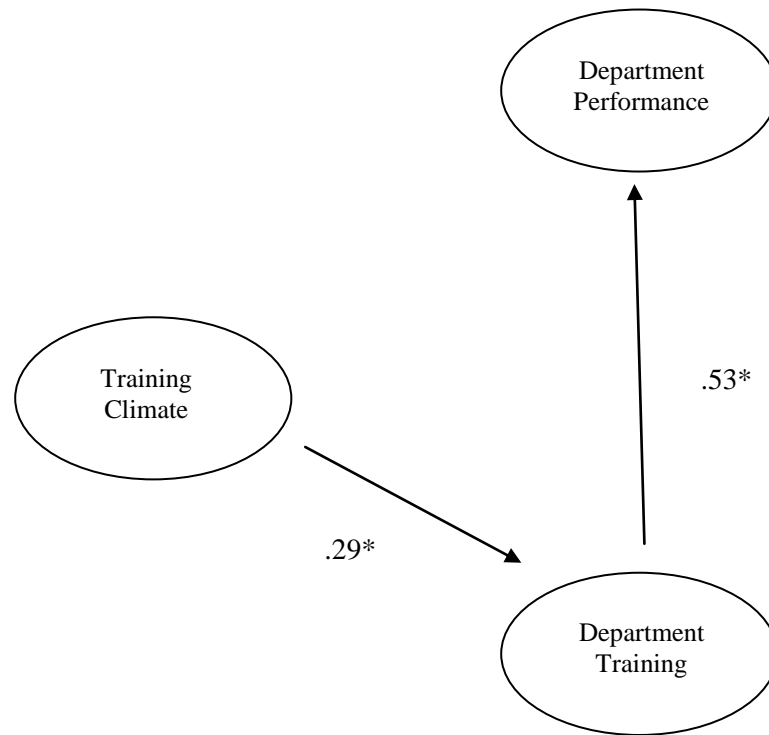
Figure 8
Structural Equation Modeling Results for Hypothesis 4 Training Climate
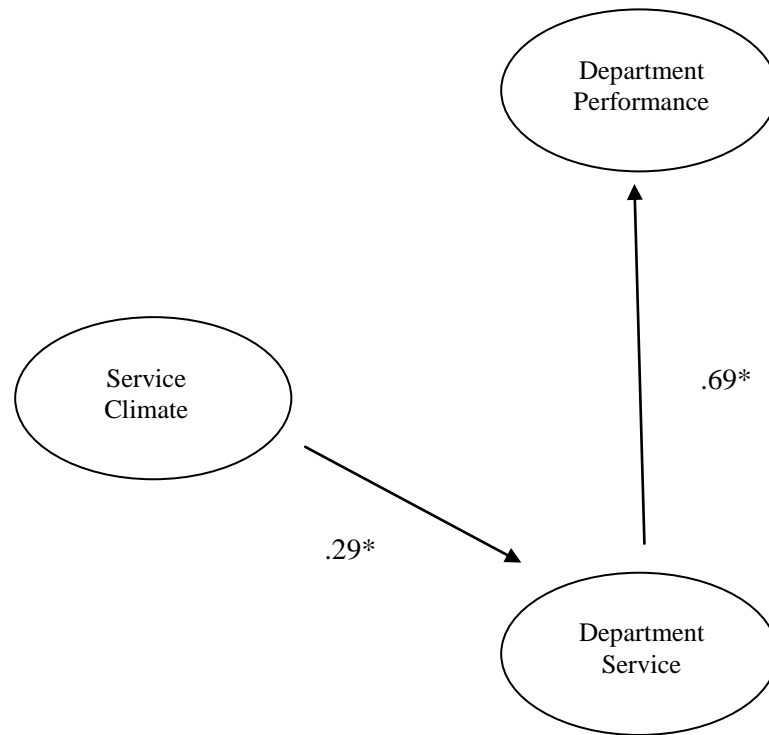
Figure 9
Structural Equation Modeling Results for Hypothesis 4 Service Climate.
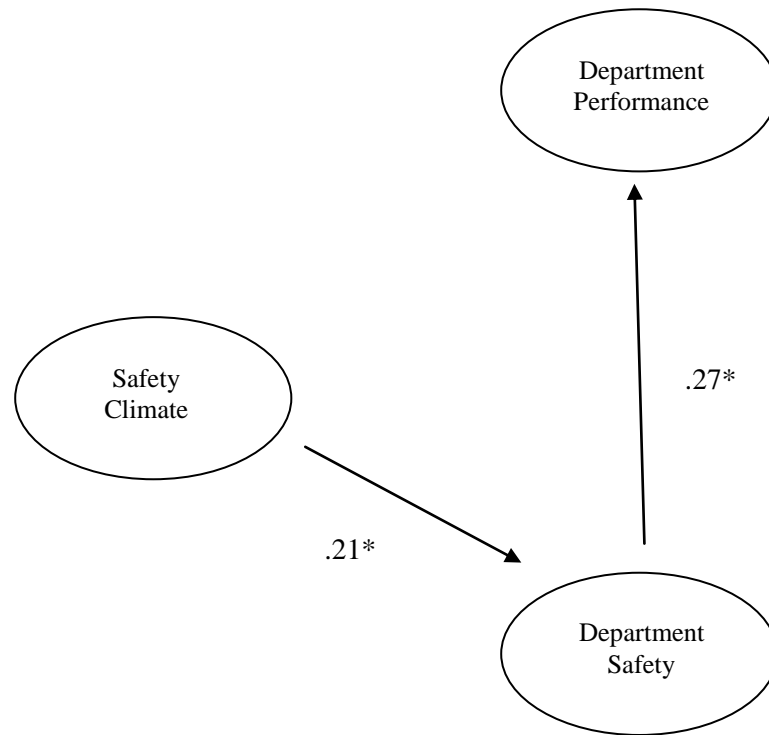
Figure 10

Structural Equation Modeling Results for Hypothesis 4 Safety Climate

Table 7
Means, Standard Deviations, and Correlations for all Variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
hrc	3.92	0.52	1.00												
ipc	3.87	0.50	0.76	1.00											
osc	3.82	0.47	0.69	0.74	1.00										
rgc	3.83	0.59	0.70	0.71	0.64	1.00									
trainc	3.38	0.70	0.58	0.66	0.59	0.71	1.00								
servc	3.72	0.50	0.73	0.76	0.71	0.69	0.72	1.00							
safec	3.19	0.35	0.46	0.42	0.42	0.49	0.46	0.57	1.00						
innvc	3.60	0.58	0.73	0.73	0.72	0.72	0.73	0.84	0.55	1.00					
deptperf	4.09	0.52	0.30	0.27	0.23	0.27	0.19	0.22	0.26	0.26	1.00				
servbeh	4.24	0.52	0.16	0.14	0.17	0.12	0.04	0.15	0.17	0.14	0.42	1.00			
safebeh	4.30	0.56	0.12	0.08	0.09	0.05	-0.10	0.02	0.13	0.06	0.27	0.40	1.00		
innbeh	3.90	0.63	0.23	0.30	0.28	0.26	0.25	0.23	0.18	0.31	0.55	0.38	0.29	1.00	
trainbeh	3.92	0.77	0.24	0.30	0.25	0.23	0.22	0.26	0.17	0.26	0.49	0.45	0.25	0.48	1.00

Correlations above .11 are at the .01 significance level; Correlations between >08-.10 are significant at the .05 level.
hrc=human relations climate; ipc =-internal process climate; osc=open-systems climate; rgc=rational goal climate; trainc=training climate; servc=service climate; safec=safety climate; innovc=innovation climate; dperf=department performance; servbeh=department service behavior; safebeh=department safety behavior; innbeh=department innovative behavior; trainbeh=department training behavior

Table 8

Means, Standard Deviations, and Correlations for Psychological Climate and Organizational Climate

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
hrpc	3.92	0.72	1.00												
ippc	3.87	0.73	0.60	1.00											
ospc	3.82	0.72	0.54	0.58	1.00										
rgpc	3.83	0.80	0.57	0.62	0.53	1.00									
trainpc	3.38	0.91	0.45	0.52	0.45	0.59	1.00								
servpc	3.72	0.70	0.58	0.60	0.56	0.57	0.59	1.00							
safepc	3.18	0.50	0.30	0.31	0.29	0.35	0.39	0.42	1.00						
innvpc	3.60	0.77	0.57	0.58	0.60	0.59	0.64	0.72	0.44	1.00					
hrc	3.92	0.52	0.73	0.52	0.45	0.52	0.45	0.53	0.32	0.55	1.00				
ipc	3.87	0.50	0.55	0.69	0.48	0.53	0.50	0.55	0.29	0.55	0.76	1.00			
osc	3.82	0.47	0.50	0.51	0.65	0.48	0.45	0.51	0.28	0.54	0.69	0.74	1.00		
rgc	3.83	0.59	0.51	0.49	0.42	0.75	0.54	0.49	0.34	0.54	0.70	0.71	0.64	1.00	
trainc	3.38	0.70	0.42	0.46	0.38	0.53	0.77	0.51	0.31	0.55	0.58	0.66	0.59	0.71	1.00
servc	3.72	0.50	0.53	0.53	0.46	0.51	0.55	0.72	0.39	0.63	0.74	0.76	0.71	0.69	0.72
safec	3.19	0.35	0.34	0.29	0.27	0.37	0.35	0.41	0.69	0.41	0.46	0.42	0.42	0.49	0.46
innvc	3.60	0.58	0.53	0.50	0.47	0.54	0.56	0.60	0.38	0.75	0.73	0.73	0.72	0.73	0.73

Correlations above .11 are at the .01 significance level; Correlations between >08-.10 are significant at the .05 level.
hrpc=human relations psychological climate; ippc=internal process psychological climate; ospc=open systems psychological climate; rgpc=rational goal psychological climate; trainpc=training psychological climate; servpc=service psychological climate; safepc=safety psychological climate; innvpc=innovation psychological climate; hrc=human relations climate; ipc=internal process climate; osc=open systems climate; rgc=rational goal climate; trainc=training climate; servc=service climate; safec=safety climate; innvc=innovation climate

	14	15	16
hrpc			
ippc			
ospc			
rgpc			
trainpc			
servpc			
safepc			
innvpc			
hrc			
ipc			
osc			
rgc			
trainc			
servc	1.00		
safec	0.57	1.00	
innvc	0.84	0.55	1.00

Table 9

Fit Statistics for Tests of the Measurement Model

Hypothesized model	X^2	df	ΔX^2	Δdf	RMSEA	CFI	RMSR (btw / w/i)
Training Climate (TRC)							
5-factor: Four molar climates, TRC distinct	1020.90	365			.05	.90	.06/.08
2-factor: One molar climate, TRC distinct	1803.53	383	782.63	18	.08	.77	.09/.10
1-factor: All combined			No convergence				
Service Climate (SVC)							
5-factor: Four molar climates, SVC distinct	962.49	405			.05	.91	.05/.07
2-factor: One molar climate, SVC distinct	1707.24	423	744.75	18	.07	.79	.09/.09
1-factor: All combined	2081.10	425	1118.61	20	.08	.72	.10/.11
Innovation Climate (INC)							
5-factor: Four molar climates, INC distinct	1209.08	493			.05	.91	.06/.07
2-factor: One molar climate, INC distinct	1966.64	511	757.56	18	.07	.81	.08/.09
1-factor: All combined	2723.05	513	1513.97	20	.08	.71	.11/.14
Safety Climate (SFC)							
5-factor: Four molar climates, SFC distinct	710.13	358			.04	.94	.07/.05
2-factor: One molar climate, SFC distinct	1400.08	376	689.95	18	.07	.81	.09/.08
1-factor: All combined	2714.41	380	2004.28	22	.10	.57	.27/.20

Table 10
Fit Statistics for all Structural Models

Model	X^2	df	CFI	RMSEA	SRMR
Innovation					
Initially Proposed Model	790.44	448	.90	.08	.07
Hypothesis 3 Model 1	590	288	.91	.09	.08
Hypothesis 3 Model 2	589.29	285	.90	.09	.07
Hypothesis 3 Model 3	590	288	.91	.09	.07
Hypothesis 4 Model 1	170.06	102	.96	.07	.06
Hypothesis 4 Model 2	170.06	102	.96	.07	.06
Hypothesis 4 Model 3	203.61	102	.93	.09	.14
Training					
Initially Proposed Model	665.90	361	.90	.08	.08
Hypothesis 3 Model 1	482.22	219	.91	.09	.07
Hypothesis 3 Model 2	478.76	253	.91	.09	.07
Hypothesis 3 Model 3	482.22	219	.91	.09	.07
Hypothesis 4 Model 1	172.27	75	.92	.10	.07
Hypothesis 4 Model 2	198.35	75	.90	.11	.14
Hypothesis 4 Model 3	172.27	75	.92	.10	.07
Service					
Initially Proposed Model	635.75	361	.90	.08	.07
Hypothesis 3 Model 1	455.21	219	.90	.09	.08
Hypothesis 3 Model 2	452.51	216	.90	.09	.07
Hypothesis 3 Model 3	455.21	219	.90	.09	.08
Hypothesis 4 Model 1	79.212	63	.98	.05	.06
Hypothesis 4 Model 2	111.33	63	.94	.08	.11
Hypothesis 4 Model 3	79.21	63	.98	.05	.06
Safety					
Initially Proposed Model					
Hypothesis 3 Model 1	644.73	241	.94	.05	.05
Hypothesis 3 Model 2	946.59	253	.91	.07	.10
Hypothesis 3 Model 3	263.905	34	.91	.10	.07
Hypothesis 4 Model 1	127.59	75	.95	.07	.06
Hypothesis 4 Model 2	134.97	75	.94	.08	.09
Hypothesis 4 Model 3	127.59	75	.95	.07	.06

Table 11

Parameter Estimates and *t*-values for Proposed Models

Relationship	Parameter Estimate	*t*-value
Initially Proposed Model		
Innovation		
HR climate- department performance	.23	1.66
IP climate- department performance	-.14	1.17
OS climate- department performance	-.09	2.66
RG climate department performance	.18	3.24
HR climate- innovation climate	.18	1.3
IP climate- innovation climate	.18	1.32
OS climate- innovation climate	.32	2.78
RG climate- innovation climate	.25	2.71
Innovation climate-innovation behavior	.34	3.50
Innovation behavior-department performance	.54	2.72
Training		
HR climate- department performance	.35	1.72
IP climate- department performance	-.16	-.81
OS climate- department performance	-.17	-1.02
RG climate department performance	.20	1.61
HR climate- training climate	.02	.13
IP climate- training climate	.52	3.09
OS climate- training climate	-.02	-.14
RG climate- training climate	2.29	2.29
Training climate-training behavior		
Training behavior-department performance	.49	4.90
Service		
HR climate- department performance	.29	1.45
IP climate- department performance	-.01	-.05
OS climate- department performance	-.23	-1.44
RG climate department performance	.12	.90
HR climate- service climate	.13	.96
IP climate- service climate	.54	3.71
OS climate- service climate	.26	2.31
RG climate- service climate	-.03	-.29
Service climate-service behavior		
Service behavior-department performance	.60	3.10
Safety		
HR climate- department performance	.14	1.73
IP climate- department performance	.03	.35
OS climate- department performance	-.12	-1.44
RG climate department performance	.18	2.22

Relationship	Parameter Estimate	*t*-value
IP climate- safety climate	.12	1.95
OS climate- safety climate	.11	1.34
RG climate- safety climate	-.04	-.52
Safety climate-safety behavior	.14	2.98
Safety behavior-department performance	.21	4.62

Table 12

Parameter Estimates and *t*-values for Hypothesis 3

Relationship	Parameter Estimate	*t*-value	Sobel Test	*p*-value
Hypothesis 3				
Innovation				
Model 1				
HR climate – innovation climate	.27	2.25		
IP climate- innovation climate	.13	.95		
OS climate- innovation climate	.32	2.9		
RG climate- innovation climate	.24	2.9		
Innovation climate-innovation behavior	.33	3.4		
Model 2				
HR climate – innovation climate	.27	2.23	1.94	.05
IP climate- innovation climate	.13	.97	.91	.36
OS climate- innovation climate	.32	2.9	2.21	.03
RG climate- innovation climate	.24	2.9	2.20	.03
Model 3				
Innovation climate-innovation behavior	.33	3.5		
Training				
Model 1				
HR climate – training climate	-.07	-.48		
IP climate- training climate	.50	2.90		
OS climate- training climate	.08	.60		
RG climate- training climate	.25	2.51		
Training climate-training behavior	.31	3.26		
Model 2				
HR climate – training climate	-.08	-.53	-.47	.63
IP climate- training climate	.51	2.96	2.17	.03
OS climate- training climate	.08	.57	.60	.55
RG climate- training climate	.25	2.51	1.98	.04
Model 3				
Training climate-training behavior	.31	3.26		
Service				
Model 1				
HR climate – service climate	.15	1.25		
IP climate- service climate	.54	3.74		
OS climate- service climate	.23	2.11		
RG climate- service climate	-.00	-.01		
Service climate-service behavior	.28	2.28		
Model 2				
HR climate – service climate	.15	1.23	1.09	.27
IP climate- service climate	.54	3.74	1.96	.05

Relationship	Parameter Estimate	*t*-value	Sobel Test	*p*-value
OS climate- service climate	.23	2.10	1.54	.10
RG climate- service climate	-.04	-.00	-.01	.99
Model 3				
Service climate-service behavior	.28	2.28		
Safety				
Model 1				
HR climate – safety climate	.09	.09		
IP climate- safety climate	.13	1.96		
OS climate- safety climate	.08	1.05		
RG climate- safety climate	.18	2.01		
Safety climate-safety behavior	.15	3.32		
Model 2				
HR climate – safety climate	.09	.09		
IP climate- safety climate	.13	1.96		
OS climate- safety climate	.08	1.05		
RG climate- safety climate	.18	2.01		
Model 3				
Safety climate-safety behavior	.14	3.21		

Table 13

Parameter Estimates and *t*-values for Hypothesis 4

Relationship	Parameter Estimate	*t*-value	Sobel Test	*p*-value
Hypothesis 4				
Innovation				
Model 1				
Innovation climate-innovation behavior	.34	3.54	2.98	.03
Innovation behavior-department performance	.60	5.56		
Model 2				
Innovation climate-innovation behavior	.34	3.52		
Model 3				
Innovation behavior- department performance	.59	5.56		
Training				
Model 1				
Training climate-training behavior	.29	2.98	2.59	.01
Training behavior-department performance	.53	5.08		
Model 2				
Training climate-training behavior	.29	2.96		
Model 3				
Training behavior-department performance	.53	5.08		
Service				
Model 1				
Service climate-service behavior	.29	2.59	2.14	.03
Service behavior-department performance	.69	3.80		
Model 2				
Service climate-service behavior	.27	2.63		
Model 3				
Service behavior-department performance	.69	3.80		
Safety				
Model 1				
Safety climate-safety behavior	.21	2.13	1.67	.09
Safety behavior-department performance	.27	2.67		
Model 2				
Safety climate-safety behavior	.21	2.10		
Model 3				
Safety behavior-department performance	.27	2.67		

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CHAPTER FOUR: ADDITIONAL ISSUES

The purpose of my dissertation was to provide a more comprehensive model of work climate by proposing and testing an integrated model of organizational work climates. It was my hope that this would be the first step in developing a stream of research on work climates. The purpose of this chapter is to deal with some of the questions that arose during my dissertation process as well as expand on some ideas for future research.

During the course of the dissertation process, I was able to demonstrate that molar or global climates 1) exist in organizations, 2) can be distinguished from facet-specific climates, and 3) are related to important organizational outcomes. Then, I tested and developed a model to help organize and integrate the climate literature. I drew on the bandwidth-fidelity theory (Cronbach & Gleser, 1957) as a framework to understand which climates are most closely tied to different outcomes. In other words, many different outcomes have been examined in relation to different climates, but there had been no overarching model that tied them to global and specific climates in particular ways. In my dissertation, I found that, in general, there were consistent patterns that emerged.

However, in the process of doing my dissertation, additional issues have surfaced. There are many thought provoking questions that arise from this preliminary work on molar climates such as:

- What is the relationship between particular molar climates and facet-specific climates?

- At what level should molar climate be conceptualized?

- Is there a higher order factor for molar climate

- Is there a problem with the construct because the correlations between climate types are so high?

- Do molar climates really exist or are they just a broader facet-specific climate?

- Is there a better way to conceptualize all of the facet-specific climates?

Below I discuss some of my initial thoughts on these issues and present some of the post hoc findings from my data. Some of these results lay the groundwork for future research to expand on these initial findings and musings.

<u>Relationships Between a Particular Molar Climate and Facet-Specific Climate</u>

The integrated model of climate that was developed focused on the relationship between different climate types and different outcomes. The initial studies were only concerned with the general relationship between molar and facet-specific climates or whether facet-specific climates mediated the relationship between molar climate and specific outcomes in general. In my dissertation, I was able to find strong support that molar climate types are more strongly related to global outcomes and facet-specific climates are more strongly related to specific outcomes. I also found that, in general, molar climates drive facet-specific climates. In 9 of 16 cases, molar climate types were significantly related to the different facet-specific climates. Even though I did not hypothesize about the specific relationships between the molar climate types and facet-specific climates, I did not expect all of the molar climate types to predict all of the facet specific climate types. However, as part of this new integrated model, we should be able to examine the relationship between facet-specific climates and particular molar climates.

When I designed my dissertation, I tried to choose climates that I intuitively thought might be strongly related to each of the molar climate types. So for instance, I thought innovation climate would be strongly related to open-systems climate. Both of these focus on the encouragement of new ideas or processes to meet the needs of the organization or customers. I thought that training climate would be most related to human relations climate. On the surface

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both of these appeared to focus on helping employees and showing concern for them to do their jobs well. I thought that safety climate would be the most related to internal process climate. Both of these climates seemed to emphasize control of things (e.g., following specific safety policies) in the environment. Finally, I thought rational goal climate would be the most related to service climate. Both of these seemed to focus on certain types of output that are valuable, which allow for the organization to remain viable.

Although I expected each of the facet-specific climate types to be more strongly related to a particular molar climate type, I also anticipated them to be significantly related to the molar climate types that were adjacent to the primary molar climate type. Going back to the competing values framework (Quinn & Rohrbaugh, 1983), each molar climate type is comprised of two dimensions: either external or internal focus and a rigid or flexible structure (see Chapter 2 Figure 1). There is an overlap of one of the dimensions of each molar climate type with each of the adjacent climate types. Thus, intuitively it would make sense for the adjacent climate types to also be related to the facet-specific climate, but not as strong.

One next logical step would be to theorize about and examine the specific relationships between the molar climate types and a particular facet-specific climate type. Although, no specific predictions were made for the dissertation, we can speculate about some of these relationships post hoc with this data. I will not provide a theoretical rationale for each link, rather I speculate about these relationships based on the definitions of the climate types and where intuitively they seem to overlap. Unfortunately, when I examine the results from my current data, the results were not so clear cut. The results between the molar climates and facet-specific climates are discussed below. However, future research with new data will be needed to empirically test these relationships.

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Innovation Climate and Molar Climates

First, I examine the relationship between innovation climate and the molar climate types. Again, I thought innovation climate would have the strongest relationship with the molar climate type open-systems. If we look at the four molar climate types, internal process climate is opposite of open-systems climate with its internal focus and controlled structure. Logically, one could predict that of the four molar climate types, innovation climate would be the one that had the weakest relationship. We would expect innovation climate to be somewhat related to the adjacent climate types (human relations climate and rational goal climate), because they would cross over on one of the dimensions (either external focus or flexible structure). Looking at the path coefficients, as expected, open-systems had the strongest relationship with innovation climate (.32, $p<.01$), followed by human relations climate (.27, $p<.01$) and rational goal climate (.24, $p<.01$). Internal process climate was not significantly related to innovation climate. These results are as expected (.13, *n.s.*).

Training Climate and Molar Climates

I would expect training climate to have the strongest relationship with the human relations climate and the weakest relationship with rational goal climate. Further, I would expect training climate to be somewhat less related to open-systems climate and internal process climate (the climates adjacent to human relations climate). The results did not follow this pattern. Training climate was most strongly related to internal process climate (.51, $p<.01$), followed by rational goal climate (.25, $p<.05$). It was not significantly related to human relations climate (-.08, *n.s.*) or open-systems climate (.08, *n.s.*).

These unexpected results could be related to the measure used to assess training climate. If we examine the items (see Appendix B), they are mostly related to rewards for acquiring and

using new knowledge and skills. None of these items focus on the more 'warm-fuzzy' aspects of the human relations climate such as the training being for the development on the employee. It is easy to see how these items would be tied into the more procedures-oriented items of the internal process climate and rational goal climate. Training could be perceived as a structured, formal process, especially how these items are written. Thus, it could be that training climate, upon further reflection may truly be more related to internal process climate, or it could be that it is an artifact of the measure used. My guess is that training climate is more related to internal process climate; however, further research would be needed to empirically test this.

<center>Service Climate and Molar Climates</center>

I thought that service climate would be the most related to rational goal climate and would have the weakest relationship with human relations climate. The results indicate that service climate was most strongly related to internal process climate (.54, $p<.01$), followed by open-systems climate (.23, $p<.05$). It was not significantly related to human relations climate (.15, *n.s.*) or rational goal climate (-.04, *n.s.*). Interestingly, the two climates that are significant are adjacent to each other. These results seem to be contradictory and somewhat confusing.

One problem may lie in the items of the service climate measure (see Appendix B). Upon closer examination, these items are double-barreled, asking about both internal and external service in the same item. When I had originally thought about service climate, I had erroneously pictured service climate only as service towards external customers and stakeholders. Depending on how the items were answered, it could create different relationships with the molar climates. For instance, if a respondent were thinking about internal customer service, then there would be a stronger relationship with human relations climate. If they were thinking about external clients then there would be a stronger relationship with rational goal

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climate. What may have happened is they canceled each other out, leaving the adjacent factors being related to service climate, as expected.

Future research could tease apart the internal versus external focus of service climate. I would expect internal service to be most strongly related to human relations climate followed by internal process and open-systems climate. For external service, I would expect rational goal climate to have the strongest relationship with service climate, followed by internal process and open-systems climate. It would be interesting to see if the overall focus of the organization matters (i.e., whether the organization emphasizes internal service, external service, or both).

Safety Climate and Molar Climates

Finally, we have safety climate. I expected safety climate to be the most strongly related to internal process climate and the least to open systems climate. However, safety climate was most strongly related to rational goal climate (.18, $p<.01$), followed by internal process climate (.13, $p<.05$). It was not significantly related to human relations climate (.09, *n.s.*) or open-systems climate (.08, *n.s.*).

Again, this may be related to the items used to measure safety climate. The measure used for the safety climate really taps two dimensions. One of these focuses on management commitment to safety, while the other has a focus on worker involvement in safety activities. The items did not focus on the welfare of people. Rather one group of the items was more related to trying to improve safety and reacting quickly. These items seem to be related most to the rational goal climate, which is what the results indicate. The other set of items were more related to the actual following of rules which is more related to internal process climate, which is the second molar climate type that showed a significant relationship.

At first glance, the results of the relationship between molar climates and facet-specific climates were somewhat disappointing. However, upon closer examination, the results are quite promising. Future research is needed to theoretically hypothesize about and empirically test these different relationships.

<center>At What Level Should Molar Climate Be Conceptualized?</center>

Another potentially fascinating question is whether the level at which molar climate is conceptualized matters when theorizing, hypothesizing, and testing work climates. Climate research has been theorized about and tested at different levels within organizations such as unit-, department-, and organization-level (e.g., Colquitt et al., 2002; Zohar, 2000, Zohar & Luria, 2005). As with other climates, perceptions of molar climate should occur at any level of the social system (e.g., team, unit, department, organization).

In my dissertation, I chose to examine the relationship between molar and facet-specific climates at the department level. This allowed me to tease out the difference between facet-specific climates and molar climates while holding the issue of level constant. If the level had not been held constant, there could have been a possible confound between the level of climate and different types of climates. For example, it is possible that molar climates could be more equated to the organizational level and facet-specific outcomes to the department level. The molar climate types may be perceived by individuals as an organizational-level construct with the broad focus on more global outcomes for the organization as a whole. In turn, as departments differ some on their specific goals, different facet-specific climates may come more into play within different departments within organizations.

I have some data that indicates individuals perceive molar climates at both the department- and organization-level. When developing the measure, I examined whether

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individuals could distinguish between molar climates at the department and organizational level. I conducted a series of confirmatory factor analyses on the four department molar climate types (department human relations climate, department internal process climate, department open-systems climate, and department rational goal climate) and four organization molar climate types (organization human relations climate, organization internal process climate, organization open-systems climate, and organization rational goal climate). First, I assessed the fit of the theorized eight-factor model (human relations climate, open-systems climate, internal process climate, and rational goal climate at both the department and organizational levels). This analysis indicates the eight-factor model provides an acceptable fit to the data ($\chi^2 = 353.13$, $df = 1529$; RMSEA = .00, NFI = .96, CFI = 1.0). I compared this model to two alternative models. The first examined a two-factor model that combined the items for department and organization human relations climates, internal process climates, open-systems climates, rational goal climates ($\chi^2 = 435.59$ $df = 1580$; RMSEA = .00, NFI = .93, CFI = .96). Finally, I examined a one-factor model ($\chi^2 = 1595$, $df = 691.61$; RMSEA = .23, NFI = .70, CFI = .72). The eight-factor model is a significantly better fit than the two-factor model (χ^2 difference = 82.46, $df = 51$, p<.01) or the one-factor model (χ^2 difference = 338.48, $df = 66$, p<.01). The results indicate that individuals can distinguish between department- and organization-level molar climate types.

Although, there is preliminary evidence that molar climates exist at the department- and organization-level, it still may be that individuals see these molar climates as pertaining more to the organizational level and facet-specific climates as more pertinent to the department level. Consider the results from my dissertation. These results indicate that molar climate is more strongly related to global outcomes and the facet-specific climates are more strongly related to specific outcomes. Typically, the organization as a whole will have general or broad indicators

of organizational effectiveness made up of multiple specific goals. Again, this could imply that molar climate could be perceived more being more related to the organizational level and facet-specific climates to department or unit levels. Thus, future research should examine whether this is the case or not.

<center>Is There a Higher Order Factor for Molar Climate?</center>

Another question that arises is whether there is a second order factor for the molar climate types, one that suggests an overarching, general factor of molar climate. The climate literature is mixed on whether there is a higher order factor for global climate across both the psychological and organizational climate literatures. For instance, James and James (1989) suggest that there could be a general factor for *psychological* climate. James and James (1989) draw on the work of Locke (1976) and suggest that psychological climate is a manifestation of latent or psychological individual values. These values include desires for (a) clarity, harmony, and justice; (b) challenge, independence, and responsibility; (c) work facilitation, support, and recognition; and (d) warm and friendly social relations. They use these four values as the basis for four psychological climate (PC) factors. Each of the four PC factors reflects a cognitive appraisal of the degree to which the overall work environment is believed to be personally beneficial versus personally detrimental to the organizational well-being of the individual. In turn, they suggest that "'personal benefit versus personal detriment to organizational well-being' serves as a single, higher order, general factor [of psychological climate]." Their preliminary results suggest that a higher order factor could exist, but are not conclusive.

On the other hand, Patterson et al. (2005) developed and validated a multidimensional measure of *organizational* climate, using organizational values as a framework. They did not predict, nor find, a second order factor for organizational climate. They argued that the

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organizations would not emphasize each of the values equally and that understanding of organizations should be based on the relative emphasis given to each of the values.

With my new measure of molar climate, I did not predict a second-order factor. However, as the four molar climate types are highly correlated, post hoc I tested for the possibility of a second order factor. Indeed, when I examined the possibility of a second-order factor with the molar climate types, one was not found. Following in the thinking of Patterson et al., it was not expected that all values would be emphasized or equally emphasized within organizations. Employees experience control, flexibility, and internal and external focus in their organizations. It is the degree of emphasis and associated types of managerial practices, or how managers apply policies and procedures, which are reflected in the different molar climates. Thus, we would not expect that organizations would have a high degree of emphasis on every, or even most, molar climate types. Further, in organizations the climate types could be at odds with each other and could essentially cancel themselves out in a higher order factor. Thus, forcing organizations to have only one general molar climate would misrepresent their inherent span of activity and experience of those who work within the organizations.

Is There a Problem with the Construct Because the Correlations Between

Climate Types Are So High?

One potential concern that arose during my dissertation process relates to the high correlations between all of the different climate types. The correlations between the climate types range from .46-.76. However, empirically, there is strong support for the distinctiveness of the climate constructs, which can be tested by examining factor dimensionality. To empirically determine if constructs are distinct, researchers typically conduct a series of models using confirmatory factor analysis (CFA) can be examined. Following Chen, Gully, and Eden (2001),

I conducted a series of multilevel CFAs. For each of the four facet-specific climates, I compared the fit of six models: a five-factor model (the four molar climate types and the facet-specific climate are all viewed as distinct), four four-factor models (the correlation between the comparison factor and each of the molar climate types was set to 1), and a one-factor model (all four molar climates and the facet-specific climate are loaded onto a single factor). In all cases, the five-factor model provides an adequate and better fit to the data (see Chapter 2 Table 9). These results suggest that the climate types are distinct from each other. Further, when determining if a construct is distinct from another construct, researchers may also show that the constructs explain unique levels of variance in the outcomes of interest. Indeed, the results show that the climate types differentially predicted different outcomes.

There is also evidence in the literature that suggests that correlations this high can result in distinct constructs. First, correlations from constructs that are aggregated are typically .1-.2 higher than those at the individual-level (Kozlowski & Klein, 2000). When I examine the individual level correlations, these constructs are correlated at .29-.62. Second, there are other constructs in the literature that have been examined that are notorious for high correlations. For instance, the organizational justice literature studies procedural, distributive, and interactional justice as distinct constructs. When the last five years of top journals (i.e., *JAP*, *AMJ*, *OBHDP*, and *PPsych*) are examined, correlations between the justice constructs were consistently over .7 and as high as .88; over 20% were above .7. Together these lend further support that the climate types can be highly correlated, yet still be distinct constructs.

Do Molar Climates Really Exist or Are They Just a Facet-Specific Climate for Effectiveness?

Another important question that arose during my dissertation process is whether I am truly tapping into a molar climate or have developed yet another facet-specific climate. At this point, I believe that I am tapping into a broad, general climate.

The original global climate researchers sought to understand organizational effectiveness. In doing so, the early researchers focused on understanding motivational processes that exist in the work environment that help organizations become effective. For instance, Litwin and Stringer (1968) drew on the McClelland-Atkinson model of motivation (i.e., need for achievement, need for power, need for affiliation). However, this model (and other early models) focuses only on individual needs. Considerable research supports the notion that people care about their group's interest (Platow, Hoar, Reid, Haley, & Morrison, 1997).

This research indicates that people derive a part of themselves from the groups and organizations in which they work (Hogg & Terry, 2000). Social identity theory (Hogg & Abrams, 1988; Tajfel & Turner, 1985) holds that individuals classify themselves into social categories (e.g., groups or organizations) based on distinctions such as gender, religious affiliation, age, and organizational membership. Individuals identify with these groups in an attempt to enhance self-esteem, feel accepted, and meet the fundamental need to belong; all outcomes of the status resulting from an association with a particular group (Baemeister & Leary, 1995).

Values play an important role in this process, in that distinct group or organizational values serve to separate one group from another and provide a basis for a unique social identity (Ashforth & Mael, 1989). Essentially as individuals identify with a particular group, they engage in a process known as depersonalization, in which they view themselves as embodying the positive traits of the prototypic group member (Stets & Burke, 2000). They then adopt the

values of the group (Ashforth & Mael, 1989), act in accordance with these values, and match their own behavior to the standards of the group (Stets & Burke, 2000; Terry & Hogg, 1996). Therefore it is important to examine group or organizational values, rather than just individual values and needs.

Indeed, global values (such as those from the CVF) are used to set the priorities for the organization; these ultimately represent what are considered to be effective outcomes for the organization. These priorities of the management are integrated into organizational strategies, which are then incorporated into policies, procedures, and practices of the organization (Grojean, Resick, Dickson, & Smith, 2004). It is individuals' perceptions of these policies, procedures, and practices which constitute work climate. So while the focus could appear to be on organizational effectiveness, these global values really represent an overall focus of the organization, rather than a specific focus on effectiveness. Thus they should tap into the molar climate of organizations.

Further, previous attempts have been made to use values to represent a global climate. For instance, in the psychological literature, James & James (1989) suggest that psychological climate is a manifestation of latent or psychological individual values. These values include desires for (a) clarity, harmony, and justice; (b) challenge, independence, and responsibility; (c) work facilitation, support, and recognition; and (d) warm and friendly social relations. They used these four values as the basis for four psychological climate (PC) factors. The problem is that these values work nicely for psychological climate, but do not seem to tap into everything in for an organizational climate. These values would not include goals of the organization or how the organization relates to its external environment.

In my dissertation, I utilize a similar argument, but utilize general, global values of organizations to represent organizational climate. The competing value framework provides a nice framework us to do this. Indeed, these values have been shown to reflect the primary value orientations of most organizations (Kalliath, Bluedorn, & Gillespie, 1999). However, further research should explore whether the global values represented by the CVF are truly representative of all the global values that affect molar climate in organizations.

A secondary question arises as to whether molar climates will always be distinct from facet-specific climates. In specific industries or organizations there could be a special case where molar climates could highly overlap with a facet-specific climate. For instance, in a nuclear power plant, internal process climate may be highly correlated with safety climate because safety is so ingrained in everything that a nuclear power plant does. So in special cases, a facet-specific climate could be very correlated with a molar climate. However, in most cases molar climates are distinct from facet-specific climates with only some overlap.

Is There a Better Way to Conceptualize All of the Facet-Specific Climates?

Classifying Climates as Types of Motivation

A final issue that arose during my dissertation process was if there is a way to organize or conceptualize the types of facet-specific climates. In my dissertation, One possibility would be to try and come up with a typology or framework to classify the facet-specific climates. Patterson et al. (2005) attempt this by trying to use the competing values framework (CVF) as a way to organize important dimensions of climate. They drew upon the CVF to develop a 17-dimension measure of organizational climate. Their measure was designed to address a broad range of dimensions that are representative of organizational climate (e.g., involvement, innovation and flexibility, training), rather than a specific measure of molar climate. They use

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the four competing values as a framework by placing 17 climate dimensions that have been previously studied in the literature (e.g., training, innovation, efficiency) under one of the four competing values. Then, they created items to tap into each of these 17 dimensions and conducted validity testing. Their resulting measure is a measure of organizational climate that is designed for researchers to select specific organizational climate dimensions to use based on what facet-specific climate relates to what they are studying.

However, there are several facet-specific climates that have been shown to be important in the literature that are not included in their dimensions. For instance, they have no mention of any of the justice climates or ethical climate. Indeed, where would ethical climate fall in their framework? If we utilize Victor and Cullen's (1988) dimensions of ethical climate (instrumental (focus on furthering interests), caring (concern for well-being), independence (individual freedom and responsibility in the organizational setting), rules (focus on rules of the organization), and law and code (driven by formal laws or professional standards)), they all could not go under the same category. The caring dimension would probably go under the human relations quadrant, while the rules dimension would be a better fit under the internal process quadrant. Thus, while this topological framework is a good attempt at classifying organizational climates, it is still lacking, especially for climates that have multiple dimensions.

An alternative to this approach would be to classify types of climates based on their motivating properties. If we return to the original focus of the organizational climate literature, the focus was on understanding how work environments, or organizational climate, arouse motivation, which in turn affects behaviors and attitudes of individuals and organizational effectiveness. In their classic work on climates, Litwin and Stringer (1968) state that "[climate] is a molar construct which permits analysis of the determinants of motivated behavior in actual,

complex social situations…" (p. 29). However, their initial work also has some holes with its focus only on generic individual motivation. (They drew on the McClelland-Atkinson model of motivation (i.e., need for achievement, need for power, and need for affiliation.)) We need to focus on more than just individual motivations, but also examine motivations at a group or organizational level, as organizations have a social context. As Schein (1965) states "we cannot …look only to the individual's motivations or only to organizational conditions and practices. The two interact in a complex fashion…" (pp. 64-65).

One possibility would be to draw on the work of Katz & Kahn (1966) who discuss the psychological basis of organizational effectiveness. They identify four types of motivational patterns specifically in organizations which they believe can produce various types of required behaviors. These include legal compliance, instrumental satisfaction, self-expression, and internalized values. These four categories could be used as the basis of a framework to represent different foci of organizations that can tap into these motivations. In turn, these could be used to categorize the different facet specific climates based on the type of motivation they activate within individuals and groups. Thus, we could have four major categories of work climates based on these four motivational patterns. Below are my preliminary thoughts on how this might look. A caveat is necessary first - much more work would be needed to develop this idea (See Chapter 4 Figure 1).

<u>Policy focus</u>

The first type of focus for organizations relates to policy issues within the organization. This focus would tie into Katz and Kahn's (1966) legal compliance motivation. According to Katz and Kahn, legal compliance is one type of motivation for individuals that "secur[es] acceptance of role prescriptions and organizational controls on the basis of their legitimacy" (p.

341). This motivation taps into whether people accept the rules within the organization and if individuals will be compliant with the rules. They provide four conditions that are conducive to legal compliance: 1) use of recognized sources of authoritative legal compliance, 2) clarity of legal norms, 3) use of specific sanctions and penalties, and 4) threat to the individual's staying in the system (p. 348).

This focus would include facet-specific climates such ethical climate, the justice climates, and training climate. For instance, if individuals perceive high interactional justice (degree to which the people affected by decision are treated with politeness, dignity, and respect) and high procedural justice (the perceived fairness of the procedures and processes used in decision making about the distribution of outcomes) they will be more motivated to comply with the rules in the organization. Another climate that would fit into this category would be ethical climate, a multi-dimensional construct that identifies normative systems in an organization that guide decision-making and responses to ethical dilemmas. Victor and Cullen (1988) define ethical work climate as "the shared perceptions of what is ethically correct behavior and how ethical issues should be handled" (1988; pp. 51-52). Thus ethical climate serves to focus individuals' attention on particular aspects of the environment, making certain events and issues more salient. In doing so, it shapes an individual's thinking about what is important to the organization and the appropriate ways to act.

Involvement focus

The second type of focus relates to organizational involvement or support. This focus would tie into Katz and Kahn's (1966) motivational pattern of instrumental satisfaction. This motivation relates to rewards and identifying with and seeking approval from leaders and coworkers. The rewards that they describe are tied into social systems. These rewards can be

rewards such as pay increases, promotions, or social recognition. A major component of this is approval from supervisors, which research shows can be seen as surrogates of the organization. Katz and Kahn (1966) provide four conditions that are conductive to instrumental satisfaction: 1) citizenship meaning of membership in an organization, 2) rewards for approval and support, 3) amount of reward, 4) immediacy of reward, and 5) constancy of reward. (pp. 353, 357, 361)

There are not as many facet-specific climates that fit all of the characteristics of this category. However, it could include climates such as an organizational support climate, employee participation climate, OCB climate, and political climate. These climates would tap into what it means to be a part of the organization, how individuals relate to each other within the organization, and the support that individuals feel from the organization.

Development focus

The third type of focus relates to development of the organization or individuals. Katz and Kahn (1966) describe a third type of motivational pattern of self-expression. They define this as "the satisfaction from accomplishments and the expressions of talents and abilities" (p. 341). Thus individuals derive a satisfaction from being able to perform their roles well and to excel. Conditions that affect the use of self expression include: 1) complexity and skill requirements of the job, 2) responsibility and autonomy of the job, and 3) other job alternatives (p. 363).

The climates that would fall into this category would include climates such as learning, training, and innovation climates. These climates would motivate individuals to perform well, seek out training to do better, and keep growing.

Core operations focus

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The final organizational focus would be on the specific tasks or strategies that the organization has, or an operations focus (e.g., a focus on specific goals such as safety or service). This coincides to Katz and Kahn's motivational pattern internalized values. This motivation is related to "the incorporation of organizational goals or subgoals as reflecting values or self-concept" (p. 341). They further talk about how the goals of the group become incorporated into the value system of individuals or part of themselves. In other words, individuals will exhibit behaviors related to these values and goals because it confirms their identity to the group. Katz and Kahn (1966) suggest five conditions that affect the internalization of organizational goals: 1) hazardous character of organizational goals, 2) organizational goals expressive of cultural values, 3) organizational leader as model, 4) sharing in organizational decisions, and 5) sharing in organizational rewards (p. 366).

Every organization, department, or team will have specific goals that they want to accomplish related to specific strategies. For instance, a customer service department within an organization would have a focus on service, or would seek to have a strong service climate. A nuclear power plant would have a focus on safety, or need a strong service climate.

<u>Preliminary evidence for the framework</u>

Of course more thought would need to be put into this type of a framework, but there is some merit in looking at a framework which ties into motivations of employees within organizations. With data that were collected during my dissertation process, preliminary testing can be performed on this framework. The results are promising and can explain some of the disparate results from my dissertation, without contradicting the competing values framework that was utilized to develop the operationalization of molar climate.

First, the four competing values can be linked to the four motivating factors of Katz and Kahn (1966) (See Figure 11). If we examine the items for the dimensions of molar climate (See Appendix B), they have face validity for being a global representation of these four motivations. Human relations climate would be a molar climate for involvement focus, with its focus on working relationships, commitment to employees, and support. The internal process climate would be a molar climate for the policy focus, with its focus on policies and procedures. The open-systems climate would be a molar climate for the development focus, with its focus on adapting change, need to meet new demands, and openness to change. Finally, the rational goal climate would be a molar climate for operations (strategic) focus. This quadrant has a focus on the importance of goals of the unit.

When I did my data collection, I collected data on several climates beyond what I needed for my dissertation. If we look at this data and the data from my dissertation results, we get some interesting preliminary findings. I have data for each of the four categories of motivation (see Figure 12), which I present below.

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Insert Figures 11 and 12 about here

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For instance, in the *involvement focus* dimension, I would predict that organizational support climate would be most strongly related to the human relations climate and it was. Further it was significantly related to the adjacent molar climate types (internal process climate and open-systems climate), but less so than to human relations climate, as expected.

I have data for four climates in the *policy focus* category. Here I would expect these climates to be most highly related to internal process climate. I found that procedural justice

climate, distributive justice climate, interactional justice climate, and training climate all were the most related to internal process climate. All three of the justice climates were also significantly related to adjacent human relations and rational goal climates, but to a lesser degree. Training climate was significantly related to the adjacent rational goal climate.

For the *development focus* dimension, I have data for one climate type. Here, innovation climate was most strongly related to open-systems climate, and significantly related, but less strongly to the adjacent molar climate types (rational goal and human relations climate).

Finally, I have data for two climates that I expected would fall into the *operations focus* dimension. Here safety climate is most strongly related to the rational goal climate, as expected. It was also significantly related to one adjacent climate, internal process climate. I thought service climate would be most highly related to rational goal climate, but it was significantly related to the two adjacent climates, open systems climate and internal process climate. However, as I discussed earlier, I believe this is related to the items. According to this framework I would expect internal service to fall under involvement focus and external service to fall under the operations focus. As both types of service were mixed in all of the items, the dominant category is canceled out. Future work would need to test these relationships separately.

Overall, this framework seems to have some promise. First, it ties into my preliminary work on molar climates. The four molar climate types fit nicely into this framework. Second, it appears to provide a way to link the facet-specific climate literatures, by organizing them into related categories. Finally, it returns to the roots of the organizational climate literature. There is a lot of insight that has been lost in the climate literature as the facet-specific climate literatures have become more popular. This type of model would draw upon this work and

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expand it further based on the new methods and knowledge that have been developed over the years.

Work Climates as a Continuum

Finally, it could be possible to think about the different work climates as a continuum from a narrow focus to a more broad focus. In other words, there would be no overall molar climate, rather the facet-specific climates would just differ in how narrow or broad their focus is. For instance diversity climate would have a more narrow focus. It entails a narrow, specific focus on diversity. Climates such as justice and ethics climate would be a little more broad with a more broad focus on policies and procedures. Finally, what I called molar climate could be called effectiveness climate and would be considered very broad.

Conclusion

In sum, my dissertation provides great fodder for future research to explore organizational work climates. It can be used as a spring board to bring back the study of molar climate as well as providing information on the facet-specific climates. In this chapter, I have discussed some of the major issues and thoughts that developed during my dissertation process, but there are many more fruitful avenues to explore.

Involvement Focus – Instrumental Satisfaction Motivation • Human relations climate (molar climate) • Organizational support climate • Participative climate • Employee involvement climate • Diversity climate • Sexual harassment climate	**Development Focus – Self-Expression Motivation** • Open systems climate (molar climate) • Innovation climate • Learning climate • Creativity climate • Achievement climate
Policy Focus – Legal Compliance Motivation • Internal process climate (molar climate) • Distributive justice climate • Procedural justice climate • Interactional justice climate • Ethical climate • Training climate	**Operations (Strategic) Focus – Internalized Values Motivation** • Rational goal climate (molar climate) • Safety climate • Service climate

Figure 11

How different climates relate to the four foci and motivations within organizations

Involvement Focus – Instrumental Satisfaction Motivation • Organizational support climate • Political climate	**Development Focus – Self-Expression Motivation** • Innovation climate
Policy Focus – Legal Compliance Motivation • Distributive justice climate • Procedural justice climate • Interactional justice climate • Training climate • Service climate	**Operations (Strategic) Focus – Internalized Values Motivation** • Safety climate

Figure 12

Preliminary results of dominant quadrants for climate types 1"

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APPENDIX A: REVIEW OF SPECIFIC TYPES OF WORK CLIMATE

Modeling Work Climate

There are two distinct streams of research in the field: global organizational climate and facet-specific climates. The facet-specific climate research can then be broken down into multiple sub-climates. Although the facet-specific climates often draw on the early work of the global organizational climate, these literatures have not been examined concurrently. Thus, in this section I will provide a broad overview of global organizational climate and then some of the major facet-specific climates, broken down by the type of climate. I provide a brief description of the climate types and how they have been measured. Following this I provide an analysis of the consequences, antecedents, and moderating or mediating effects of each climate type. There are summary tables in Appendix B that summarize the articles reviewed; these are broken down by the type of climate (see Tables 2-13).

Global Organizational Climate

Over the years, there have been several good reviews of the global organizational climate literature (e.g., Glick, 1985; Hellreiger & Slocum, 1974; James & Jones, 1974; Payne & Pugh, 1976, Reichers & Schneider, 1990). Thus, this section of the review will summarize the significant findings from the early literature and then focus mainly on research that has been conducted since 1990, as this is the date from the last review piece.

The reviews of the climate literature from the 1960's to 1990 reveal some trends in the global organizational climate literature. First, global organizational climate has been related to job attitudes, such as job satisfaction (Friedlander & Marguiles, 1969; Kaczka & Kirk, 1967; Litwin & Stringer, 1968; Pritchard & Karasick, 1973; Schnake, 1983; Schneider, 1975), absenteeism and turnover (Steel, Shane, & Kennedy, 1990), and commitment (DeCotiis & Summers, 1987). In addition, it has been related to psychological well-being (Cummings &

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DeCotiis, 1973). However, the few early global climate studies examining organizational global outcomes report weak relationships between global climate and global outcomes (Campbell, Dunnette, Lawler, & Weick, 1970; Friedlander & Greenberg, 1971; Hellriegel & Slocum, 1974; Kaczka & Kirk, 1967; Payne & Pugh, 1976; Schneider, 1975).

The remainder of this section focuses on studies from 1990 to 2006. It is difficult to compare and generalize across these studies because they have all been measured using different measures.

Global Organizational Climate a DV

Several studies have examined antecedents of global climate. However, due to the different dimensions used, keep in mind that it is difficult to generalize across these studies. A wide range of antecedents have been examined including, coherence, job control, training, feedback, fit issues, and genetics. Feldt, Kivimaki, Rantala, Tolvanen (2004) created a four-item climate measure to examine the relationships between sense of coherence (generalized orientation to the environment), organizational climate, and job control. Individuals' sense of coherence predicted favorable perceptions of global climate, but it did not predict job control.

Born & Mathieu (1996) developed a ten-item work-unit climate to examine how negative feedback would affect subsequent ratings of supervision and work-unit climate. They found that use of the feedback was related to work-unit climate and that there was an interaction between time and use of feedback. High use of feedback increased work-unit climate and low use decreased.

Ostroff and Rothausen (1997) investigated the role of employee tenure in the relationship between personal orientations of individuals and global climate. They developed a climate measure that had nine dimensions and found that tenure moderated the relationship between the

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fit of individuals and the climate in only four of the nine dimensions. In addition, the fit was better when they examined results at the aggregate level rather than the individual level. When they examined fit at the individual level, there was little fit between climates and personal orientation dimensions, however, at the aggregate level, five of the climate dimensions emerged. Previous researchers had shown mixed results when examining the relationship between individual-level personality variables and climate. These results show the importance of understanding the use of aggregated measures and specifying which is being used in studies.

Griffin and Mathieu (1997) examined global climate, leadership, and group processes across levels of a hierarchy. They used three scales from the Survey or Organizations (Taylor & Bower, 1972), communication flow, motivation index, and human resource planning and utilization, to measure climate. Perceptions of climate were similar across the levels, however, other the constructs were not consistent across the levels.

Moxnes and Eilertson (1991) examined the effects of management training programs on global climate (10 dimensions; enthusiasm, less conflict, able supervisors, able superiors, communicates about personal problems, open atmosphere, operator centered, well organized, eager to work, and satisfaction). They found that most process-oriented training programs did change the organizational climate, as perceived by supervisors, but in a negative direction. However, the authors suggest that this may have only been a perceptual change rather than a change in the environment.

Hershberger, Lichtenstein, and Knox (1994) assessed genetic and environmental influences on global climate. They used the Work Environment Scale (WES; Moos, 1981), but factored it into two dimensions (supportive climate and time pressure) to measure global climate.

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They found that genetics and the rearing environment influenced the supportive climate dimension, but not the time pressure dimension.

Global Organizational Climate as an IV

Many different consequences have been examined with global organizational climate. These consequences can be broken down into individual outcomes, both attitudes and behaviors, and global outcomes. Again, it is hard to generalize across these studies. I will first focus on global outcomes such as sales volume, administrative performance, and learning. Brown and Leigh (1996) examined the process by which psychological climate was related to job involvement, effort, and performance (achieving sales objectives, extent of technical knowledge, and administrative performance). They developed a measure that had six first-order factors (supportive management, clarity, contribution, recognition, and challenge) that loaded onto two second-order factors (psychological safety and meaningfulness). Their results show that the both psychological safety dimension and meaningful dimension are positively related to productivity, but that this relationship is mediated through job involvement and effort. Finally, Morrison and Brantner (1992) examined factors that affected learning in new positions. Using items from an existing Navy survey and look at global climate, in this case dimension of cooperative climate (leadership climate), they find that global climate has a positive relationship with position on the learning curve.

Next, global climate has been examined as to how relates to behaviors of individuals in the organization such as all types of withdrawal, injuries, and teamwork. Lehman and Simpson (1992) assessed the impact of job climate and personal factors on the relationship between substance use and job behaviors (psychological withdrawal (e.g., daydreaming, personal tasks at work, chatting excessively); physical withdrawal (e.g., leaving early, long breaks, sleeping on the

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job); antagonistic behaviors (arguing, spreading rumors, arguing with co-workers). They represented job climate with eight variables: faith in management, job involvement, job satisfaction, job tension, loyalty, organizational commitment, and perceived equity in pay. They found that job climate had the strongest relationship with positive behaviors and psychological withdrawal behaviors, and was also significantly related to physical withdrawal behaviors. Hemingway and Smith (1999) examined a model of stress in nurses where they examined the effects of stress on the relationship between global climate and withdrawal behaviors and injuries. They used the work pressure, autonomy, supervisor support and peer cohesion subscales of the Work Environment Scale (WES; Moos & Insel, 1974) as their climate dimensions. They found that the frequency of short-term absences and occupational injuries were not predicted by any of the climate dimensions, only turnover intentions were predicted. They found mixed support for the climate dimensions predicting stressors. Shadur, Kienzle, & Rodwell (1999) used three dimensions of the OCI (bureaucracy, innovation, and support; Wallach, 1983) to examine the relationship between global climate, affective attitudes (stress, commitment, and job satisfaction, and employee perceptions of involvement (communication, teamwork, and participation in decision making). They found that supportive climate and commitment predicted communication, teamwork, and decision making. However, the bureaucracy and innovation dimensions had no significant relationships with any of the employee perceptions of involvement.

Global climate has also been examined as a predictor of attitudes such as, satisfaction, commitment, perceptions of service quality, stress, and adjustment. Glisson and James (2002) examined the effect of climate, culture on work attitudes, service quality, and turnover. They used three scales of the Psychological Climate Questionnaire (James & Sells, 1981) for their

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measure of climate. They found that global climate was related to individual-level job satisfaction, commitment, perceptions of service quality, and turnover. In addition, they suggest that climate and culture are different constructs. Ostroff (1993) examined the effects of climate and personal influences on individual attitudes (commitment, adjustment, stress, turnover intention) and behaviors (absenteeism, own job performance) in organizations. She had 12 dimensions to global climate: participation, cooperation, warmth, social rewards, growth, innovation, autonomy, intrinsic rewards, achievement, hierarchy, structure, and extrinsic rewards. Ostroff found that climate was related to attitudes and behaviors, especially for satisfaction and attitudinal commitment, but there were no significant interactions between personal orientation and job climate for any of the outcomes.

Lastly, one study examines biographical factors. Gunter and Furnham (1996) examined the effects of global climate and biographical factors on job satisfaction and pride. They use a categorical typology of climate of 14 categories (Furnham, 1991), where respondents are asked items under broad headings such as how important and challenging is your job and how clearly defined is your job. Overall, they found that the climate factors were more consistent and powerful predictors of job satisfaction and organizational pride than biographical factors.

Global Organizational Climate as a Moderator

Only one study reviewed examined the moderating effects of global climate. Day & Bedeian (1991) examined the effects of global work climate (structure, responsibility, warmth-support, reward, pressure-standards, risk, accommodation) and work orientation on job performance for accounting professionals. They found that overall climate moderated the relationship between work orientation and job performance, such that individuals in positive climates outperformed those in less positive climates regardless of work orientation level. This

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relationship held for three of the individual climate dimensions (warmth-support, reward, and accommodation).

Ethical Work Climate

There are different definitions of ethical work climate in the literature; however, most studies refer to Victor and Cullen's (1987, 1988) seminal work on ethical work climates. They define ethical work climate as "the shared perceptions of what is ethically correct behavior and how ethical issues should be handled" (1988: 51-52). Ethical climate is not whether the organization is ethical or not, but if there is shared understanding or agreement as to what is considered ethical within the organization and what is expected of organizational members when facing ethical dilemmas.

Ethical climate is considered to be a multi-dimensional construct that identifies normative systems in an organization that guide decision-making and responses to ethical dilemmas. Victor and Cullen identified nine theoretical climate types in their original study. These climate types were theorized to result from the focus of the ethical reasoning (individual-level, group-level, and societal-level) as well as three ethical criteria (egoism, benevolence and principle). However, only five climate types emerged in their initial study. They labeled these instrumental (focus on furthering interests), caring (concern for well-being), independence (individual freedom and responsibility in the organizational setting), rules (focus on rules of the organization), and law and code (driven by formal laws or professional standards). Although most ethical climate researchers agree that ethical climate is multidimensional, there is no consensus as to what these dimensions should be. In the literature there are anywhere from three (Wimbush, Shepard, & Markham, 1997) to nine (Peterson, 2002) dimensions of ethical climate with over 20 different ethical climate types discussed. There are several different measures that

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have been developed in the literature, but the most widely used is the ethical climate

questionnaire (ECQ) developed by Victor and Cullen (1988).

A point to keep in mind when reviewing the ethical climate literature is that most of the

ethical climate research has been conducted at the psychological climate-level, or in other words

the measures were not aggregated (see Schminke and colleagues (Neubaum, Mitchell, &

Schminke, 2004; Schminke, Ambrose, & Neubaum, 2005) and Cullen, Parboteeah, & Victor,

2003 for exceptions). However, almost all of these studies use the term organizational climate.

Ethical Work Climate as a DV

Ethical climate as a dependent variable has been examined related to the effects of

individual characteristics, specific firm characteristics, and cultural and regional affects. First,

research has focused more on specific characteristics of individuals, such as gender, age, and

education, using both lab and field studies. Luthar, Dibattista, and Gautschi (1997) found that

females had a higher expectation about what the ethical climate of an organization should be. In

addition, they found that older students were more cynical regarding ethical climate. Finally,

they found that the more education an individual had about business ethics the more they

expected to find an ethical climate in organizations. Forte (2004) also found a significant

relationship between age and perceived organizational ethical climate types, as well as a

relationship between management levels and ethical climate. However, she found no

relationship between gender and perceived ethical types or education and perceived ethical types.

In addition to demographic characteristics, researchers have examined moral reasoning

and moral development of individuals. Elm and Nichols (1993) examined the relationship

between a manager's level of moral reasoning and ethical climate but found no significant

relationships. Schminke et al. (2005) found that leader moral development affected the

organization's ethical climate and employee attitudes. Specifically, the relationship between moral development and ethical climate was moderated by the age of the organization and the extent to which the leader utilized his/her capacity for moral reasoning.

Specific firm characteristics, such as tenure, department type, type of organization, ethical codes, and age of the organization, have also been examined in relation to ethical climate. Victor and Cullen (1987, 1988) found differences in the ethical climate as a result of tenure level. Specifically, they found that caring climates were most likely prevalent when employees were more senior. Wimbush et al. (1997) found that distinct ethical climates predominated in the various departments, suggesting that the structure of a department impacts the formation of ethical climates. However, Weber conducted two studies on the type of departments in organizations (Weber, 1995, 2002) and found that ethical subclimates may be determined by the strength of an organization's overall ethical climate, rather than the department's function. They also found support that ethical subclimates are relatively stable over time. Research has also examined the differences between not-for-profit and for-profit organizations. For instance, Brower and Shrader (2000) found that boards of directors in not-for-profit organizations were more likely to describe their organizations' climate as having a benevolent climate, whereas boards of directors from for-profit firms tended to view their organization as having an egoistic climate. Wotruba, Chonoko, and Loe (2001) investigated the role of ethics code familiarity on manager behavior in the United States. The managers' assessment of ethical climate was positively related to the code's perceived usefulness. Finally, Neubaum et al. (2004) examined the impact of newness and entrepreneurial orientation on the ethical climate of firms. They found that firm newness was more strongly related to ethical climate than was an entrepreneurial orientation and that firm size was related to several types of ethical climates.

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Lastly, different cultural and regional effects on ethical work climate have been examined. Deshpande, George, and Joseph (2000) examined the prevalence of various ethical climates within a Russian organization. Their research suggests that societal forces such as community norms and national culture may impact the development of ethical climates in organizations. Bourne and Snead (1999) found regional differences in ethical climates, lending support to the notion that community norms may also impact the ethical climate in organizations.

<u>Ethical Work Climate as an IV</u>

Ethical climate research has mainly looked at outcome variables that are related to individual attitudes or variables specifically related to ethical outcomes. There has been no empirical research that specifically examines ethical climate related to organizational performance. However, researchers often elude to the fact that ethical climate affects organizational performance (e.g., Victor & Cullen, 1988).

Attitudes, such as job satisfaction, commitment, and turnover, of individuals are probably the most studied consequence of ethical work climate. However, the literature does not really explain how ethical climate affects job attitudes. Ethical climate has been shown to increase job satisfaction (Deshpande, 1996; Herndon et al., 1999; Koh & Boo, 2001; Schwepker, 2001; Sims & Keon, 1997). Organizational commitment has also been linked to ethical work climates (Cullen et al., 2003; Herndon, Ferrell, LeClair, & Ferrell, 1999; Schwepker, 2001; Sims & Kroeck, 1994). Sims and Kroeck (1994) and Sims and Keon (1997) found that the fit between an individual's values and organizational ethics were related to their turnover intentions. Finally, research has examined the perceived relationship between ethical organizations and financial performance. Research indicates that individuals perceive that there is a positive relationship

between ethical climate and being a successful organization (Deshpande, 1996). These results show strong support that ethical climates are related to employee attitudes.

The consequences of ethical work climate have also been examined on specific ethical outcomes, such as unethical and deviant behaviors. These studies include both field and lab studies and overall show strong support that ethical work climates are linked to unethical behaviors in organizations. For instance, Bartels, Harrick, Martell, and Strickland (1988) found that ethical climate was negatively related to ethical violations. Wimbush et al. (1998) found that caring climates and law and code climates were negatively related to stealing and lying behaviors. Further, instrumental climates were positively related to being an accomplice. In addition, Vardi (2001) found that ethical climates were negatively related to misbehavior in a non-western sample. Thus, the more positively viewed the organization is, the less reported misbehavior. Peterson (2002) found that organizational deviance was much lower in ethical caring climates. Finally, Schwepker, Ferrell, and Ingram (1997) found that when organizations had a high ethical climate, there was less conflict between employees and managers. Only one study reviewed, DeConinck and Lewis (1997), did not find a relationship between ethical climates and unethical behaviors. They found no relationship between sales managers' intentions to intervene once an unethical act had occurred and ethical climate. Thus, overall, there is strong support that ethical climates have an effect on misbehavior and unethical behaviors in organizations.

Ethical Work Climate as a Moderator

Ethical climate has also been examined as a moderator and mediator. Barnett and Vaicys (2000) showed that climates perceived as emphasizing social responsibility and rules/codes moderated the individual ethical judgment-behavioral intentions relationship such that

individuals were less likely to say that they would engage in a questionable selling practice, even when they themselves did not believe the practice to be unethical. Verbeke, Ouwerkerk, and Peelen's (1996) research suggests that ethical climate will affect ethical decision making in several ways. First, the longer individuals are with the organization, the more ethical the climate will be. Second, frequent communication within an organization will positively affect the organization's climate. Finally, ethical climate will be greater in the more behavior-control oriented organizations than for the more outcome-based oriented organizations.

Justice Climate

Relatively little research examines justice climate research compared to some of the other facet-specific climates; the first study being published less than ten years ago. There has been little empirical or theoretical work on the specific construct of justice climate. Justice climate researchers have generally drawn upon the previous climate work and applied it to justice climate. Justice climate is defined as a distinct group-level cognition about how a workgroup as a whole is treated (Naumann & Bennett, 2000). It is a molar description of the work environment "rather than a description of how a specific organization member treats another specific individual at work" (Dietz, Robinson, Folger, Baron, & Schulz, 2003: 319).

Justice climate researchers recognize multiple types of justice climates exist in organizations (distributive, procedural, interactional; Colquitt, et al., 2002). However, most research has focused on procedural justice climate (Colquitt, Noe, & Jackson, 2002; Dietz et al., 2003; Ehrhart, 2004; Mossholder, Bennett, & Martin, 1998; Naumann & Bennett, 2000, 2002) or procedural and interactional justice climates (Liao & Rupp, 2005; Simons & Roberson, 2003). Justice climate has been measured by adapting previously used justice measures such as Colquitt (2001) and Moorman (1991) to the group level.

<u>Justice Climate as a DV</u>

Few of the existing justice climate studies have examined justice climate as a dependent variable. The existing research looks at factors such as team size, team collectivism, and leadership. Colquitt et al. (2002) found that team size and team collectivism were significant predictors of justice climate level. More specifically, team collectivism was associated with more favorable climates and larger and more diverse teams were associated with less favorable procedural justice climates. Ehrhart (2004) examined the relationship between servant leadership and procedural justice climate. He found that when leaders exhibited characteristics of servant leaders, subordinates reported feeling that they were treated more fairly.

<u>Justice Climate as an IV</u>

Research on justice climate has examined the main effects of justice climate on a variety of outcomes. First, studies have looked at the effects of climate on job attitudes (job satisfaction, commitment, turnover intentions). Mossholder et al. (1998) found that procedural justice climate was positively related to job satisfaction. Liao and Rupp (2005) examined multiple justice climates by crossing three types of justice (procedural, informational, and interpersonal) with two foci (supervisor and organization). They found that supervisor-focused procedural justice and interpersonal justice predicted supervisory commitment, satisfaction, but supervisory informational justice was not related to any supervisory focused outcomes. Further they found that commitment had the highest number of significant results compared to satisfaction or citizenship behaviors.

Justice climate has also been examined on behavioral outcomes such organizational citizenship behaviors (OCBs), turnover, team performance, customer service and aggression. Naumann and Bennett (2000) found that group helping behavior mediates the relationship

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between procedural justice climate and perceived group performance (e.g., productivity, accuracy, dependability). Ehrhart (2004) further examined the effects of procedural justice climate on unit-level OCBs and found that when the collective team felt that they were treated fairly, they were more likely to exhibit OCBs. Liao and Rupp (2005) also examine OCBs. They found that organization-focused procedural justice climate predicted organizational commitment and OCBs and organization focused informational justice climate predicted OCBs. Colquitt et al. (2002) found a positive relationship between procedural justice climate and team performance and a negative relationship with team absenteeism. Simons and Roberson (2005) also examined the effects of procedural justice climate on group level outcomes (employee turnover and guest satisfaction), but also included interpersonal justice climate. They found that higher perceptions of justice climate translate to employee retention and enhanced customer service. Dietz et al. (2003) examined the impact of procedural justice climate on workplace aggression and found that it did not predict workplace aggression.

Finally, the affects of justice climate have been examined on business unit outcomes. Simons and Roberson (2003) examined the effects of collective procedural and interpersonal justice perceptions on organization-level outcomes (employee satisfaction and guest satisfaction). They found that these justice types had impact on organizational commitment, and ultimately turnover intentions and discretionary service behaviors at the individual and department level.

Justice Climate as a Mediator

Only one study reviewed examined justice climate as a mediator; justice climate as a mediator between servant leadership and unit-level OCBs. Ehrhart (2004) found mixed results in whether procedural justice climate mediated the relationship between servant leadership and

unit-level OCBs. He found that the strength of the relationship varied as to whether it fully or partially mediated the relationship.

<center>Innovation Climate and Creativity Climate</center>

Innovation climate has roots all the way back into the 1960s to Siegel and his colleagues (Colarelli & Siegel, 1966; Siegel & Kaemmerer, 1978). Creativity and innovation were linked by Siegel & Kaemmer (1978) when they investigated the climates of organizations that were innovative and found that a main factor was something they called support for creativity. Anderson and West (1998) also found that a factor similar to this was also predictive of innovation. Support for innovation (innovation climate) is defined as "the expectation, approval, and practical support of attempts to introduce new and improved ways of doing things" (Anderson & West, p. 240). Creativity climate has more of a focus on the work environment perceptions that can influence the creative work that is done in organizations (Amabile, Conti, Coon, Lazenby, & Herron, 1996).

There is no agreement in the literature as to how to measure an innovation climate or the dimensions that make up an innovation climate. Two of the more widely used measures are the Siegel Scale of Support for Innovation (SSSI) which has factors for support of creativity (Siegel & Kaemmer, 1978), tolerance of differences, and personal commitment and the Team Climate Inventory (TCI) with factors of participative safety, vision and group goals, support for innovation (Anderson & West, 1998). Creativity climate has been measured with the KEYS: Assessing the climate for creativity (previously called Work Environment Inventory; Amabile et al., 1996) and the Siegel scale.

Innovation and Creativity Climate as a DV

Not many studies have examined the antecedents of innovation or creativity climate. Van der Vegt, van de Vliert and Huang (2005) examined the relationship between demographic diversity, innovative climates, and power distance. They found that the benefits of demographic diversity seem to be culturally bound. They found a positive relationship between demographic diversity and innovation in low-power distance countries and for task-oriented diversity, whereas in high-power distance countries location-level tenure and functional background diversity were negatively related to the innovation climates. These results were only found for tenure and functional background, and not age and gender. Gilson and Shalley (2004) measured climate supportive of creativity and found that members of teams that were more engaged in creative processes reported higher team climate for supportive of creativity. Amabile et al. (1996) developed the KEYS to assess perceived stimulants and obstacles to creativity in organizational work settings. They found that high-creativity projects were rated higher on the scales proposed as stimulants to creativity and lower on the scales that were proposed as obstacles to creativity.

Innovation and Creativity Climate as an IV

The innovation climate research has focused on specific outcomes related to innovation, such as organizational innovation, HR innovation, implementation of ideas, and adoption of innovations. One study also has examined potential cultural differences. Jung, Chow, and Wu (2003) found that support for innovation was positively related to organizational innovation. Further, Clegg, Unsworth, Epitropaki, and Parker (2002) found that support for innovation predicts the actual implementation of ideas, not just innovation. Tannenbaum and Dupree-Bruno (1994) examine the effects of an innovation-supportive organizational climate on HR innovation. They found no effects of innovation-supportive climate on HR climate; however, they suggest

that HR departmental climate may be more related to day-to-day innovativeness within the department rather than the adoption of institutionalized innovations. One study has examined the effect of innovation climate on individual-level outcomes. Scott and Bruce (1994) found that support for innovation (innovative climate) was positively related to individual innovative behavior. Finally, Agrell and Gustafson (1994) examined possible cultural differences by examining the differences between Sweden and the United Kingdom. They find that there are some differences in the emphasis of the dimensions of innovation climate.

Innovation Climate and Creativity Climate as a Moderator

Only one study reviewed, studied creativity climate as a moderator. Amabile and Conti (1999) studied the effects of downsizing over time on the work environment for creativity. They found that creativity supporting aspects in the work environment declined during the downsizing, but increased moderately later. However, an opposite pattern was found for creativity-undermining aspects.

Innovation Climate and Creativity Climate as a Mediator

Innovative climate had one study reviewed that examined climate as a moderator. The Clegg et al. (2002) study also found that innovative climate perceptions mediated the relationship between leader-member exchange and innovative behavior, but not the relationship between role expectations or problem solving behaviors and innovative behaviors.

Climates Similar to Innovation and Creativity Climate

There are also a couple of other climates that have overlap with innovation and creativity climate: climate for initiative, psychological safety, and implementation climate. Baer & Frese (2003) focused on two specific climates that they suggest are part of the process of innovation: climate for initiative (formal and informal organizational practices and procedures guiding and

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supporting a proactive, self-starting, and persistent approach toward work) and psychological

safety (formal and informal organizational practices and procedures guiding and supporting open

and trustful interactions within the work environment). Climates for initiative and psychological

safety were positively related to firm performance. More specifically, they were related to

longitudinal change in return on assets and firm goal achievement. In addition, it moderated the

relationship between process innovations and firm performance. Klein, Conn, and Sorra (2001)

examine what they call implementation climate (importance of innovation implementation within

the organization). They found that financial resource availability and management support for

technology implementation lead to a strong implementation climate. This in turn leads to

implementation effectiveness.

<div align="center">Service Climate</div>

Service climate has different definitions in the literature; however, they are all somewhat

related. One of the most commonly used definitions refers to climate for service as employee

perceptions of the practices, procedures, and behaviors that get rewarded, supported, and

expected with regard to customer service and customer quality (Schneider, White, & Paul, 1998).

As with many of the other facet-specific climates, there is no agreement on how to measure

service climate or how many dimensions that represent service climate. Schneider et al. (1998)

seems to be the most widely used measure. They suggest that service climate has four

dimensions: global service climate, customer orientation, managerial practices, and customer

feedback. Borucki and Burke (1999) is another measure that has been used. They suggest that

service climate has two dimensions: concern for employees and concern for customers.

Service Climate as a DV

Only a few studies examined the antecedents of service climate. These studies looked at issues such as, organizational resources, values of owners, and targets of the service climate. Salanova, Agut, and Peiro (2005) found that employees who perceive that organizational resources such as training, autonomy, and technology, remove obstacles from work, feel more engaged in work, which in turn is related to a better service climate (i.e., work engagement mediates the relationship between organizational resources and service climate). Andrews and Rogelberg (2001) surveyed small business owners and found that, contrary to their expectations, owner service values and service climate were negatively correlated and other owner values such as innovation, aggressiveness, and decisiveness did not correlate with service climate. Borucki and Burke (1999) found that importance of service to management is positively related to service climate variables (concern for employees and concern for customers). Dietz, Pugh, and Wiley (2004) examined boundary conditions for service climate and found that the more relevant and proximal the target of the service climate the stronger the relationship was to service climate and customer attitudes. In addition, the greater the amount of contact between employees and customers moderated the relationship between service climate and customer attitudes.

Service Climate as an IV

The majority of the service climate studies have examined the effects of service climate on specific outcomes related to customers and service, such as customer satisfaction, customer loyalty, and customer perceptions of service quality. However, it is one of the few facet-specific climates that have examined organizational-level outcomes such as store financial performance. Salanova, Agut, and Peiro (2005) found that the relationship between service climate and customer loyalty is partially mediated by customers' appraisal employee performance. Further,

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they suggest that there is a potential reciprocal affect between service climate and customer loyalty. Liao and Chuang (2004) found that service climate is positively related to individual-level employee service performance. Gelade & Young (2005) examined the relationship between climate, employee attitudes, customer satisfaction, and sales performance. They found that bank branches with higher climate scores have higher customer satisfaction and stronger sales. Johnson (1996) examined the effects of service climate on different facets of customer satisfaction. He found that all of the service climate dimensions (service strategy, seeking information, evaluating service performance, service training and support, service rewards and recognition, service orientation and commitment, service systems, and policies and procedures) were related to at least one facet of customer satisfaction. Seeking and sharing information about customer needs and expectations, training and delivery quality service, and rewarding and recognizing excellent service were most highly related to satisfaction with service quality. Yoon, Beatty, and Suh (2001) found that service climate was directly related to job satisfaction and work effort and indirectly impacted customers' perceptions of employee service quality. Schneider, Wheeler, and Cox (2002) analyzed panel interviews and coded themes relations to service climate. They found the strongest correlates of service climate concerned things explicitly tied to service and human resource practices (e.g., soliciting and paying attention to customer opinions and having in place hiring procedures for staffing the unit). The one exception to service outcomes is Borucki and Burke (1999). They examined the effects of service climate variables (concern for employees and concern for customers) on sales personnel service performance and store financial performance. In general, they found that for face-to-face service encounters, concern for employees and concern for customers are predictive of sales personnel service performance and that, in turn, is predictive of store financial performance.

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Service Climate as a Moderator

Only one article reviewed examined service climate as a moderator; however, no significant results were found. Liao and Chuang (2004) examined service climate as a moderator between personality and employee service performance at the individual level, but again, found no significant results.

Service Climate as a Mediator

Schneider, Ehrhart, Mayer, Saltz, and Niles-Jolly (2005), look at the mediating effects of service climate between service leadership behavior and organizational citizenship behavior. They found that service leadership was significantly related to service climate; service climate to organizational citizenship behaviors; organizational citizenship behaviors to customer satisfaction; and finally customer satisfaction was related to sales. Schneider, Paul, and White (1998) examine foundational conditions (facilitation and inter-department service) as antecedents to service climate and, in turn, how this climate will affect customer perceptions of service quality. They found that foundation issues seem to provide a basis for a climate for service. Organizations that pay attention to their customers' expectations are more likely to create conditions yielding a climate for service. This yields behaviors that result in higher customer perceptions of service quality.

Climates Similar to Service Climate

Two additional climates reviewed were similar to service climate: self-managing team service climate and psychological climate for service friendliness. DeJong, deRuyter, and Lemmink (2004, 2005) look at self-managing team (SMT) service climate. They find that there is a positive relationship between tolerance of self-management, flexibility, and intra-team support and SMT service climate, but no relationship between team goal setting and SMT

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service climate. In addition, group-level intra-team support also added to the explanation of SMT service climate perceptions. Further they find that team tenure affects SMT service climate. As for specific outcomes, DeJong et al. found that self-managing team service climate had no impact on service productivity measures of response time failure and first time fixed rates. However, SMT service climate had a positive impact on customer perceived service quality and share of customer, and a negative effect on sales productivity. Tsai (2001) takes a more narrow approach to service climate and examines psychological climate for service friendliness (he adapted Schneider et al.'s (1998) global service measure to reflect service for friendliness). He found that there is a positive relationship between climate for service friendliness and employees' display of positive emotions.

Safety Climate

Safety climate is one of the first facet-specific climates studied. There are many different definitions of safety climate in the literature; however, most have some element suggesting that safety climate is a specific type of organizational climate that encompasses the shared perceptions of safety-related policies, procedures, and practices of a work group. There are some rumblings in the literature that safety climate may be industry specific. Safety climate has been studied as a psychological climate (individual perceptions) and as an organizational climate (aggregated individual perceptions).

There are many also many different measures of safety climate in the literature. According to Flin, Mearns, O'Connor, and Bryden (2000) there are at least 18 published measures of safety climate with multiple dimensions each (e.g., Mearns, Flin, Gordon, & Fleming, 1998; Niskanen, 1994; Williamson, Feyer, Cairns, & Biancaotti, 1997; Zohar, 1980; Zohar, 2002; Zohar & Luria, 2005). Zohar (1980) initially developed a measure of safety

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climate, which has since been modified by many researchers (e.g., Brown & Holmes, 1986; Dedobbeleer & BeLand, 1991), and appears to have been more widely used than other measures. Safety climate is also unique in that it has a specific measure for group-level safety and organizational safety climate (Zohar, 2000; Zohar & Luria, 2005). Zohar (2000) developed a measure specifically to test a group-level model of safety climate to supplement the existing organizational measures and found that safety climate perceptions can be distinguished at the group and organizational level. This measure examines patterns of supervisory safety practices or how procedures are implemented rather than a focus on policies and procedures.

Safety Climate as a DV

Only two studies reviewed examined the antecedents of safety climate. Dejoy, Schaffer, Wilson, Vandenberg, and Butts (2004) look at the factors that determine safety climate. They indicate that safety policies and programs had the largest observed correlation with safety climate, followed by communication and organizational support (both organizational climates). Cooper and Phillips (2004) indicate with their results that the relationship between safety climate perceptions and actual safety behavior may be more complex than previously modeled in that safety climate and does not always reflect behavioral safety performance and vice versa.

Safety Climate as an IV

Even though different measures of safety climate have been used, overall, research has shown that perceptions of safety climate are positively associated with safety compliance and negatively associated with safety incidents, such as accidents, near misses, and treatment errors, at the individual, group, and organizational level. Hofmann and Stetzer (1996) examined the effects of group-level safety climate on accident interpretation. They found that safety climate was associated with unsafe behaviors, such that teams that perceived higher safety climates

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reported fewer unsafe behaviors. In addition, safety climate was significantly associated with accidents over three years prior. Hofmann and Stetzer (1998) found individuals on teams with a positive safety climate and where there was communication about safety issues, made more internal attributions (e.g., were more willing to acknowledge that a fellow coworker was the cause of an accident). Griffin and Neal (2000) found support that safety climate is multidimensional and showed that the relationship between safety climate and performance outcomes such as safety compliance and safety participation was mediated by knowledge and motivation. Katz-Navon et al. (2005a, 2005b) also suggest safety climate is multidimensional and developed and examined the effects of four dimensions (safety procedures, safety information flow, perceived managerial safety practices, priority of safety), of safety climate as predictors of treatment errors in medical units. They also found that safety information flow had a negative effect on priority of safety and the managerial safety practices did not have a significant effect on priority of safety. Both of these suggest that safety procedures could be serving as a substitute to leadership in these areas.

Safety Climate as a Mediator

Safety climate has been examined as a mediator for different safety outcomes such as personal-safety orientation, safety incidences, and role overload. Zacharatos, Barling, and Iverson (2005) found that perceived safety climate mediated the relationship between high-performance work systems and both personal-safety orientation and safety incidences. Barling, Loughlin, and Kelloway (2002) found that safety specific transformational leadership and role overload was mediated by perceived safety climate. However, one study did not confirm the mediating role of safety climate. Dejoy et al. (2005) found that safety climate did not mediate various work situation factors and perceived safety at work rather safety climate had a direct effect.

<u>Safety Climate as a Moderator</u>

Several studies reviewed have examined safety climate in different ways as a moderator, most of these related to leadership. Zohar (2002a) examined the effects of leadership style, safety climate, and assigned safety priority on injury records. He found that safety priority assigned by superiors moderated the relationship between leadership style and safety climate. The type of leadership dimension affected the interaction such that the leadership dimensions that were associated with more concern for employees' welfare created higher safety climates, and thus safer behavior. Hofmann, Morgeson, and Gerras (2003) found that the relationship between leader-member exchange and safety citizenship role definitions was moderated by safety climate. High leader-member exchange relationships led to expanded safety citizenship when there was a positive safety climate, and no role expansion with less positive safety climates. Zohar (2002b) tested a leadership-based intervention model that looks at ongoing interaction between supervisors and subordinates to get safe behavior. His results show that supervisor interventions changed the safety-oriented interaction, which changed the safety climate scores. These results also show empirically that safety climate perceptions serve as informing behavior as to what is sanctioned on the job. Finally, Katz-Navon, Naveh, and Stern (2005a, 2005b) found a curvilinear relationship between safety procedures and treatment errors and that the perceived priority of safety moderated this relationship. In addition, it also moderated the relationship between the way employees interpreted their managers' safety practices and treatment errors. Probst (2004) was the only study reviewed that looked at safety climate as a moderator not related to leadership. He suggested that safety climate attenuates the negative effects of job insecurity (e.g., threat of layoffs) on safety knowledge, compliance,

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accidents, and injuries. In other words, the relationship between job insecurity and employee

safety outcomes is moderated by organizational safety climate.

<u>Multilevel Safety Climate</u>

Safety climate is unique from some of the other facet-specific climates in that researchers

are beginning to examine multilevel issues in this domain. Zohar and Luria (2005) actually

examine a multilevel model of climate that looks at both group and organization levels of safety

climate. Their results indicate that the effect of organization safety climate is fully mediated by

group safety climate. They suggest that individuals use both the formal procedures of the

organization as well as how the supervisor implements the procedures in determining safety

climate perceptions. Wallace, Popp, and Maersk (2006) examine more general climates they call

foundation climates (management-employee relations and organizational support) in relation to

safety climate. They found that these different climates have different effects on occupational

accidents; management-employee relations climate and organizational support climate had a

negative impact on occupational accidents. Thus, when employees perceived positive

relationships, there were fewer accidents. In addition, they found that safety climate fully

mediated the relationship between management-employee relations and accidents and

organizational support and accidents.

<center>Diversity Climate</center>

There is no single definition of diversity climate in the literature. There also does not

seem to be one single measure used to assess diversity climate. Researchers have mainly

adapted existing items from measures or developed items for a specific context. For instance,

Roberson and Stevens (2006) analyzed natural language accounts of individuals relating to

diversity incidents and classified these incident types into categories. One of the main categories

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that emerged was diversity climates. This included how individuals focused on organizational processes designed to increase the amount of diversity in the organization and the expectations of the prevailing diversity climate.

Diversity Climate as a DV

Only two studies reviewed have examined the antecedents of diversity climate and both of these looked at individual characteristics. Mayhew, Grunwald, and Dey (2006) identified factors that create a positive climate for diversity on campuses. They found that personal demographics, professional characteristics, department structural diversity, perceptions of department climate for diversity, perceptions of institution's commitment to diversity, and personal experiences with diversity all contributed to perceptions of campus climate for diversity. Kossek and Zonia (1993) found that gender, racioethnicity, and level were related to perceptions of diversity climate. Racioethnic minorities were less likely to believe that they had the same chance as white faculty of receiving equal support. Men reported that women had equal chances of receiving support, but women felt they had a lesser chance. Women indicated that they felt racioethnic minorities have lower chances than whites to receive support; however, this was moderated by race with racioethnic minority women believing there was a less chance than white women. Finally, when there were more women in a group, regardless of race or gender, all respondents were more likely to hold a more positive view towards the diversity climate. Overall, they found that specific identity group membership variables were more powerful than contextual variables in explaining diversity attitudes.

Diversity Climate as an IV

Only one study examined the consequences of diversity climate. Bachrach, Bamberger, and Vashdi (2005) examined the effects of unit support climate ("shared perception that that

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coworkers in a given work unit can be expected to provide both emotional and instrumental support"; p. 623). They found that shared perceptions of unit support had a positive effect on the relative prevalence of supportive relations with dissimilar peers. In addition, unit-level support climate moderated the relationship between proportion of racially dissimilar others in the work unit and prevalence of supportive relations with relatively dissimilar peers; homophily effects were weakened in units that had a higher unit-level support climate.

Climates Similar to Diversity Climate

An additional climate that falls under this main category is perceived climate for sexual minorities, which relates to whether the organization is affirming or nonaffirming of different sexual orientations. Chrobot-Mason, Button, and DiClementi (2002) examined different strategies employees that lesbian and gay use to manage a stigmatized sexual identity. They found that employees adopt an integrating strategy (reveal true sexual identity and attempts to manage the consequences) when they perceive and affirming organization.

Sexual Harassment Climate

Harned, Ormerod, Palmieri, Collinsworth, and Reed (2002) define sexual harassment organizational climate as "employees' perceptions of an organization's implementation of policies and procedures related to sexual harassment, the provision of resources for harassment victims, and the provision of sexual harassment training" (p. 176). Offermann and Malamut (2002) define harassment climate in a similar way, "whether harassment and associated behaviors, such as reporting incidents, are rewarded, punished, or ignored" (p. 885). Most of the measures used to assess sexual harassment climate have used items from existing measures such as the Department of Defense Sexual Harassment Scale (DoDSHS), Organizational Tolerance for Sexual Harassment (OTSHI), and the Navy Equal Opportunity/Sexual Harassment Survey

(NEOSH). The studies have examined both psychological and organizational climate and most have used some form of the military as their sample.

<u>Sexual Harassment Climate as an IV</u>

All of the papers reviewed examined the consequences of sexual harassment climates, such as actual sexual harassment, sexual assault, and coping strategies. Fitzgerald, Drasgow, Hulin, Gelfand, and Magley (1997) initially found that the perceptions that the organization tolerates sexual harassment (sexual harassment climate) were positively related to actual experiences of sexual harassment. Later, Harned et al. (2002) studied employees associated with the Department of Defense and found that the organization's sexual harassment climate was directly related to sexual harassment, but only indirectly related to sexual assault. The relationship to sexual assault was mediated by women's experiences of other types of sexual harassment. They suggest that the majority of sexual assaults occur off work premises, but the characteristics of the workplace are still indirectly associated with the characteristics of the organization. Offermann and Malamut (2002) found that leadership was a mediator of the relationship between climate and freedom to report in supervisory and unit leader harassment, but only a partial mediator of other leader harassment. They suggest that climate and leadership are linked, but separate. Malamut and Offermann (2001), trying to understand how individuals respond to harassment, examined a model with different coping strategies in response to sexual harassment. They found that the choice of coping strategies used by individuals is dependent on sexual harassment climate, occupational status, gender, harassment severity, and power differential. Finally, Culbertson and Rodgers (1997) tested a decision-making model that was deemed to be important in understanding the organizational effects of sexual harassment. They found that individuals' perceptions of sexual harassment climate can have a parallel effect on the

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experience/judgment of sexual harassment as well as on decisions that individuals make regarding the organization. In other words, the sexual harassment climate affected how individuals interpreted events as well as how individuals felt about the organization (e.g., how satisfied they were, if they would recommend it, and intentions to stay).

<center>Learning, Training, and Transfer Climate</center>

I put learning, training and transfer climate in one category, as they have considerable overlap. Learning climate is the perception of employees about how the organization either facilitates or hampers learning. In the organizational learning literature, organizational learning climate is portrayed as affecting the relationship between individual learning and organizational learning (Watkins & Marsick, 2003). Mikkelsen and Gronhaug's (1999) Learning Climate Questionnaire has nine factors. According to Schneider and Rentsch (1988), transfer climate is a "sense of imperative" that arises from person's perceptions of his or her work environment, and that influences the extent to which that person can use learned skills on the job. Holton, Bates, Seyler, and Carvalho (1997) developed a measure with nine dimensions to assess transfer climate. Tracey and Tews (2005) examine the construct validity of a training climate measure.

<u>Learning, Training and Transfer Climate as an IV</u>

Bennett, Lehman, and Forst (1999) developed a measure of total quality transfer climate, which they define as "employee perceptions of factors they identified as specifically helping or hurting work group use of training" (p. 193). They found that the total quality transfer climate significantly impacted employees' orientation toward customers; negative transfer climate hindered quality practices and positive climates helped. Smith-Jentsch, Salas, and Brannick (2001) found that perceptions of team training climate were better predictors of performance for those with a more external locus of control. Clark, Dobbins, and Ladd (1993) examined

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contextual factors such as group and supervisor transfer training climates on training motivation. They found that supervisor transfer training climate affected anticipated job utility; group transfer training climate was not significant.

Learning, Training and Transfer Climate as a Mediator and Moderator

Smith-Jentsch, Salas, and Brannick (2001) examined the effects of trainee characteristics, team leader support, and team transfer climate. They found that team transfer climate mediated the impact of support on performance and that those with a stronger predisposition toward the trained skill viewed their climate as more supportive. Finally, perceptions of team training climate were better predictors of performance for those with a more external locus of control. Lim and Morris (2006) also developed a single-dimension organizational climate measure of transfer of training and studied training effects over time. They found that there was a relationship between trainees' immediate needs for training before the training, satisfaction with training during and immediately after training, and transferable environment after the training through a positive organizational climate. Lance, Kavanagh, and Brink looked at retraining climate as a predictor of retraining success and as a moderator of the relationship between cross-job retraining time estimates and time to proficiency in new jobs. They found that only one climate dimension, situational constraints (not dimensions of organization support or supervisory support), predicted retraining success and moderated the predicted relationships.

Decision Making and Participative Climate

There were only a handful of studies that examined a decision making or participative climate and all had a different way to define and measure these climates. I will define the climates as I discuss each study. These climates have also been examined previously as

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dimensions of global work climate, creating some confusion. Finally, all of the studies reviewed were examined as psychological climate.

Decision Making and Participative Climate as a DV

Only one study reviewed looked participative climate as a dependent variable. Heaney, Price, and Rafferty (1995) examined organizational climate for participation and influence in decision-making, made up of a positive work team climate. Here they examine climate by looking at how organizations facilitate meaningful employee participation in decision-making processes. They found that a caregiver support program intervention improved work team climate by increasing perceived opportunities for participation in decision making, and increasing the perceptions that employees could make contributions to the decision-making process without being received negatively or harshly.

Decision-Making and Participative Climate as an IV

According to Heaney, Israel, Schurman, Baker, House, and Hugentobler (1993) a climate for participation taps into the extent of which managers and supervisors seek out suggestions on how to improve working conditions and the extent to which employee suggestions are adopted. They examined participative climate and found that involvement in a stress project enhanced employee participation in decision-making. However, involvement in the stress project enhanced employees' perceptions only in the organization with more cooperative industrial relations.

Tesluk, Vance, and Mathieu (1999) also examine participative climate. They define a participative climate as a climate that supports employee participation in work planning, decision making, and on-the-job problem solving. They examined this at both the unit and district level and found that unit and district participative climate was related to individual work attitudes and

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participation in employee involvement outcome variables. There was also a significant interaction between unit and district participative climates, indicating the importance of considering multiple levels within organizations. Individuals in high unit participative climates in districts with high participative climates were more likely to be involved in employee involvement activities. These interactions also predicted extrinsic job satisfaction and belief in the need for improvability of the organization. In addition, working in a participative district climate seems to buffer some of the negative effects of working in a nonparticipative unit.

Finally, Atwater (1995) examined managerial decision-making climate by assessing top management's perceptions of managerial decision making made up of two factors: an entrepreneurial, innovative, R& D emphasis in decision making and a preference for financing. He found that organizations that were more characterized by the entrepreneurial and innovative decision making position power were higher than those with less innovative decision making. He suggests that when supervisors have control over rewards and punishments, these might be used as motivational tools.

<div align="center">Political and Political Decision-Making Climate</div>

Darr and Johns (2004) define political climates as "shared intra departmental perceptions of politics in relation to various personnel and administrative decisions that are of some concern to faculty members affiliated with the department" (p. 171). Christiansen, Villanova, and Mikulay (1997) use political climate as "organizational members' perceptions regarding the modal use of different influence tactics" (p. 710). Due to multiple definitions of political climate, there is also no single measure of organizational politics; many studies have developed a measure specific for their study.

The political climate literature is also a little confusing. There are some researchers that label their work specifically as political climate. There are also some studies that elude to something that seems like political climate, but is not called such. These studies use the term organizational politics perceptions. These are not aggregated measures, but neither are the ones used in the political climate studies. Thus, these studies will be included because they seem to be measuring similar constructs.

Political and Political Decision-Making Climate as a DV

The effects of political climate has been studied on various outcomes. The majority of individual characteristics have not been significant. However, political climate has been related to job attitudes, and job-related behaviors. Ferris and Kacmar (1992) developed a measure of perceptions of organizational politics with three dimensions: supervisor political behavior, coworker clique behavior, and organization policies and practices. They found that feedback, job autonomy, skill variety, and opportunity for promotion contributed significantly to perceptions of organizational politics. Treadway, Adams, and Goodman (2005) examined the formation of political sub climates. They found that perceptions of politics are not different based on gender, race, age, or job title. They did find differences based on the relative socialization experiences of employees and the career stage of employees. Parker, Dipboye, and Jackson (1995) found that perceived intergroup cooperation, clarity of roles and responsibilities, and fairness of rewards were the most predictive of perceptions of politics. Employees perceived less politics when there were adequate career development opportunities, appropriate rewards and recognition, and there was good cooperation and collaboration across work units. They also examined personal characteristics, but only minority status predicted these perceptions; gender, education, occupational group, and age had no effect.

<u>Political and Political Decision-Making Climate as an IV</u>

There have been mixed results on the consequences of political climate. This may be related to the different operationalizations of political climate. Christiansen et al. (1997) found that in general political climate was related to attitudes of conflict, trust in management, and intention to turnover, but not to job satisfaction. However, this varied some by the dimension of political climate. Dimensions of reason and assertiveness were the ones most consistently related to work attitudes with strongest relationships being for trust in management and intraorganizational conflict perceptions. In general increased use of reason and ingratiation in political climate were related to positive work attitudes and coalition formation, assertiveness, upward appeals, and exchange were related to negative attitudes. In their study Parker et al. (1995) also examined consequences of perceived organizational politics. They looked at five outcome variables (senior management support, overall satisfaction, endorsements of positive organization values, perceived innovation, and loyalty), but perceptions of politics was only related to perceived innovation; the higher the perceived politics, the less the organization was seen as supportive of innovation. Contrary to these two studies, Ferris and Kacmar (1992) found that political perceptions were related to job satisfaction. Zhou and Ferris (1995) also examine three dimensions of organizational politics' perceptions (dominant group, reward practice, and coworker behavior) on different types of satisfaction (pay, promotion, supervision, coworker). They found that the different dimensions of perceived organizational politics were related to different outcome satisfactions. Gilmore, Ferris, Duleboun, and Harrel-Cook (1996) examined the moderating role of tenure with a supervisor on the relationship between perceptions of politics and attendance. They found that for lower tenure with supervisor, increases in perceptions of politics were associated with lower attendance, but there was no relationship with

higher tenure with supervisor. Ferris, Frink, Gilmore, and Kacmar (1994) tested the moderating effects of understanding on the relationship between organizational politics and job anxiety. They found that understanding moderates this relationship and essentially serves as an antidote for dysfunctional consequences. Finally, Darr and Johns (2004) examined the cross-level effects of politics. They did not find any significant results at the macro-level (rank heterogeneity). However, at the individual level departments with high levels of conflict also had highly political climates. Overall, there are mixed results as to the effects of political climate.

<div align="center">Climate for Achievement</div>

Climate for achievement is an example of one of the climates that has overlap between both facet-specific and global climates. It has been studied separately as a facet-specific climate, but the measure used to assess it is from the Job Climate Questionnaire (Fineman, 1975) which is a global climate measure. Climate for achievement has been shown to predict workers' attitudes and behavior at work, such as job satisfaction, organizational commitment, and work performance (Tziner, 1987). Tziner and Falbe (1990) examined boundary conditions of these relationships, such as technological skills and education level. They found that achievement motivation fit better with higher skilled employees than lower skilled employees. In addition, contrary to the literature, that lower level employees wanted more achievement factors in their jobs.

<div align="center">Miscellaneous Examples of Other Climate Types</div>

A host of other facet-specific climates that were represented in only one study in the journals reviewed. These include climates such as: Life insurance agency climate (Schneider & Snyder, 1975), administrative climate (Springer & Gable, 1980), communication climate (Dillard, Wigand, & Bostner, 1986), mechanistic and organic climates (Dickson, Resick, &

Hanges, 2006), citizenship behavior climate (Schneider, Gunnarson, & Niles-Jolly (1994), and trust climate (Deutsch-Salamon & Robinson, 2004).

Climate Strength

So far all of the articles reviewed have examined what is called climate level. Climate level refers to the mean value of individual perceptions of the climate reflecting relative priorities. For example when measuring a specific climate, respondents are asked to rate how they feel things work around their organization. These individual perceptions are then aggregated into scores reflecting climate level, by calculating the mean of the individual perceptions.

However, when studying work climates, researchers have found that in addition to a climate level, climates also have what is called strength. Climate strength refers to the degree of within-unit agreement among unit members' climate perceptions (Lindell & Brandt, 2000). As a result, departments with stronger climates will have less variation in their agreement regarding their perceptions of a specific climate. Therefore, a strong climate is one where there is high agreement regarding the specific climate perceptions. Climates may be strong or weak regardless of the climate level. Research has indicated that both climate level and climate strength are important for understanding organizational phenomenon.

In this section, I will provide a brief history of climate strength and issues related to it. Then I will provide a review of the studies that have examined climate strength. Climate strength has just recently been explored in the literature. Climate consensus, or climate strength, was eluded to early on (James and Jones, 1974; James, Demaree, & Wolf, 1984; Kozlowski & Hults, 1987), but not empirically tested until Lindell and Brandt (2000). This lack of earlier attention is related to the way that climate has been conceptualized and measured in the past

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using a consensus model, in which climate is viewed as the average perception of work unit members (Gonzalez-Roma, Peiro, & Tordera, 2002; Schneider et al., 2002). An underlying assumption of this perspective is that a high level of agreement must exist among unit members in order for the climate construct to be meaningful. However, this requirement for high agreement masks the potential importance of variation in unit members' perceptions of climate. That is, by limiting our examination of climate to settings in which most members agree, there is risk of overlooking important insights related to the causes and consequences of variation in those perceptions.

Fortunately, there are alternatives to the consensus model (Chan, 1988). One alternative Chan describes is the dispersion model. Dispersion models allow for individual-level constructs to combine through social interaction to become organizational or work group phenomenon. That is with dispersion models, the within-group variability is treated as a focal construct. As such, the variance of the lower level variables (e.g., individual perceptions of climate) becomes a meaningful group level construct (e.g., climate strength). Thus, within-group agreement is a measure of the higher-level construct of, in this case, department climate strength.

Recently there have been debates as to how to operationalize climate strength: use of the standard deviation or $r_{wg(j)}$ homogeneity statistic because of concerns surrounding this measure. According to Bliese (2000), the rectangular distribution of the r_{wg} is most frequently used and it overlooks the tendency to using only a restricted segment of the response range. Along with this, the r_{wg} statistic may overstate the degree of agreement and result in values greater than one. Most studies seem to be tending towards operationalizing climate strength as the sign-reversed standard deviation of employee perceptions of the climate (Harrison & Klein, forthcoming, Lindell and Brandt, 2000); Schneider et al., 2002). In this technique, climate strength is

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calculated by computing the standard deviation for the climate perceptions then, that value is reversed in sign, so that higher values represented higher levels of climate strength.

<u>Climate Strength as a Dependent Variable</u>

The studies on the antecedents of climate strength seem to fall into two of the types of categories: some increase the salience of cues in the environment and others increase the chances that people will interpret things similarly. There are five studies that would fall into this first category. Klein, Conn, Smith, and Sorra (2001) found that work interdependence was significantly related to within-group variability and that interaction among group members fosters similarity in group member's views. Gonzalez-Roma et al. (2002) found that leaders may serve as filters as they inform members as they found that the greater the unit leaders informing behavior, the greater the climate strength. Zohar and Luria (2004) also examined the effects of supervisors and found that supervisory safety practices predict safety climate level and strength is moderated by leadership quality. Specifically, they found that script orientation indicative of safety priority predicted climate level, whereas script simplicity and cross-situational variability predicted climate strength. Zohar and Luria (2005) look at climate strength in their multilevel study also. They found that organizational climate strength that resulted from procedural coherence predicted group-level safety climate strength and this relationship was moderated by routinization of work performed by the units. Finally, Dickson et al.(2006) found that climates that are clearly either mechanistic or organic have strong climates, with climates being weaker that are more ambiguous (curvilinear). Mechanistic organizations overall had the strongest climates. In addition, when there was value congruence between members, climates were stronger.

The second category of climate strength antecedents seems to affect the way individuals will interpret things similarly. Colquitt et al. (2002) team demographic diversity predicted justice climate strength and larger and more diverse teams were associated with weaker procedural justice climates. However, Klein et al. (2001) also looked at demographic diversity and found little support for demographic heterogeneity. Roberson (2006) used conversational data from teams and found that more intense interactions could heighten persuasiveness of communicated messages, increasing the likelihood and degree of social influence. This in turn creates stronger climates. Gonzalez-Roma et al. (2002) examined the antecedents of innovation climate strength. They found that work-unit social interaction had a significant positive relationship with climate strength. Finally, Lindell and Brandt (2000) hypothesize that external contextual variables will be significantly related to climate consensus and also internal structural variables. Six of the 45 contextual variables had significant correlations and 16 of the 90 internal structure variables had significant correlations. Overall data indicate that greater climate consensus is associated with more positive individuals and some organizational outcomes, but to a much lesser degree.

Climate Strength as a Moderator

Several researchers have examined the moderating affects of climate strength on a variety of relationships. Colquitt et al. (2002) found that justice climate strength moderated the relationship between team performance and absenteeism and procedural justice climate level. Gonzalez-Roma, et al. (2002) also examined moderating effects of climate strength. They found that climate strength moderates the relationship between innovation and work satisfaction and incremental organizational commitment. Schneider, Salvaggio, and Subirats (2002) found only one of the climate strengths for the four service climate scales, managerial practices, moderated

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the relationship between employee ratings of service climate and customer perceptions of service quality. Finally, Moliner, Martinez-Tur, Peiro, Ramos, & Cropanzano (2005) examined the relationship between predictability of burnout and with different types of justice climate strength. Only interactional justice climate strength moderated this relationship.

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APPENDIX B: SUMMARY CHARTS OF TYPES OF WORK CLIMATE

Table 14. Summary Chart of Global Organizational Work Climate.

Authors	Journal	Climate Measure	Dimensions of Organizational Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Born & Mathieu (1996)	Group & Organization Management	Perceived work environment scale	Work unit climate	Civilians and members of armed forces	MANOVA	feedback		Use of the feedback was related to work-unit climate and that there was an interaction between time and use of feedback. High use of feedback increased work-unit climate and low use decreased.
Brown and Leigh (1996)								Both psychological safety dimension and meaningful dimension are positively related to productivity, but that this relationship is mediated through job involvement and effort.
Day & Bedeian (1991)	Journal of Management	Organizational Climate Questionnaire (Litwin & Stringer,	Structure, responsibility, warmth-support, reward, pressure standards, risk.	Industrial government accountants	Hierarchical regression analysis	Personality	Job performance	Overall climate moderated the relationship between work orientation and

Authors	Journal	Climate Measure	Dimensions of Organizational Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
		1968)						job performance, such that individuals in positive climates outperformed those in less positive climates regardless of work orientation level. This relationship held for three of the individual climate dimensions (warmth-support, reward, and accommodation).
Feldt, Kivimaki, Rantala, Tolvanen (2004)	Journal of Occupational and Organizational Psychology	Developed own measure		Finnish Managers	SEM	Sense of coherence		Individuals' sense of coherence predicted favorable perceptions of organizational climate, but it did not predict job control.
Glisson and James (2002)	Journal of Organizational Behavior	Psychological Climate Questionnaire	Depersonalization, emotional exhaustion, role conflict	Case managers from juvenile justice	CFA, ICC, hierarchical linear modeling		Work attitudes, service quality, turnover	Organizational climate was related to individual-level job satisfaction, commitment,

Authors	Journal	Climate Measure	Dimensions of Organizational Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								perceptions of service quality, and turnover. In addition, they suggest that climate and culture are different constructs.
Griffin and Mathieu (1997)	Journal of Organizational Behavior	Survey of Organizations	Communication flow, motivation index, human resources planning and utilization	Navy Officers	Structural modeling	Leadership, group processes	Hierarchical levels	Perceptions of climate were similar across the levels of a hierarchy, however, other the constructs were not consistent across the levels.
Gunter and Furnham (1996)								climate factors were more consistent and powerful predictors of job satisfaction and organizational pride than biographical factors.
Hemingway and Smith (1999)	Journal of Occupational and Organizational Psychology	Work Environment Scale (WES, Moos & Insel, 1974)	Work pressure, autonomy, peer cohesion, supervisor support	RNs in hospitals	regression		Occupational stressors (role ambiguity, role conflict, workload, death & dying)	Frequency of short-term absences and occupational injuries were not predicted by any

Authors	Journal	Climate Measure	Dimensions of Organizational Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								of the climate dimensions, only turnover intentions were predicted. They found mixed support for the climate dimensions predicting stressors.
Hershberger, Lichtenstein, and Knox (1994)	Journal of Applied Psychology	Work Environment Scale (WES: Moos, 1981)	Involvement, Peer cohesion, supervisor support	twins	modeling	Genetic factors		Genetics and the rearing environment influenced the supportive climate dimension, but not the time pressure dimension.
Lehman and Simpson (1992)	Journal of Applied Psychology	Lodahl & Kejner, 1965; Wess et al., 1967; Kahn et al., 1964; Cook & Wall, 1980; Shephard, 1972	Faith in management, job satisfaction, job tension, loyalty, organizational commitment, power, control of job situation	Municipal employees in large southwestern US city	Hierarchical regression		Withdrawal behaviors (psychological and physical)	Job climate had the strongest relationship with positive behaviors and psychological withdrawal behaviors, and was also significantly related to physical withdrawal

Authors	Journal	Climate Measure	Dimensions of Organizational Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								behaviors.
Morrison and Brantner (1992)	Journal of Applied Psychology	Own items	Leadership climate	Surface warfare officers	Path analysis		Role clarity, job significance	Organizational climate has a positive relationship with position on the learning curve.
Moxnes and Eilertson (1991)	Journal of Organizational Behavior	Own measure	Enthusiasm, less conflict, able supervisors, communication about personal problems, open atmosphere, operator centered, well organized, eager to work, satisfaction	First line supervisors	MANOVA	Skill training		Management training had small effects on organizational climate. The here and now MT program negatively affected interpersonal conflicts and supervisory skills.
Ostroff (1993)	Group & Organization Management	NASSP climate survery (Kelley et al., 1986; Litwin & Stringer, 1968; Schnake, 1983; Hage & Aiken, 1967)	Participation, cooperation, warmth, growth, innovation, autonomy, achievement, hierarchy, and structure	Teachers in secondary schools	congruence		Organizational effectiveness	Climate was related to attitudes and behaviors, especially for satisfaction and attitudinal commitment, but there were no significant interactions between personal orientation and job climate for

Authors	Journal	Climate Measure	Dimensions of Organizational Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								any of the outcomes.
Ostroff and Rothausen (1997)	Journal of Occupational and Organizational Psychology	NASSP climate survery (Kelley et al., 1986; Litwin & Stringer, 1968; Schnake, 1983; Hage & Aiken, 1967)	Participation, cooperation, warmth, growth, innovation, autonomy, achievement, hierarchy, and structure	Secondary teachers	Hierarchical moderated regressions, correlational	tenure		Tenure moderated the relationship between the fit of individuals and the climate in only four of the nine dimensions. In addition, the fit was better when they examined results at the aggregate level rather than the individual level. When they examined fit at the individual level, there was little fit between climates and personal orientation dimensions, however, at the aggregate level, five of the climate dimensions emerged.
Shadur, Kienzle, &	Group & Organization	OCI (Wallach 1983)	Bureaucracy, innovation,	Information technology	Hierarchical regression		Perceptions of participation in	Supportive climate and

Authors	Journal	Climate Measure	Dimensions of Organizational Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Rodwell (1999)	Management		support	company			decision making, teamwork and communication	commitment predicted communication, teamwork, and decision making. Bureaucracy and innovation dimensions had no significant relationships with any of the employee perceptions of involvement.

Table 15. Summary Table of Ethical Work Climate Research

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Agarwal & Malloy (1999)	Journal of Business Ethics	ECQ (36 items)	(5) Individual caring, Machiavellianism, Independence, Social caring, Law and code	Field study (Canadian members of a provincial sport federation)	EFA and CFA			Two climates emerged from the benevolent ethical criteria (caring and social caring) and this is contradictory to Victor and Cullen. The dimensions were also polarized concerning the individual and cosmopolitan loci of analyses, such that there appears to be an absence of perceptions of ethical climate relating to the organization itself.
Aquino (1998)	Journal of Conflict Management	NA	NA	Lab (Undergraduates)	ANOVA	NA	Deception	
Babin, Boles, & Robin (2000)	Journal of the Academy of Marketing Science	Own Measure (21 items, marketing-specific)	Trust, Ethicalness of Peers, Perceived Consequences, Selling Practices	Field, (Marketing Employees)	CFA	NA	Job Satisfaction, Role Conflict, Role Ambiguity	

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Barnett and Vaicys (2000)	Journal of Business Ethics	ECQ (36 items)	Self interest, Team/Friendship, Social responsibility, Rules/codes	Field (American Marketing Association Members)	Factor analysis, Hierarchical regression		Behavioral intentions of selling practice	Ethical climate did not directly affect behavioral intentions about a questionable selling practice. Climates perceived as emphasizing social responsibility and rules/codes moderated the individual judgment and behavioral intentions relationship such that individuals were less likely to say that they would engage in a questionable selling practice even when they did they did not believe the practice unethical. They were somewhat more likely to form intentions consistent with

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								their judgments that the questionable practice was morally acceptable when the ethical climate was characterized by an emphasis on friendship.
Bartels, Harrick, Martell, & Strickland (1998)	Journal of Business Ethics	Own Measure (7 items)	(1)	Field (SHRM members)	Correlational	NA	Ethical Violations/ Dealing with Violations	There was a negative correlation between ethical climate and the severity of ethical problems within organizations. Ethical climate scores were positively correlated with overall success scores. Organizations with stronger ethical climates were more likely to be successful in dealing with ethical problems.
Bourne &	Journal of	Own	(6)	Field (Fortune	Correlational	Community	NA	

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Snead (1999)	Business Ethics	Measure (36 items)	Cultural Environment, External Stakeholder, Employee Ethics, Ethical Conflict Situations, Determinants of Ethical Behavior	500 Employees)		Norms		
Brower & Shrader (2000)	Journal of Business Ethics	ECQ (used 25 of 26 items)	(3) Egoism, Benevolence, Principle	Field (Boards of Directors)	T-Tests, Correlational	NA	NA	Principle climate was related to combined p-score of moral response survey in not-for-profit, but not for-profit (when combined still related). Benevolence and egoism were not correlated. For-profit climates demonstrated higher levels of moral reasoning than not-for-profit directors. For-profit climates were higher in egoism than not-for-profit companies.

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Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								Not-for-profit companies had higher benevolence factors than profit-firms. Not-for-profit also had somewhat higher mean scores on principle factor.
Bucan (2005)	Journal of Business Ethics	ECQ instrumental climate items (7)	(1) Instrumental	Field (employees from public accounting firms)	PLS			Instrumental climate had the predicted negative influence on ethical intention, but was not significant.
Cullen, Parboteeah, & Victor (2003)	Journal of Business Ethics	ECQ (36 item and 26 items)	(3) Egoistic, Benevolent, Principle	Field (telephone company employees, accountants)	Multiple Regression, ICC(1)	NA	Commitment	Egoistic climate was negatively related to organizational commitment. Benevolent climate was positively related to organizational climate. A positive relationship between commitment

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								and principled climate was found only for professional workers. For professional workers, principled-individual had the stronger relationship with organizational commitment.
Cullen, Victor, & Bronson (1993)	Psychological Reports	ECQ (36 items)	(7) Self-Interest, Company Profit/Efficiency, Friendship/Team Interest, Social Responsibility, Personal Morality, Rules, Standard Operating Procedures, Laws, Professional Codes	Field (various organizational employees)	EFA	NA	NA	
DeConinck & Lewis (1997)	Journal of Business Ethics	ECQ (26 items)	(5) Caring, Law and Code, Rules, Instrumental,	Field (Sales Managers)	Hierarchical Regression	NA	Managers Intentions to Intervene	Perceived ethical climate was not a significant predictor to

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
			Independence					manager's intention to intervene when ethical and unethical sales force behavior was encountered.
Deshpande (1996a)	Journal of Business Ethics	ECQ (6 items)	(6) Professionalism, Caring, Rules, Instrumental, Efficiency, Independence	Field (Middle level managers of single non-profit charitable organization)	Correlational, Regression		Job Satisfaction	Professional climate was indicated the most, followed by rules, instrumental, caring, independence, and efficiency. None of the climate types significantly influenced satisfaction with pay; professional climate significantly influenced overall job satisfaction and satisfaction with promotions, supervisors and work; caring climate were more satisfied with their

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								supervisors; instrumental had significant negative influence on satisfaction with promotion, coworkers, supervisors and overall job satisfaction; rules, efficiency and independence did not significantly effect any facets of job satisfaction.
Deshpande (1996b)	Journal of Business Ethics	ECQ (6 items)	(6) Professionalism, Caring, Rules, Instrumental, Efficiency, Independence	Field (Middle level managers of single non-profit charitable organization)	Correlational, Regression	NA	Ethical optimism (link between ethics and business success	97% indicated presence of Professional climate. Besides independence climate, all dimensions were significantly correlated with ethical optimism scale. Perceptions of caring climate had strong positive link

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								between success and ethical behavior; perceptions of strong instrumental climate had negative link between success and ethical behavior; no other dimensions influenced ethical optimism scale.
Deshpande, George, & Joseph (2000)	Journal of Business Ethics	ECQ (6 items)	(6) Professionalism, Caring, Rules, Instrumental, Efficiency, Independence	Field (Russian Managers from state run educational and research institutions)	Correlational, Regression	NA	Ethical optimism (link between ethics and business success)	89% indicated presence of rules climate; lowest was independence climate at 45%. Besides independence climate, all dimensions were significantly correlated with ethical optimism scale. Perceptions of caring climate had strong positive link between success

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								and ethical behavior; perceptions of strong instrumental climate had negative link between success and ethical behavior; no other dimensions influenced ethical optimism scale.
Elm & Nichols (1993)	Journal of Business Ethics	ECQ (26 items)	(3) Egoism, Benevolence, Principle	Field (Middle Managers from Manufacturing Firms)	Hierarchical Regression, ANOVA	NA	NA	
Erondu, Sharland, & Okpara (2004)	Journal of Business Ethics	Own measure (? Items)	(9) (6) Self interest, Company profit, Friendship, Team interest, Personal morality, Rules and procedures, (3) Efficiency, Social responsibility, Law and professional codes	Field (2 samples of Nigerian bank employees)	CFA, regression			Self interest and company profit are significant predictors of the efficiency dimension. Only team interest is significant for social responsibility; friendship is not. The overall model of personal morality and rules &

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								procedures to law and professional codes is significant, but in the wrong direction.
Forte (2004)	Journal of Business Ethics	ECQ (? Items)	(5) Caring, Law and Code, Rule, Instrument, Independence	Field (managers and executives from variety of organizations)	Correlational, ANOVA, Regression	Age Management levels Gender tenure Education Industry	Moral reasoning ability of individuals	No significant relationship between ethical work climate types and moral reasoning of individual managers. No significant relationship between locus of control and perceived organizational ethical work climate types. Younger mean ages 44, 45, and 47 are associated with the more perceived ethical organizational climate types. No significant relationship between tenure and perceived

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								ethical climate types. The majority of both male and female respondents perceived their organizational ethical work climate type to be rule. The majority of executives and first-management respondents perceived their organizational climate as Rule. There was a significant relationship between management levels and perceived ethical climate type. No significant relationship between industry and perceived ethical climate types.
Fritzche (2000)	Journal of Business	ECQ (36 items, but	(6) Caring,	Field (Human Resource	Descriptive Statistics	NA	NA	Most respondents

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Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
	Ethics	only used 26 items when analyzed)	Laws and Codes, Efficiency, Rules, Independence, Company	Managers)				indicated that they would take an ethical path, with bribery being the exception. Only efficiency was close having about equal likelihood of ethical and unethical decisions for three of the four vignettes.
Herndon, Ferrell, LeClair, & Ferrell (1999)	Research in Marketing	ECQ (26 items	(1)	Field (Retail Employees)	SEM	NA	Job Satisfaction, Organizational Commitment	
Jaffe & Tsimerman (2005)	Journal of Business Ethics	ECQ (?items)	(6) Law and codes, Caring, Rules, Instrumental, Efficiency, Independence	Lab (Russian MBA students	Correlational and descriptives			Almost all of the respondents indicated the presence of Law and Code, Efficiency, and Independence climates; a majority indicated Rules and Instrumental behavior, half indicated a presence of caring.

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Joseph & Deshpande (1997)	Health Care Management Review	ECQ (36 items, some from ECQ and others added)	(6) Professionalism, Caring, Rules, Instrumental, Efficiency, Independence	Field (nurses)	Correlational	NA	Job Satisfaction	
Kelley & Dorsch (1991)	Journal of Personal Selling & Sales Management	ECQ (26 items)	(5) Caring, Law and Code, Rules, Instrumental, Independence	Field (Purchasing Executives)	Correlational	NA	Organizational Commitment	
Koh & Boo (2001)	Journal of Business Ethics	ECQ (12 items, adapted from ECQ and others)	(3) Egoism, Benevolence, Principle	Field (MBA Students)	Multiple Regression	NA	Job Satisfaction	
Luthar, DiBattista, & Gautschi (1997)	Journal of Business Ethics	No Measure	NA	Lab (Undergraduates)	ANOVA	Gender, Education Level, Ethics Education	NA	
Neubaum, Mitchell, & Schminke (2004)	Journal of Business Ethics	ECQ (26 items)	(5) Instrumental, Caring, Law and Code, Rule, Independence	Field (members of Center for Entrepreneurship and Center for Family Business)	OLS regression	Firm size Organizational newness Entrepreneurial organization		No support that stronger entrepreneurial orientation would be associated with stronger Instrumental and Independence climates. No support that a stronger entrepreneurial

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								orientation would be associated with weaker Caring, Rules, and Law and Code climates. Strong association between firm newness and Independence and Instrumental climates (new firms exhibited weaker Instrumental climates; independence related to firm newness). New firm status was marginally significantly related to weaker levels of Caring, Rules, and Law and Code climates. Firm age was marginally significantly related to Caring climate; significantly related to Law

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								and Code climate; and not related to Rules climate. Firm size and ethical climate; for Caring, Rules, and Law and Code smaller firms reflected stronger ethical climates.
Peterson (2002)	Journal of Business and Psychology	ECQ (36 item)	(7) Rules, Law, Employee Focus, Community Focus, Personal Ethics, Self Interest, Efficiency	Field (Business Professionals)	Logistic Regression	NA	Deviance	Deviant workplace behavior can be partially predicted from EWC. Clearest relationship between Political deviance and employee focus dimension. Property deviance was predicted from Rule and Law dimensions. Personal ethics, self-interest, and employee focus dimensions predicted Production

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								deviance. Personal aggression had least consistent results. One behavior no predictors, one by Law and Employee focus and one by personal ethics.
Ross & Robertson (2000)	Business Ethics Quarterly	Own Measure (9 items)	(1)	Field Experiment (Sales managers and sales people)	ANCOVA, Least Squares Means, Conjoint Measurement			The weaker the climate, the more likely high Machiavellians will act unethical (lie). The stronger the ethical climate, the less likely high self monitors (process of self-observation and self control guided by situational cues to social appropriateness) will act unethically (lie).
Schminke, Ambrose, & Neubaum (2005)	Organizational Behavior Human Decision Processes	ECQ (26 items, but used 16 items)	(5) Instrumental, Law and Code, Rules, Independence,	Field (CEOs of organizations participating with colleges of businesses of two	OLS regression, polynomial regression and response			Four of the five climate types (instrumental, law & code, rules and

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Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
			Instrumental	universities)	surface methodology			independence) had a significant interaction between leader moral development and leader utilizer score. All of the five ethical climate types had a significant interaction between leader moral development and company age.
Schwepker (2001)	Journal of Business Research	Own Measure (7 items)	(1)	Field (Salespeople)	Hierarchical Regression	NA	Job Satisfaction, Organizational Commitment	
Schwepker, Ferrell, & Ingram (1997)	Journal of the Academy of Marketing Science	Own Measure (7 items)	(1)	Field (Salespeople)	Path Model	NA	Ethical Conflict	
Sims & Keon (1997)	Journal of Business Ethics	ECQ (15 items)	(5) Instrumental, Caring, Law and Code, Rules, Independence	Lab (MBA Students)	Correlational	NA	Job Satisfaction, Organizational Commitment	As the moral development scales increased, the reported preference for an instrumental work climate decreased. With the

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								exception of the caring climate, positive correlations exist between displayed climates and preferences. Organizational ethics and values tend to be related to employees' level of satisfaction and their expressed intention to leave.
Sims & Kroeck (1994)	Journal of Business Ethics	ECQ (15 items)	(5) Instrumental, Caring, Law and Code, Rules, Independence	Field (Hospital Employees)	Correlational	NA	Organizational Commitment	
Trevino, Butterfield, McCabe (1998)	Business Ethics Quarterly	ECQ (36 items)	(7) Rules, Law, Employee Focus, Community Focus, Personal Ethics, Self Interest, Efficiency	Field (Alumni)	Correlational, factor analysis, usefulness analysis	NA	NA	10 ethical context factors derived from an ethical climate and an ethical culture measure; none of the resulting factors combined items from both scales. This

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								provides some evidence that they are separate constructs; however, they are highly correlated. A climate for self-interest was associated with unethical behaviors in code and non-code organizations, but more so for non-code settings. They find different contextual influences between code and non-code organizations.
Upchurch & Ruhland (1996)	Journal of Business Ethics	ECQ (26 items)	(3) Egoism, Benevolence, Principle	Field (Lodging Managers)	ANOVA	Locus of analysis	NA	All three ethical climates are present in lodging properties, but benevolence is the predominant ethical climate type. All three levels of analysis are

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								present, but the local level of analysis is the predominant type used for applying ethical criteria to organizational decisions. No differences in mean responses on ethical climate type for gender, management experience, education level. Property classification had an overall effect on EWC.
Vaicys, Barnett, & Brown (1996)	Psychological Reports	ECQ (36 items)	(6) Team Spirit, Rules and Codes, Social Responsibility, Self-interest, Efficiency, Personal Morality	Field (Marketers)	EFA	NA	NA	
Vardi (2001)	Journal of Business Ethics	ECQ (26 items)	(3) Rules, Instrumental, Independence	Field (Manufacturing Employees)	T-Tests	NA	Organizational Misbehavior	Significant negative correlations between organizational misbehavior and

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								organizational climate and two ethical climate sub scales (reward climate and support climate). Thus the more positively the organization is viewed the less the reported misbehavior. A significant difference in the perception of organizational climate between managers and workers; however, there was no difference between organizational misbehavior score between managers and rank and file employees.
Verbeke, Ouwerkerk, & Peelen (1996)	Journal of Business Ethics	Ruch and Newstrom (1975)	(1)	Field (Sales managers)	Path analysis	Career orientation Control system	Ethical decision making Machiavellism	Ethical climate positively affected ethical decision making. Internal

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								communication and climate was not significant. Ethical climate had effect on presence of machs in the company.
Victor & Cullen (1987)	Research in Corporate Social Performance and Policy	ECQ (36 items)	(6) Professional, Caring, Rules, Instrumental, Efficiency, Independence	Field (Employed Students, Faculty, Military, Trucking Managers)	Discriminant Analysis	NA	NA	
Victor & Cullen (1988)	Administrative Science Quarterly	ECQ (36 items)	(5) Caring, Law and Code, Rules, Instrumental, Independence	Field (Small Printing Company, Savings and Loan, Manufacturing Plant, Telephone Company Employees)	MANOVA, Correlational	NA	NA	
Weber (1995)	Organizational Science	ECQ (26 items, used a ranking rather than rating system)	(5) Caring, Law and Code, Rules, Instrumental, Independence/ (3) Egoism, Benevolence, Principle/ (3)	Field (Financial Institution Employees)	ANOVA	Department Type	NA	Boundary spanning departments predominantly manifest a law and code climate; caring climate more reflective of buffer departments; technical

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
			Individual, Local, Cosmopolitan					department has instrumental climate.
Weber & Seger (2002)	Journal of Business Ethics	ECQ (revised but 26 items)	(5) Instrumental, Caring, Independence, Rules, Law and Code,	Field (large steel manufacturer)	MANOVA			Ethical subclimates are relatively stable over time. Differences may exist across industries. Ethical subclimates may be determined more by the organization's overall ethical climate rather than the departments' function.
Wimbush, Shepard, & Markham (1997a)	Journal of Business Ethics	ECQ (36 items)	(4) Laws and Rules, Independence, Instrumental, Service	Field (Retail Employees)	ANOVA, CFA	NA	NA	Three of the five ethical climate dimensions (laws and rules, independence, and instrumental) and additional one they label service. No significant differences between the three

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								organizational units with respect to instrumental climate. The mean score for law and codes was highest for credit centers (as expected), but smaller for central office than stores. Law and rules was most prevalent climate for credit centers, but not for central office. Thus, only partial support can be claimed for Victor and Cullen's predictability hypothesis.
Wimbush, Shepard, & Markham (1997b)	Journal of Business Ethics	ECQ (36 items)	(5) Laws and Rules, Independence, Caring, Instrumental, Service	Field (Retail Employees)	WABA, Regression	NA	Unethical behaviors – stealing, lying, disobeying company rules, being an accomplice	Five factors were found with ECQ plus an additional one they labeled service. At the individual level, independence climate was

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								negatively related to being an accomplice, disobedience and lying behaviors. Caring climates were negatively related to being an accomplice, stealing and lying behaviors. Law and code climate was negatively related to disobedience, stealing, and lying behavior. Service climate was negatively related to lying and stealing behaviors. Instrumental climate was positively related to being an accomplice. The only statistically significant control variable between lying behavior and law and codes service and

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								independence climate was gender. In relationships between lying behavior and caring (where climate no unique contribution) gender, age, and education were significant. At the district level, no significant statistical differences were found between any of the climate dimensions. For lying behavior and ethical climate the control variables were significant. Gender and age were significant in relationship between service and lying. Age and education were significant for the relationship

Authors	Journal	Climate Measure	Dimensions of Ethical Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								between lying and independence.
Wittmer & Coursey (1996)	Journal of Public Administration Research & Theory	ECQ (11 items, one from ECQ for each dimension and others)	(5) Caring, Law and Code, Rules, Instrumental, Independence	Field (Top and Middle Managers)	T-Tests	NA	NA	

Table 16. Summary Table of Justice Climate Research

Authors	Journal	Climate Measure	Dimensions of Justice Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Colquitt, Noe, & Jackson (2002)	Personnel Psychology	Colquitt (2001) referent shift to team members	Procedural justice climate	Working teams in automobile manufacturing plant	Regression	Climate level: Team size, team demographic diversity, team collectivism Climate strength: Team size, team demographic diversity, team collectivism	Team performance, Team absenteeism	PJC level related to team performance and absenteeism. PJC strength not related to team performance and absenteeism when control for level. PJC level and team performance and team absenteeism moderated by climate strength. Team size negatively related to climate level. Collectivism positively related to climate level. Team diversity not significantly related to climate level. Team size and team diversity

Authors	Journal	Climate Measure	Dimensions of Justice Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								negatively related to climate strength. Team collectivism not significantly related.
Dietz, Robinson, Folger, Baron, & Schulz (2003)	Academy of Management Journal	Procedural justice climate	Own measure	Independent plants of US public service organization	Negative binomial regression		Workplace aggression	Procedural justice climate did not predict workplace aggression.
Ehrhart (2004)	Personnel Psychology	Procedural justice climate	Colquitt (2001) only four items at department level	Departments of grocery store chains	ICCs, SEM	Servant-leadership	Helping OCB, Conscientiousness OCBs	Between unit differences in levels of servant leadership were related to PJC. PJC was related to unit-level OCBs. PJC mediated the relationship between servant leadership and OCBs but varied whether it fully or partially mediated this relationship.

Authors	Journal	Climate Measure	Dimensions of Justice Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Liao & Rupp (2005)	Journal of Applied Psychology	Organization-focused procedural justice, Organization-focused informational justice, Organization-focused interpersonal justice, Supervisor-focused procedural justice, Supervisor-focused informational justice, Supervisor-focused interpersonal justice	Bryne (1999) direct consensus	Work groups from various industries and organizations	r_{wg}, HLM		Commitment, satisfaction, citizenship directed at organization, citizenship directed at supervisor	PJC – Org-focused PJC predicted commitment and citizenship behavior, but not satisfaction at the org. Supervisor PJC
Mossholder, Bennett, & Martin (1998)	Journal of Organizational Behavior	Developed items	Procedural justice climate	Non supervisory employees in large savings and loan	CFA, rwg, hierarchical linear modeling		Job satisfaction, organizational commitment	Procedural justice climate was positively related to job satisfaction
Naumann & Bennett (2000)	Academy of Management Journal	Moorman (1991)	Procedural justice climate	Banks	Rwg, hierarchical linear modeling	Demographic similarity, group cohesion, supervisor visibility	Group helping behaviors, organizational commitment	Group helping behavior mediates the relationship between procedural justice climate

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Authors	Journal	Climate Measure	Dimensions of Justice Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								and perceived group performance (e.g., productivity, accuracy, dependability)
Naumann & Bennett (2002)	Small Group Research	Moorman (1991)	Procedural justice climate	Banks	Rwg, multiple regression		Group helping behavior	Group helping behavior mediated the relationship between procedural justice climate and perceived performance.
Simons & Roberson (2003)	Journal of Applied Psychology	Niehoff and Moorman (1993)	Interactional justice climate and procedural justice climate	Hotel properties in US and Canada	EFA, ICC(1), ICC(2), SEM		Discretionary service behavior, intent to remain, commitment, satisfaction	These justice types had impact on organizational commitment, and ultimately turnover intentions and discretionary service behaviors at the individual and department level.

Table 17. Summary Table of Innovation/Creativity Climate Research

Authors	Journal	Climate Measure	Dimensions of Innovation/Creativity Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Agrell & Gustafson (1994)	Journal of Occupational and Organizational Psychology	Team Climate Inventory (Anderson & West, 1994)	Participation and participation safety, support for innovation, vision and group goals, task orientation and climate for excellence	Teams from public and private organizations	Item analysis, PCA, rwg			Swedish version of TCI valid. The participation and group goals factors were retrieved in different orders for Swedish and English participants.
Amabile & Conti (1999)	Academy of Management Journal	KEYS: Assessing the climate for creativity (Amabile et al., 1996)	Organizational encouragement, sufficient resources, freedom, challenging work, supervisory encouragement, work group supports	Fortune 500 high-tech firm	MANOVA	Creativity	Downsizing	Stimulants and obstacles to creativity in work environment mediated effects of downsizing.
Amabile, Conti, Coon, Lazenby, & Herron (1996)	Academy of Management Journal	KEYS: Assessing the climate for creativity	Organizational encouragement, sufficient resources, freedom, challenging work, supervisory encouragement, work group supports	Participants at Center of Creative Leadership and their coworkers and 21 additional organizations	MANOVA. ICC(1)		Creative projects	High creativity projects were generally rated higher on KEYS scales as stimulants and lower on those proposed to be obstacles.
Baer & Frese (2003)	Journal of Organizational Behavior	Psychological Safety (Edmondson, 1999) and adapted self-	Climate for initiative, climate for psychological safety	Mid-sized organizations	CFA, rwg, moderated hierarchical regression	Process innovations	Company performance (longitudinal change in return on	Climates of initiative and psychological safety were positively

Authors	Journal	Climate Measure	Dimensions of Innovation/Creativity Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
		reported initiative (Frese, 1997)					assets, firm goal achievement)	related to company performance and moderated the relationship between process innovations and firm performance.
Clegg, Unsworth, Epitropaki, & Parker (2002)	Journal of Occupational and Organizational Psychology	Support for innovation from TCI (Anderson & West, 1998)	Support for innovation	Two large aerospace companies	Factor analysis, path analysis		Idea implementation	Support for innovation predicted implementation (not idea suggestion)
Glison & Shalley (2004)	Journal of Management	Climate for Creative Productivity scale (Witt & Beorkren, 1989)	Climate supportive of creativity	Large multi national company in UK	Cluster analysis, ANOVA		Engage in creativity processes	Members of teams that were engaged in creative processes reported their team climate as more supportive of creativity
Kivimake, Kuk, Elovaino, Thomson, Kalliomake-Levanto, & Heikkila (1997)	Journal of Occupational and Organizational Psychology	Team climate inventory (TCI; Anderson and West, 1994)	Vision, participative safety, task orientation, support for innovation, interaction frequency	Local government bodies	CFA			Five-factor structure of TCI better than four-factor structure.
Pirola-Merlo	Journal of	Team climate	Participative safety,	Four large R&D	Rwg,		Time-general	Team climate

Authors	Journal	Climate Measure	Dimensions of Innovation/Creativity Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
& Mann (2004)	Organizational Behavior	inventory (TCI; Anderson & West, 1998)	support for innovation, task orientation, vision	companies in Australia	hierarchical linear modeling		creativity, recent team member creativity, recent team creativity	influences team creativity indirectly via individuals not directly
Scott & Bruce (1994)	Academy of Management Journal	Climate for innovation and added own items (Siegel & Kaemmerer, 1978)	Support for creativity, tolerance of differences, personal commitment, perceptions of reward innovation dependency, resource supply	R&D center	CFA, PCA, path analysis	LMX, role expectations of innovation, TMX	Innovative behavior	LMX was positively related to support for innovation and resource supply. There was no significant relationship between role expectations and climate or TMX and climate.
Siegel & Kaemmerer (1978)	Journal of Applied Psychology	Developed scale	Support for creativity, tolerance of differences, personal commitment	High schools, secondary schools	Factor analysis	Type of school, student versus teacher		Alternative schools perceived their schools as more supportive of creativity than traditional schools. In general, teachers perceived their schools as more

Authors	Journal	Climate Measure	Dimensions of Innovation/Creativity Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								supportive of creativity than students.
Tannenbaum & Dupree-Bruno (1994)	Group & Organization Management	Developed own measure	Agency climate, HR department climate	HR officers in 40 New York state agencies	MANOVA, moderated regression		HR innovation	HR department climate had a positive relationship with HR directors' ratings of HR innovation, but no effects with any of the external ratings of innovation. Agency climate was unrelated to all measures of innovation.

Table 18. Summary Table of Service Climate Research

Authors	Journal	Climate Measure	Dimensions of Service Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Andrews & Rogelberg	Journal of Business and Psychology	Adapted Schneider & Bowen (1985) and Rogelberg, Barnes-Farrell, & Creamer (1999)	1 dimension	Business owners	rwg, correlations	Owner value of service climate		Negative correlation between owner service values and service climate
Borucki & Burke (1999)	Journal of Organizational Behavior	Burke et al. (1992)	Concern for employees, Concern for customers	Employees of large national retail organization	SEM		Sales personnel service performance, indirectly store financial performance	In general, service climate engenders service-oriented sales personnel behaviors, which in turn may impact store performance
Burke, Borucki, & Hurley (1992)	Journal of Applied Psychology	Developed own measure	Concern for employees, Concern for customers	Employees in nation retail organization	factor, invariance tests			Support for two-factor higher order safety climate
Burke, Rupinsky, & Dunlap (1996)	Personnel Psychology	Burke et al. (1992)	Concern for employees, Concern for customers	Employees in national retail organization	Aggregated, correlational,	Situational constraints (merchandise-related obstacles and human resource-related obstacles)	Personnel service performance, employee satisfaction	Did not find that situational moderators act as common causes and statistical artifacts, but suggest other variables still might.

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Authors	Journal	Climate Measure	Dimensions of Service Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
deJong, de Ruyter, & Lemmink (2004)	Journal of Marketing	Developed own measure	Combined into one factor	Large Dutch bank	CFA, ICC(1), ICC(2), estimated multilevel models	Tolerance for self-management, flexibility of team members, interteam support, intrateam support		Positive relationship between tolerance of self-management, flexibility, and inter-intra-team support and SMT service climate, but no relationship between team goal setting and SMT service climate. Group-level intra-team support also added to the explanation of SMT service climate perceptions. Further they find that team tenure affects SMT service climate. As for specific outcomes, SMT service climate had no impact on

Authors	Journal	Climate Measure	Dimensions of Service Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								service productivity measures of response time failure and first time fixed rates, but a positive impact on customer perceived service quality and share of customer, and a negative effect on sales productivity.
Dietz, Pugh, & Wiley (2004)	Academy of Management Journal	Items from employee opinion survey		Retail bank branches	Moderated hierarchical regression, rwg, ICC(1), ICC(2)		Customer satisfaction	Correlations between branch-targeted service climate and customer satisfaction was significantly stronger than organization-targeted service climate and customer satisfaction with branch service.

Authors	Journal	Climate Measure	Dimensions of Service Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								Frequency of employee contact moderated the relationship between branch service climate and customer satisfaction
Gelade & Young (2005)	Journal of Occupational and Organizational Psychology	Employee opinion surveys of the banks	Team climate, support climate	Branches of four retail banks	Factor analysis, ICC(1), ICC(2), SEM		Commitment, indirectly customer satisfaction and sales	Branches with higher climate scores, have higher customer satisfaction and stronger sales.
Johnson (1996)	Personnel Psychology	Service Management Practices Inventory (SMPI)	Service strategy, seeking information, evaluating service performance, service training and support, service rewards and recognition, service orientation and commitment, service systems, policies, and procedures	Large commercial bank with 600 branches	ICC (2), correlational		Customer satisfaction (personal contact and nonpersonal contact)	All service climate dimensions were related to at least one facet of customer satisfaction. Seeking and sharing information about customer needs and expectations, training and delivery quality

Authors	Journal	Climate Measure	Dimensions of Service Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								service, and rewarding and recognizing excellent service were most highly related to satisfaction with service quality.
Liao & Chuang (2004)	Academy of Management Journal	Schneider et al (1998)	Global service climate	Family franchise restaurant	ICC (1), ICC(2), rwg, HLM		Employee service performance	Service climate is positively related to individual-level employee service performance. No significant results for service climate as a moderator between personality and employee service performance at the individual level.
Salanova, Agut, and Peiro (2005)								Employees who perceive that organizational

Authors	Journal	Climate Measure	Dimensions of Service Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								resources such as training, autonomy, and technology, remove obstacles from work, feel more engaged in work, which in turn is related to a better service climate (i.e., work engagement mediates the relationship between organizational resources and service climate).
Schneider & Bowen (1985)	Journal of Applied Psychology	Developed own items	Managerial functions, systems support, customer attention/retention, logistics support	Branches of Atlantic coast bank	Rwg, Correlational,			
Schneider, Ehrhart, Mayer, Saltz, & Niles-Jolly (2005)	Academy of Management Journal	Schneider et al. (1998)	Global service climate	Supermarket chain in eastern US	ICC(1), rwg, SEM mediation, bootstrap	Service leadership behavior	Customer-focused OCB	Service leadership was significantly related to service climate; service climate to OCBs, OCBs

Authors	Journal	Climate Measure	Dimensions of Service Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								to customer satisfaction; and customer satisfaction to sales.
Schneider, Wheeler, & Cox (1992)	Journal of Applied Psychology	SERVqual (Parasuraman, Zeithmal, & Barry, 1989)	Dependability/trust, personal attention/helpfulness, equipment/facilities	Panel interviews in financial services organizations	Coding			Strongest correlates of service limited concerned things explicitly tied to service and human resources practices (e.g., soliciting and paying attention to customer opinions and having in place hiring procedures for staffing the unit).
Schneider, Paul, & White (1998)	Journal of Applied Psychology	Developed measure	Global service climate, customer orientation, managerial practices, customer feedback	branches of a large northeastern bank	Rwg, ICC(1), ICC(2), SEM	Work facilitation, inter-department service (foundation issues)	customer perceptions of service quality	presence of foundation issues does seem to provide a basis for a climate for service. Organizations paying attention to

Authors	Journal	Climate Measure	Dimensions of Service Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								their customers' expectations and needs are most likely to create conditions yielding a climate for service. This yields behaviors that result in customer perceptions of service quality.
Tsai (2001)	Journal of Management	adapted from Schneider et al.'s (1998) Global Service Climate Scale	Psychological climate for service friendliness	Retail shoe stores in Taiwan	Hierarchical regression		Displayed positive emotions	Positive relationship between climate for service friendliness and employees' display of positive emotions.
Yoon, Beatty, Suh (2001)	International Journal of Service Industry Management	Kelly (1992)	Service-oriented climate	Retail banks in South Korea	SEM		Work effort, job satisfaction	Service climate directly related to job satisfaction and work effort, and indirectly

Authors	Journal	Climate Measure	Dimensions of Service Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								impact customer's perceptions of employee service quality.

Table 19. Summary Table of Safety Climate Research

Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Barling, Loughlin, & Kelloway (2002)	Journal of Applied Psychology	Zohar (1980) short form	1 factor	Study 1 – restaurant workers. Study 2 – young workers in diverse jobs	Path analysis, regression	Transformational leadership, safety consciousness	Safety related events	Safety specific transformational leadership and role overload was mediated by perceived safety climate. However, one study did not confirm the mediating role of safety climate.
Cooper & Phillips (2004)	Journal of Safety Research	Drew off Zohar (1980) and then developed some of their own	Perceived level of risk, management attitudes toward safety, effects of work pace, management actions toward safety, importance of safety training, social status & promotion, safety officer and committee,	Packaging production plant	Factor analysis, ANOVA, aggregated, correlations, multiple regression		Safety behavior	Relationship between safety climate perceptions and actual safety behavior may be more complex in Safety climate and does not always reflect behavioral safety performance and vice versa.
Dejoy, Schaffer, Wilson, Vandenberg, & Butts (2004)	Journal of Safety Research	NIOSH safety climate scale (DeJoy, Murphy, & Geshon,	Employee perceptions of management support for safety, importance of safety issues	Large national retailer	Hierarchical multiple regression, correlational	Environmental conditions, safety related policies and programs, organizational climate	Perceived safety	Safety policies and programs had the largest observed correlation with safety climate, followed by

Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
		1995)	within the organization					communication and organizational support (both organizational climates). Safety climate did not mediate various work situation factors and perceived safety at work, rather safety climate had a direct effect.
Goldberg, Dar-El, & Rubin (1991)	Journal of Organizational Behavior	Own measure	Co-worker support safety index, management supports safety index, foreman supports safety index	Israeli industrial plants	Multiple regression, path analysis		Threat perception	High safety consciousness by management, foremen, and other workers had little influence on workers' perceptions of threat
Griffin & Neal (2000)	Journal of Occupational Health Psychology	Developed measure	Manager values, safety inspections, personnel training, safety communication	Australian manufacturing and mining organizations	CFA, SEM		Safety knowledge, safety compliance, safety participation	Safety climate is multidimensional and showed that the relationship between safety climate and performance outcomes such as safety compliance and

Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								safety participation was mediated by knowledge and motivation.
Hofmann, Morgeson, & Gerras (2003)	Journal of Applied Psychology	Revised Zohar (1980)	Management attitude toward safety, effect of safe behavior on social standing, safety reward, but combined to make overall measure	Military transportation unit	Hierarchical linear modeling		Safety citizenship role definitions	Relationship between leader-member exchange and safety citizenship role definitions was moderated by safety climate. High leader-member exchange relationships led to expanded safety citizenship when there was a positive safety climate, and no role expansion with less positive safety climates.
Hofmann & Stetzer (1996)	Personnel Psychology	Modified Zohar (1980)	Manager's commitment to safety, worker involvement in safety activities	Midwestern chemical processing plant	Hierarchical linear modeling		Unsafe behaviors, number of accidents	Safety climate was associated with unsafe behaviors such that teams that perceived higher safety climates, reported fewer

Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								unsafe behaviors. In addition, safety climate was significantly associated with accidents over three years prior.
Hofmann & Stetzer (1998)	Academy of Management Journal	Modified Zohar (1980)	Composite measure	Large utility company (experimental manipulation and non-manipulation)	Hierarchical linear modelin, ICC(1), ICC(2), rwg		Safety communications	Teams with a positive safety climate and where there was communication about safety issues, made more internal attributions (e.g., were more willing to acknowledge that a fellow coworker was the cause of an accident).
Katz-Navon, Naveh, & Stern (2005)	Academy of Management Journal	Hofmann & Stetzer (1998); Zohar (2000); O'Reilly (1980)	Safety procedures, safety information flow, managerial safety practices, priority of safety	Medical units in hospitals in Israel	ICC(1), ICC(2), rwg, CFA, Poisson regression analysis		Safety performance	Found a curvilinear relationship between safety procedures and treatment errors and that the perceived priority of safety moderated this relationship. In addition, it also

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Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								moderated the relationship between the way employees interpreted their managers' safety practices and treatment errors.
Naveh, Katz-Navon, & Stern (2005)	Management Science	Hofmann & Stetzer (1998); Zohar (2000); O'Reilly (1980)	Safety procedures, safety information flow, managerial safety practices, priority of safety	Hospital staff	EFA, CFA, hierarchical moderated regression		Treatment errors, priority of safety	Safety information flow had a negative effect on priority of safety and the managerial safety practices did not have a significant effect on priority of safety.
Probst (2004)	Journal of Occupational Health Psychology	Neal et al. (2000)	Management values, safety communication, safety training, safety systems	Manufacturing organization in Pacific Northwest, US	MANOVA		Safety compliance, accidents and injuries	Safety climate attenuates the negative effects of job insecurity (e.g., threat of layoffs) on safety knowledge, compliance, accidents, and injuries. In other words, the relationship between job insecurity and employee safety

Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								outcomes is moderated by organizational safety climate.
Smith-Crowe, Burke, & Landis (2003)	Journal of Organizational Behavior	General Safety Performance scale	Transfer of safety training	US nuclear waste industry	Correlational, variances		Safety performance	
Wallace, Popp, & Mondore (2006)	Journal of Applied Psychology	Adapted Zohar (2000)	Supervisory practices, expectations regarding safe work practices (made composite)	Large multinational shipping and transportation company	CFA, OCC(1), ICC(2), rwg, bivariate analysis, mediation	Organizational support climate, management employee relations climate	Group accident rate	They found that these different climates have different effects on occupational accidents; management-employee relations climate and organizational support climate had a negative impact on occupational accidents. Thus, when employees perceived positive relationships, there were fewer accidents. In addition, they found that safety climate fully mediated the relationship

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Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								between management-employee relations and accidents and organizational support and accidents.
Zacharatos, Barling, & Iverson (2005)	Journal of Applied Psychology	Neal et al. (2000)	Management values, safety communication, safety training, safety systems	Human resource and safety directors (study 1), front line employees (study 2)	CFA, mediation	High performance work systems	Safety incidents (first aid, near misses), Personal safety orientation	Perceived safety climate mediated the relationship between high-performance work systems and both personal-safety orientation and safety incidences.
Zohar (1980)	Journal of Applied Psychology	Developed measure	Importance of safety training programs, management attitudes toward safety, level of risk at work place, effects of required work pace on safety, status of safety officer, effects of safe conduct on social status, status of safety	Factories from different industries in Israel	PCA, multiple range test, stepwise discriminant analysis			Perceptions of management attitudes about safety and perceptions regarding relevance of safety in general were highest two dimensions in correlation with program effectiveness.

Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
			committee					
Zohar (2000)	Journal of Applied Psychology	Developed group level measure	Supervisory action and expectation	Manufacturing company	PCA, correlational, rwg. ICC(1), ICC(2)		Behavior-dependent injury rates in organizational subunits, behavior dependent injury of individual group members	Safety climate perceptions can develop at the subunit level. Climate perceptions predicted microaccidents
Zohar (2002)	Journal of Applied Psychology	Zohar (2000)	Supervisory action and expectation	Regional maintenance center of heavy duty equipment	Rwg (but no aggregation), repeated measures ANOVA	Improved supervisory safety practices		Supervisor interventions changed the safety-oriented interaction which changed the safety climate scores. Safety climate perceptions serve as informing behavior as to what is sanctioned on the job.
Zohar (2002)	Journal of Organizational Behavior	Zohar (2000)	Preventative action, reactive action, prioritization	Metal processing plant in Israel	ICC(1), ICC(2), rwg, ANOVA, multiple regression	Leadership style (transformational, laissez-faire, corrective, constructive)	Behavior-dependent injury	Safety priority assigned by superiors moderated the relationship between leadership style and safety climate. The

Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								type of leadership dimension affected the interaction such that the leadership dimensions that were associated with more concern for employees' welfare created higher safety climates, and thus safer behavior.
Zohar & Luria (2004)	Journal of Applied Psychology	Developed measure and reduced Zohar (2000)	Group-level safety climate (active practices, proactive practices, declarative practices) Organization-level safety climate (active practices, proactive practices, declarative practices)	Manufacturing plants in metal, food, plastics and chemical industries	Rwg, ICC(1), ICC(2),multilevel random coefficients modeling	Organizational safety climate level	Safety behavior	Organizational and group-level safety climates are globally aligned; the effect of organizational climate on safety behavior is fully mediated by group climate level.
Zohar & Luria (2005)	Journal of Applied Psychology							The effect of organization safety climate is

Authors	Journal	Climate Measure	Dimensions of Safety Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								fully mediated by group safety climate.

Table 20. Summary Table of Diversity Climate Research

Authors	Journal	Climate Measure	Dimensions of Diversity Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Bachrach, Bamberger, & Vashdi (2005)	Academy of Management Journal	Modified Caplan et al. (1975) social support scale	1 factor	Non-exempt employees in New York state	multilevel regression analysis	Proportion of racially different others	Supportive relations with racially dissimilar peers	Shared perceptions of unit support had a positive effect on the relative prevalence of supportive relations with dissimilar peers. Unit-level support climate moderated the relationship between proportion of racially dissimilar others in the work unit and prevalence of supportive relations with relatively dissimilar peers.
Chrobot-Mason, Button, & DiClementi (2002)	Sex Roles	Perceived climate for sexual minorities (Button, 1996)	1 factor	Attendees at a national conference on gay and lesbian workplace issues, corporate gay and lesbian groups,	Multiple regression		Identity management strategies (counterfeiting, avoiding, integrating)	Employees adopt an integrating strategy (reveal true sexual identity and attempts to

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Authors	Journal	Climate Measure	Dimensions of Diversity Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
				internet distribution lists				manage the consequences) when they perceive and affirming organization.
Kossek & Zonia (1993)	Journal of Behavior	Developed own measure	Value efforts to promote diversity, qualifications of racioethnic minorities, qualifications of women, department support for women and racioethnic minorities	Large public sector university	MANOVA	Gender, race		Gender, racioethnicity, and level were related to perceptions of diversity climate.
Mayhew, Grunwald, & Dey (2006)	Research in Higher Education	Adapted survey from Higher Education Research Institute (HERI)	Diversity friendly	Predominantly white Midwestern public university	Hierarchical regression	Gender, race, age, education, length of employment, type of department, job classification, supervisor gender, gender work composition, racial work composition		Personal demographics, professional characteristics, department structural diversity, perceptions of department climate for diversity, perceptions of institution's commitment to diversity, and personal

Authors	Journal	Climate Measure	Dimensions of Diversity Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								experiences with diversity all contributed to perceptions of campus' climate for diversity.
Mor Barak, Cherin, & Berkman (1998)	Journal of Applied Behavioral Science	Developed own measure	Personal dimension (personal diversity factor & personal comfort factor), organizational dimension (organizational fairness factor & organizational inclusion factor)	Electronics company in multicultural community	EFA, PCA, MANOVA	Gender, ethnicity		Caucasian men perceived organizations to be more fair and inclusive. Caucasian women and racial/ethnic minority men and women saw more value in and felt more comfortable with diversity than Caucasian men.

Table 21. Summary Table of Sexual Harassment Climate Research

Authors	Journal	Climate Measure	Dimensions of Sexual Harassment Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Culbertson & Rodgers (1997)	Journal of Applied Social Psychology	Navey Equal Opportunity/Sexual Harassment (NEOSH) survey		Active duty Navy personnel	Causal modeling, WLS		Harassment experiences/judgments	Individuals' perceptions of sexual harassment climate can have a parallel effect on the experience/judgment of sexual harassment as well as on decisions that individuals make regarding the organization.
Fitzgerald, Drasgow, Hulin, Gelfand, & Magley (1997)	Journal of Applied Psychology	Organizational Tolerance for Sexual Harassment Inventory (Naylor et al., 1980)	Risk of reporting, likelihood of being taken seriously, probability of sanctions	Females in a large, regulated utility	SME		Sexual harassment	Perceptions that the organization tolerates sexual harassment (sexual harassment climate) are positively related to actual experiences of sexual harassment.
Harned, Ormerod, Palmieri, Collinsworth, & Reed (2002)	Journal of Occupational Health Psychology	Sexual Experiences Questionnaire – DoD (SEQ-DoD)	Perception of implementation practices, provision of resources, provision of training	Women in DoD services and Coast Guard	Chi-square tests, path analysis		Supervisor satisfaction, coworker satisfaction, work satisfaction, sexual harassment	Organization's sexual harassment climate was directly related to sexual harassment, but only indirectly related to sexual assault.
Malamut & Offermann	Journal of Applied	Department of Defense Sexual	1 factor	1995 DoD sexual	Logistic regression,		Coping strategy	Choice of coping strategies used by

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Authors	Journal	Climate Measure	Dimensions of Sexual Harassment Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
(2001)	Psychology	Harassment Survey (DoDSHS)		harassment survey	mediation			individuals is dependent on sexual harassment climate, occupational status, gender, harassment severity, and power differential.
Offermann & Malamut (2002)	Journal of Applied Psychology	Department of Defense Sexual Harassment Survey (DoDSHS)	Intolerance for sexual harassment	1995 DoD sexual harassment survey	Hierarchical multiple regression, PCA		Freedom to report	Leadership was a mediator of the relationship between climate and freedom to report in supervisory and unit leader harassment, but only a partial mediator of other leader harassment.

Table 22. Summary Table of Learning and Transfer Climate Research

Authors	Journal	Climate Measure	Dimensions of Learning and Transfer Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Bennett, Lehman, & Forst (1999)	Group & Organization Management	Developed own measure	TX transfer climate	Municipality in southwestern US	ANOVA, hierarchical regression		Employee customer orientation, customer focus	Total quality transfer climate significantly impacted employees' orientation toward customers; negative transfer climate hindered quality practices and positive climates helped.
Clark, Dobbins, & Ladd (1993)	Group & Organization Management	Developed own measure	Group training transfer climate	Small organizations who provide training for clients	SEM		Job utility	Supervisor transfer training climate affected anticipated job utility; group transfer training climate was not significant.
Holton, Bates, Seyler, & Carvalho (1997)	Human Resource Development Quarterly	Developed own measure	Transfer climate – supervisor support, transfer design, peer/task support, personal	Computer-based plant operator program	Construct validation (EFA)			Developed a measure with nine dimensions to assess transfer

Authors	Journal	Climate Measure	Dimensions of Learning and Transfer Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
			outcomes negative, personal outcomes positive					climate.
Lance, Kavanaugh, & Brink (2002)	Group & Organization Management	Own measure based on existing literature	Situational constraints, organizational support, supervisory support	US Air force	Latent variable regression analysis		Retraining success, time to proficiency in new assignment	Only one climate dimension, situational constraints (not dimensions of organization support or supervisory support) predicted retraining success and moderated the predicted relationships.
Lim & Morris (2006)	Human Resource Development Quarterly	Developed own measure from literature	Transfer climate	Korean conglomerate	t-tests, mean scores, ANOVA			There was a relationship between trainees' immediate needs for training before the training, satisfaction with training during and immediately after training, and transferable

Authors	Journal	Climate Measure	Dimensions of Learning and Transfer Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								environment after the training through a positive organizational climate.
Moxnes & Eilertson (1991)	Journal of Organizational Behavior	Developed own items	Communication, leadership, conflicts	Supervisors in 25 companies	MANOVA	Management training	Work facilitation	Management training had small effects on organizational climate. The here and now MT program negatively affected interpersonal conflicts and supervisory skills.
Smith-Jentsch, Salas, & Brannick (2001)	Journal of Applied Psychology	Developed own measure	Climate for independence, climate for directiveness	Licensed pilots from a aeronautical university	MANCOVA, hierarchical regression	Team leader support, predisposition toward content of training	Typical posttraining behavior	Team climate mediated the impact of support on performance in typical condition. Perceptions of team climate were better predictors of performance for those with a

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Authors	Journal	Climate Measure	Dimensions of Learning and Transfer Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								more external locus of control.
Tracey & Tews (2005)	Organizational Research Methods	Developed own measure	Managerial support, job support, organizational support	Graduate business students, restaurant managers,	Rwg, ANOVA, CFA			Measure met validity criteria

Table 23. Summary Table of Decision Making and Participative Climate Research

Authors	Journal	Climate Measure	Dimensions of Decision Making and Participative Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Atwater (1995)	Group & Organization Management	Developed on items based on Khandwalla (1976) and Singh (1986)	Entrepreneurial, innovative, R&D emphasis in decision making and financing through external sources and a low-risk financial investment philosophy	Organizations in New York state	MANOVA		Personal and position power	Organizations that were more characterized by entrepreneurial and innovative decision making position power were higher than those with less innovative decision making.
Heaney, Price, & Rafferty (1995)	Journal of Organizational Behavior	Developed own items	Positive work team functioning, positive work team climate	Staff in group homes	OLS regression	Caregiver support program	Employee perceptions of ability to cope with worksite stressors	A caregiver support program intervention improved work team climate by increasing perceived opportunities for participation in decision making, and increasing the perceptions that employees could make contributions to the decision-

Authors	Journal	Climate Measure	Dimensions of Decision Making and Participative Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								making process without being received negatively or harshly.
Heaney, Israel, Schurman, Baker, House, & Hugentobler (1995)	Journal of Organizational Behavior	Developed own measure	1 factor	Union manufacturing facility	Correlations, moderated regression		stress	Involvement in a stress project enhanced employee participation in decision-making only in the organization with more cooperative industrial relations.
Schurman, Baker, House, & Hugentobler (1993)								Involvement in a stress project enhanced employee participation in decision-making only in the organization with more cooperative industrial relations.
Tesluk, Vance, & Mathieu (1999)	Group & Organization Management	Items adapted from (Taylor & Bower,	Extent to which employees opinions are solicited,	Large state department of transportation	Correlational, cross-level regression	Employee involvement practices and supports,		Unit and district participative climate was related to

Authors	Journal	Climate Measure	Dimensions of Decision Making and Participative Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
		1972) and developed some of their own	employees actively involved in making decisions, employees kept informed regarding practices and policies			district managers' attitudes regarding participation		individual work attitudes and participation in employee involvement outcome variables. Unit and district participative climates interact, indicating the importance of considering multiple levels within organizations. Individuals in high unit participative climates in districts with high participative climates were more likely to be involved in employee involvement activities. working in a participative district climate seems to buffer

Authors	Journal	Climate Measure	Dimensions of Decision Making and Participative Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								some of the negative effects of working in a nonparticipative unit.

Table 24. Summary Table of Political Climate Research

Authors	Journal	Climate Measure	Dimensions of Political Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Christiansen, Villanova, & Mikulay (1997)	Journal of Organizational Behavior	Modified Schriesheim & Hinkin (1990)	Coalition formation, assertiveness, ingratiation, upward appeals, reason, exchange	Non-academic employees of large Midwestern university	CFA, correlations, hierarchical regression		Conflict, trust in management, evaluation of self, turnover intentions	In general political climate was related to attitudes of conflict, trust in management, and intention to turnover, but not to job satisfaction. However, this varied some by the dimension of political climate.
Darr & Johns (2004)	Human Relations	Developed own measure	1 factor	Six full-service Canadian universities	Rwg, regression	Intra-departmental task and relationship conflict, paradigm development, department level, rank heterogeneity		There were no significant results at the macro-level (rank heterogeneity). However, at the individual level departments with high levels of conflict also had highly political climates.
Ferris, Frink, Gilmore, &	Journal of Applied Social	Five items of Ferris &	1 factor	Four different organizations in	Hierarchical moderated		Job anxiety	Understanding moderates the

Authors	Journal	Climate Measure	Dimensions of Political Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Kacmar (1994)	Psychology	Kacmar (1992)		three different industries	regression			relationship between organizational politics and job anxiety and essentially serves as an antidote for dysfunctional consequences
Ferris & Kacmar (1992)	Journal of Management	Developed own measure	Supervisor behavior, coworker and clique behavior, organization policies and practices	Large heavy equipment manufacturer, nurses in large hospital, and nursing service employees	Multiple regression, PCA	feedback, job autonomy, skill variety, opportunity for promotion, age, sex, span of control, supervisory status, relationship with supervisor, formalization, work group cohesion, self monitoring	Job satisfaction	Feedback, job autonomy, skill variety, and opportunity for promotion contributed significantly to perceptions of organizational politics. In addition, work group cohesion, span of control, and formalization were also significant predictors of different dimensions. Political perceptions were related to job satisfaction.
Gilmore,	Group &	Ferris &	1 factor	Staff nurses and	Moderated	Tenure		Lower tenure

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Authors	Journal	Climate Measure	Dimensions of Political Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Ferris, Dulebohn, & Harrell-Cook (1996)	Organization Management	Kacmer (1992)		supervisors of medium-sized hospital	regression	working for supervisor		with supervisor and increased Perceptions of politics were associated with lower attendance, and no relationship with higher tenure with supervisor.
Parker, Dipboye, & Jackson (1995)	Journal of Management	External organization development consultant's measure	Perceptions of organizational politics	Government organization that manages large scale R&D projects	MANOVA	Involvement in decision making, formal communication effectiveness, clarity of roles, hierarchical level, age, education, minority status, occupational group, gender, career development opportunities, fairness of rewards and recognition, intergroup cooperation, senior management support, trust in coworkers		Perceived intergroup cooperation, clarity of roles and responsibilities, and fairness of rewards were the most predictive of perceptions of politics. Only minority status predicted political perceptions . Perceptions of politics was only related to perceived innovation; the higher the perceived politics, the less the

Authors	Journal	Climate Measure	Dimensions of Political Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
								organization was seen as supportive of innovation.
Treadway, Adams, & Goodman (2005)	Journal of Business and Psychology	Kacmer & Ferris (1991)	1 dimension	National retail organization	ANOVA, Dunnett's C test	Gender, race, age, hierarchical level, store revenue generation, divisional membership, brand membership, time of organizational entry		Perceptions of politics are not different based on gender, race, age, or job title. They found differences based on the relative socialization experiences of employees and the career stage of employees
Zhou & Ferris (1995)	Journal of Applied Social Psychology	Adapted Ferris & Kacmar (1992) and own items	dominant group, reward practice, and coworker behavior	Non-academic employees large southwestern university	CFA, SEM		(pay, promotion, supervision, coworker)	Different dimensions of perceived organizational politics were related to different outcome satisfactions.

Table 25. Summary Table of Achievement Climate Research

Authors	Journal	Climate Measure	Dimensions of Achievement Climate	Design/Sample	Analyses	Antecedents	Consequences	Results (climate only)
Tziner & Falbe (1990)	Journal of Organizational Behavior	Job Climate Questionnaire (Fineman, 1975)	1 dimension	Industrial company in Israel	Canonical correlation, redundancy analysis			Achievement motivation fit better with higher skilled employees than lower skilled employees.

APPENDIX C: INITIAL ITEMS FOR MOLAR CLIMATE MEASURE

In this section we'd like to know how you feel about how things work around your _organization_ as a whole. For each question, just circle the number that best matches your response to each statement.

In my _organization_….. _(these are human relations climate items)_	Strongly Disagree						Strongly Agree
1. …employees develop supportive, positive working relationships among organization members.	1	2	3	4	5	6	7
2. …the environment is such that members of the unit get along well with each other.	1	2	3	4	5	6	7
3. …each employee has an opportunity for growth and development.	1	2	3	4	5	6	7
4. …there is high morale among organization members.	1	2	3	4	5	6	7
5. …we have little conflict between our organization members.	1	2	3	4	5	6	7
6. …employees help each other when needed.	1	2	3	4	5	6	7
7. …employees are generally not very supportive of other organization members.	1	2	3	4	5	6	7
8. …morale among organization members tends to be quite low.	1	2	3	4	5	6	7

In my *organization*.…. (these are open-systems climate items)	Strongly Disagree						Strongly Agree
1. … employees are able to make changes in daily, weekly, or monthly operational routines as required.							
2. … we are able to respond to crises or emergencies in an effective manner.	1	2	3	4	5	6	7
3. … we are able to adapt quickly and well to new demands on, or changes to, the organization.	1	2	3	4	5	6	7
4. … employees are flexible enough to take on new tasks.	1	2	3	4	5	6	7
5. …employees do not often need to make changes in their routines.	1	2	3	4	5	6	7
6. …employees are focused on keeping up with changes in the business market.	1	2	3	4	5	6	7
7. …our goals are often changed as circumstances in our business market change.	1	2	3	4	5	6	7
8. …employees have difficulty adapting quickly when there are new job demands required of us.	1	2	3	4	5	6	7

In my *organization*….. *(these are internal process climate items)*	Strongly Disagree						Strongly Agree
1. … employees perform work that is of consistently high caliber.	1	2	3	4	5	6	7
2. … employees make sure that work activities are organized and predictable.	1	2	3	4	5	6	7
3. … employees have a reputation for doing their job efficiently.	1	2	3	4	5	6	7
4. … we maintain a high level of productivity at all times.	1	2	3	4	5	6	7
5. … we strive to achieve maximum efficiency	1	2	3	4	5	6	7
6. … there is control over work activities and people to ensure reliable performance.	1	2	3	4	5	6	7
7. … we plan in advance to minimize disruptions and accomplish work goals.	1	2	3	4	5	6	7
8. … we are able to obtain the necessary resource needed to attain high levels of output.	1	2	3	4	5	6	7

In my *organization*….. *(these are rational goal climate items)*	Strongly Disagree						Strongly Agree
1. … we search for better ways to do work by bringing in new ideas, inventions, or methods.	1	2	3	4	5	6	7
2. …we are able to acquire the latest technology as quickly as possible.	1	2	3	4	5	6	7
3. …employees come up with new innovative ways of doing things.	1	2	3	4	5	6	7
4. …we get "state of the art" technology and personnel with highly specialized knowledge.	1	2	3	4	5	6	7
5. …employees are not allowed to try to improve work processes.	1	2	3	4	5	6	7
6. …employees have to fulfill current demands for services or products while planning for new demands or changing trends.	1	2	3	4	5	6	7
7. …employees are aware of the long-term plans and direction of the organization.	1	2	3	4	5	6	7
8. …it is difficult to get the latest technology quickly.	1	2	3	4	5	6	7

The following questions refer to how **PEOPLE IN GENERAL** (rather than just you individually) are treated by your organization.	Strongly Disagree						Strongly Agree
1. Overall, employees are treated fairly by my organization.	1	2	3	4	5	6	7
2. Usually, the way things work in this organization is not fair.	1	2	3	4	5	6	7
3. In general, employees can count on this organization to be fair.	1	2	3	4	5	6	7
4. For the most part, this organization treats its employees fairly.	1	2	3	4	5	6	7
5. In general, the treatment employees receive around here is fair.	1	2	3	4	5	6	7
6. Most of the people who work here would say they are often treated <u>unfairly.</u>	1	2	3	4	5	6	7
The following questions refer to how **YOU** feel your organization							
1. How would you rate the job knowledge and skills of employees in your business to deliver superior quality work and service?	1	2	3	4	5	6	7
2. How would you rate efforts to measure and track the quality of the work and service in your business?	1	2	3	4	5	6	7
3. How would you rate the recognition and rewards employees receive for the delivery of superior work and service?	1	2	3	4	5	6	7
4. How would you rate the overall quality of service provided by your business?	1	2	3	4	5	6	7
5. How would you rate the leadership shown by management in your business in supporting the service quality effort?	1	2	3	4	5	6	7
6. How would you rate the effectiveness of our communications efforts to both employees and customers?	1	2	3	4	5	6	7
7. How would you rate the tools, technology, and other resources provided to employees to support the delivery of superior quality of work and service?	1	2	3	4	5	6	7

Top management in my *organization*….. *(these are safety climate items)*	Strongly Disagree					Strongly Agree	
1. …reacts quickly to solve the problem when told about safety hazards	1	2	3	4	5	6	7
2. …insists on thorough and regular safety audits and inspections.	1	2	3	4	5	6	7
3. …tries to continually improve safety levels in each department.	1	2	3	4	5	6	7
4. …provides all the equipment needed to do the job safely.	1	2	3	4	5	6	7
5. …is strict about working safely when work falls behind schedule.	1	2	3	4	5	6	7
6. …quickly corrects any safety hazard (even if it's costly).	1	2	3	4	5	6	7
7. …provides detailed safety reports to workers (e.g., injuries, near accidents).	1	2	3	4	5	6	7
8. …considers a person's safety behavior when moving-promoting people.	1	2	3	4	5	6	7
9. …requires each manager to improve safety in his-her department.	1	2	3	4	5	6	7
10. …invests a lot of time and money in safety training for workers.	1	2	3	4	5	6	7
11. …uses available information to improve existing safety rules.	1	2	3	4	5	6	7
12. …listens carefully to workers' ideas about improving safety.	1	2	3	4	5	6	7
13. …considers safety when setting production speed and schedules.	1	2	3	4	5	6	7
14. …provides workers with a lot of information on safety issues.	1	2	3	4	5	6	7
15. …regularly holds safety-awareness events (e.g., presentations, ceremonies).	1	2	3	4	5	6	7
16. …gives safety personnel the power they need to do their job.	1	2	3	4	5	6	7

APPENDIX D: MODIFIED MOLAR CLIMATE ITEMS

Throughout this survey, we'd like to know how you feel about how things work around your _organization_ as a whole. For each question, please circle the number that best matches your response to each statement.

In my organization…… (internal process climate items)	Strongly Disagree					Strongly Agree	
1. Work activities in the organization are well coordinated.	1	2	3	4	5	6	7
2. It is important for organization members to communicate well with each other.	1	2	3	4	5	6	7
3. Rules and policies are clearly communicated to organization members.	1	2	3	4	5	6	7
4. Established procedures and policies generally govern what employees do in their jobs.	1	2	3	4	5	6	7
5. Employees in my organization are encouraged to follow their job descriptions.	1	2	3	4	5	6	7
6. Employees have specific routines they follow closely to do their jobs.	1	2	3	4	5	6	7
7. Work activities in the organization are well coordinated.	1	2	3	4	5	6	7
8. Organization employees perform work that is of consistently high caliber.	1	2	3	4	5	6	7
9. Organization employees make sure that work activities are organized and predictable.	1	2	3	4	5	6	7
10. Organization employees have a reputation for doing their job efficiently.	1	2	3	4	5	6	7
11. We maintain a high level of productivity at all times.	1	2	3	4	5	6	7
12. Organization employees perform work that is of consistently high caliber.	1	2	3	4	5	6	7

In my organization…… (rational goal climate items)	Strongly Disagree					Strongly Agree	
1. We are given the necessary resources to make changes when needed.	1	2	3	4	5	6	7
2. Employees are able to adapt to new demands when they come up.	1	2	3	4	5	6	7
3. Organization employees are flexible enough to take on new tasks as they come up.	1	2	3	4	5	6	7
4. Organization employees stick out their necks and take risks.	1	2	3	4	5	6	7
5. There is an emphasis on being the first to have new products or services.	1	2	3	4	5	6	7
6. Employees embrace change within the organization.	1	2	3	4	5	6	7
7. Employees are always ready to take on new challenges.	1	2	3	4	5	6	7
8. Organization employees are able to make changes in daily, weekly, or monthly operation routines as required.	1	2	3	4	5	6	7
9. We are able to respond to crises or emergencies in an effective manner.	1	2	3	4	5	6	7
10. We are able to adapt quickly and well to new demands on, or changes to, the organization.	1	2	3	4	5	6	7
11. Organization employees are able to make changes in daily, weekly, or monthly operation routines as required.	1	2	3	4	5	6	7

In my organization…… (human relations climate items)	Strongly Disagree					Strongly Agree	
1. Employees in my organization develop supportive, positive working relationships.	1	2	3	4	5	6	7
2. The organization's environment is such that it makes it easy to get along well with each other.	1	2	3	4	5	6	7
3. There is high morale among organization members.	1	2	3	4	5	6	7
4. We have little conflict between our organization members.	1	2	3	4	5	6	7
5. Members of this organization are committed to each other.	1	2	3	4	5	6	7
6. Each organization employee has an opportunity for growth and development.	1	2	3	4	5	6	7

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In my organization...... *(open-systems climate items)*	Strongly Disagree					Strongly Agree	
1. My organization plans for us to have the appropriate tools to do our jobs.	1	2	3	4	5	6	7
2. A big concern of the organization is to reach our set goals.	1	2	3	4	5	6	7
3. There is an emphasis on setting goals for the organization.	1	2	3	4	5	6	7
4. Employees in my organization are always planning to make improvements.	1	2	3	4	5	6	7
5. It is important that we plan for the future.	1	2	3	4	5	6	7
6. Organization employees are rewarded for reaching goals.	1	2	3	4	5	6	7
7. We search for better ways to do work by bringing in new ideas, inventions, or methods.	1	2	3	4	5	6	7
8. We are able to acquire the latest technology as quickly as possible.	1	2	3	4	5	6	7
9. Organization employees come up with new innovative ways of doing things.	1	2	3	4	5	6	7
10. We get "state of the art" technology and personnel with highly specialized knowledge.	1	2	3	4	5	6	7
11. The organization tries to predict what we will need to do in the future to reach our set goals.	1	2	3	4	5	6	7

The following questions refer to how **PEOPLE IN GENERAL** *(rather than just you individually) are treated by your organization.* *(overall fairness climate items)*	Strongly Disagree					Strongly Agree	
1. Overall, employees are treated fairly by my organization.	1	2	3	4	5	6	7
2. Usually, the way things work in this organization is not fair.	1	2	3	4	5	6	7
3. In general, employees can count on this organization to be fair.	1	2	3	4	5	6	7
4. For the most part, this organization treats its employees fairly.	1	2	3	4	5	6	7
5. In general, the treatment employees receive around here is fair.	1	2	3	4	5	6	7
6. Most of the people who work here would say they are often treated unfairly.	1	2	3	4	5	6	7

The following questions refer to how <u>YOU</u> feel your organization. (service climate items)	**To a small extent**					**To a great extent**	
1. How would you rate the job knowledge and skills of employees in your business to deliver superior quality service?	1	2	3	4	5	6	7
2. How would you rate efforts to measure and track the quality of the service in your business?	1	2	3	4	5	6	7
3. How would you rate the recognition and rewards employees receive for the delivery of superior service?	1	2	3	4	5	6	7
4. How would you rate the overall quality of service provided by your business?	1	2	3	4	5	6	7
5. How would you rate the leadership shown by management in your business in supporting the service quality effort?	1	2	3	4	5	6	7
6. How would you rate the effectiveness of our communications efforts to both employees and customers?	1	2	3	4	5	6	7
7. How would you rate the tools, technology, and other resources provided to employees to support the delivery of superior quality of service?	1	2	3	4	5	6	7

Top management in my organization….. *(safety climate items)*	To a small extent						To a great extent
1. Reacts quickly to solve the problem when told about safety hazards	1	2	3	4	5	6	7
2. Insists on thorough and regular safety audits and inspections.	1	2	3	4	5	6	7
3. Tries to continually improve safety levels in each organization.	1	2	3	4	5	6	7
4. Provides all the equipment needed to do the job safely.	1	2	3	4	5	6	7
5. Is strict about working safely when work falls behind schedule.	1	2	3	4	5	6	7
6. Quickly corrects any safety hazard (even if it's costly).	1	2	3	4	5	6	7
7. Provides detailed safety reports to workers (e.g., injuries, near accidents).	1	2	3	4	5	6	7
8. Considers a person's safety behavior when moving-promoting people.	1	2	3	4	5	6	7
9. Requires each manager to improve safety in his-her organization.	1	2	3	4	5	6	7
10. Invests a lot of time and money in safety training for workers.	1	2	3	4	5	6	7
11. Uses available information to improve existing safety rules.	1	2	3	4	5	6	7
12. Listens carefully to workers' ideas about improving safety.	1	2	3	4	5	6	7
13. Considers safety when setting production speed and schedules.	1	2	3	4	5	6	7
14. Provides workers with a lot of information on safety issues.	1	2	3	4	5	6	7
15. Regularly holds safety-awareness events (e.g., presentations, ceremonies).	1	2	3	4	5	6	7
16. Gives safety personnel the power they need to do their job.	1	2	3	4	5	6	7

Thank you for your assistance!!!!

APPENDIX E: SURVEY COMPLETED BY DEPARTMENT SUPERVISOR

SECTION I. YOUR DEPARTMENT'S WORK ENVIRONMENT

> Please indicate how much you agree or disagree with the following statements about your DEPARTMENT'S climate by circling the number corresponding to your level of agreement. Some of the items throughout the survey may seem similar; however, it is important that you try to carefully answer each question.

Overall Work Environment (==molar climate items==)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Employees develop supportive, positive working relationships among department members.	[1]	[2]	[3]	[4]	[5]
2. The environment is such that members of the department get along well with each other.	[1]	[2]	[3]	[4]	[5]
3. We have little conflict between our department members.	[1]	[2]	[3]	[4]	[5]
4. Members of this department are committed to each other.	[1]	[2]	[3]	[4]	[5]
5. Rules and policies are clearly communicated to department members.	[1]	[2]	[3]	[4]	[5]
6. Established procedures and policies generally govern what employees do in their jobs.	[1]	[2]	[3]	[4]	[5]
7. Employees in my department are encouraged to follow their job descriptions.	[1]	[2]	[3]	[4]	[5]
8. Department employees make sure that work activities are organized and predictable.	[1]	[2]	[3]	[4]	[5]
9. Employees are able to adapt to new demands when they arise.	[1]	[2]	[3]	[4]	[5]
10. Department employees are flexible enough to take on new tasks as they arise.	[1]	[2]	[3]	[4]	[5]
11. Change is embraced within the department.	[1]	[2]	[3]	[4]	[5]
12. Department employees are able to make changes in daily, weekly, or monthly operation routines as required.	[1]	[2]	[3]	[4]	[5]
13. A big concern of the department is to reach our set goals.	[1]	[2]	[3]	[4]	[5]
14. There is an emphasis on setting goals for the department.	[1]	[2]	[3]	[4]	[5]
15. It is important that we plan for the future.	[1]	[2]	[3]	[4]	[5]

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16. Department employees are rewarded for reaching goals.   [1]   [2]   [3]   [4]   [5]

SECTION 2. DEPARTMENT EMPLOYEE BEHAVIORS

Please indicate how much you agree or disagree with the following statements about your DEPARTMENT by circling the number corresponding to your level of agreement.

Service (measure of department service)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Compared to other departments that do similar work, the quality of service provided by my department is superior.	[1]	[2]	[3]	[4]	[5]
2. Overall my department's customers/clients (either internal or external) are very satisfied with the quality of our service.	[1]	[2]	[3]	[4]	[5]
3. Compared to other departments that do similar work, our customers/clients are very satisfied with our service.	[1]	[2]	[3]	[4]	[5]

Safety (measure of department safety)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Compared to other departments that do similar work, we have few accidents.	[1]	[2]	[3]	[4]	[5]
2. Compared to other departments that do similar work, the employees in my department exhibit safe behaviors.	[1]	[2]	[3]	[4]	[5]
3. Overall, the employees in my department exhibit safe behavior.	[1]	[2]	[3]	[4]	[5]

Innovation (measure of department innovation)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. My department searches out new technologies, processes, techniques, and/or product ideas.	[1]	[2]	[3]	[4]	[5]
2. Employees in my department generate creative ideas.	[1]	[2]	[3]	[4]	[5]
3. Employees in my department promote and champions ideas to others.	[1]	[2]	[3]	[4]	[5]
4. My department investigates and secures funds needed to implement new ideas.	[1]	[2]	[3]	[4]	[5]
5. My department develops adequate plans and schedules for the implementation of new ideas.	[1]	[2]	[3]	[4]	[5]

6. My department employees are innovative. [1] [2] [3] [4] [5]

Training (measure of department training)

		Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1.	Compared to other departments that do similar work, we have comparable training programs.	[1]	[2]	[3]	[4]	[5]
2.	Employees in my department receive superior training to do their jobs.	[1]	[2]	[3]	[4]	[5]
3.	Overall, department employees are satisfied with their training opportunities.	[1]	[2]	[3]	[4]	[5]

Please select the choice that best describes the extent to which employees in your DEPARTMENT engage in these behaviors. Choose only one answer for each question.

Overall Performance
(measure of department performance)

		Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1.	Over the past year, what is your department's performance in comparison to other departments in the same line of work?	[1]	[2]	[3]	[4]	[5]
2.	Over the past 5 years, what is your department's performance in comparison to other departments in the same line of work?	[1]	[2]	[3]	[4]	[5]
3.	How does the labor productivity of your department compare to other departments in the same industry?	[1]	[2]	[3]	[4]	[5]
4.	How does the financial performance of your department compare to other departments in the same industry?	[1]	[2]	[3]	[4]	[5]
5.	How successful is your department in comparison to others in the same line of work and of about the same size?	[1]	[2]	[3]	[4]	[5]
6.	To what degree has your department achieved most of its goals?	[1]	[2]	[3]	[4]	[5]

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Please indicate the extent DEPARTMENT employees engaged in each of the following behaviors within the last year.

(measure of department deviance)

		Never	Once	A Few Times	Several Times	Monthly	Weekly	Daily
1.	Taken property from work without permission.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
2.	Spent too much time fantasizing or daydreaming instead of working.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
3.	Falsified a receipt to get reimbursed for more money than they spent on business expenses.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
4.	Taken an additional or longer break than is acceptable at our workplace.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
5.	Come in late to work without permission.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
6.	Littered their work environment.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
7.	Discussed confidential company information with an unauthorized person.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
8.	Used an illegal drug or consumed alcohol on the job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
9.	Put little effort into their work.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
10.	Dragged out work in order to get overtime.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
11.	Worked slower than they could have worked.	[1]	[2]	[3]	[4]	[5]	[6]	[7]
12.	Neglected to follow my instruction.	[1]	[2]	[3]	[4]	[5]	[6]	[7]

How often do your DEPARTMENT EMPLOYEES…

(measure of compliance with organizational policies)

		Never	Almost Never	Sometimes	Almost Always	Always
1.	Comply with work-related rules and regulations.	[1]	[2]	[3]	[4]	[5]
2.	Use company rules to guide what they do on the job.	[1]	[2]	[3]	[4]	[5]
3.	Carefully carry out supervisor instructions.	[1]	[2]	[3]	[4]	[5]
4.	Follow established policies	[1]	[2]	[3]	[4]	[5]
5.	Seek information about appropriate company policies before acting.	[1]	[2]	[3]	[4]	[5]
6.	Come to work on time.	[1]	[2]	[3]	[4]	[5]
7.	Follow work rules about how they should spend their time.	[1]	[2]	[3]	[4]	[5]

		Strongly Disagree	Disagree	Neutral	Strongly Agree	Strongly Agree
1.	My department cannot accomplish its tasks without information or materials from other members of the department.	[1]	[2]	[3]	[4]	[5]
2.	Employees in the department depend on each other for information or materials needed to perform tasks.	[1]	[2]	[3]	[4]	[5]
3.	Within my department, jobs performed by team members are all related to one another.	[1]	[2]	[3]	[4]	[5]

The following pairs of statements describe different management philosophies. For each pair, circle the number that best describes the management philosophy in your DEPARTMENT. For example, a "1" means the left-hand statement perfectly describes your DEPARTMENT. A "7" indicates that the right-hand statement perfectly describes your DEPARTMENT. A "4" indicates that your DEPARTMENT is balanced between the two views. In general, the management philosophy in my DEPARTMENT favors . . .

1. Highly structured channels of communication and a highly restricted access to important financial and operating information.	1 2 3 4 5 6 7	Open channels of communication with important financial and operating information flowing quite freely throughout the department.
2. A strong insistence on a uniform managerial style throughout the department.	1 2 3 4 5 6 7	Managers' operating styles allowed to range freely from the very formal to the very informal.
3. A strong emphasis on giving the most say in decision making to formal line managers.	1 2 3 4 5 6 7	A strong tendency to let the expert in a given situation have the most say in decision making even if this means a temporary bypassing of formal line authority.
4. A strong emphasis on holding fast to tried and true management principles despite any changes in business conditions.	1 2 3 4 5 6 7	A strong emphasis on adapting freely to changing circumstances without too much concern for past practice.
5. A strong emphasis on always getting personnel to follow the formally laid down procedures.	1 2 3 4 5 6 7	A strong emphasis on getting things done even if it means disregarding formal procedures.
6. Tight formal control of most operations by means of sophisticated control and information systems.	1 2 3 4 5 6 7	Loose, informal control; heavy dependence on informal relationships and the norm of cooperation for getting things done.
7. A strong emphasis on getting line and staff personnel to adhere closely to formal job descriptions.	1 2 3 4 5 6 7	A strong tendency to let the requirements of the situation and the individual's personality define proper on-job behavior.

SECTION 4. YOUR BACKGROUND INFORMATION

Please provide us with some background information about you. This information will NOT be used to identify any individual.

1. What is your education level? Please circle the highest level you have completed.
   Some High School   Some Graduate School
   High School   Masters Degree
   Some College   Doctoral Degree
   College Degree
2. How old are you? _____
3. What is your sex (please circle):   male   female
4. Which of the following BEST describes your ethic or racial background (please circle)? If none of the choices fits you, please describe your ethnic or racial background in the space labeled "other".
   African American / Black   Latino/a
      Asian American   Native-American

      Caucasian   Biracial _____
      Hispanic   Other _____
5. What is the name of your organization? _____
6. What department do you work in? _____
7. Which of the following BEST describes your position at your organizations? If none of the choices fit you, please list your position in the space labeled "other."
   Non-management   Middle-management   Other_____
   Line-management   Senior/executive management
8. How long have you worked for your organization? _____
9. How long have you worked in your department? _____
10. Approximately how many people work in your department? _____
11. Approximately how many employees work for your organization overall? (If you don't know for sure, make your best estimate.)
   _____
12. What is the main industry in which your organization operates? _____

****THANK YOU FOR YOUR HELP WITH OUR STUDY****

APPENDIX F: SURVEY COMPLETED BY DEPARTMENT EMPLOYEES

SECTION 1 YOUR DEPARTMENT'S WORK ENVIRONMENT

Please indicate how much you agree or disagree with the following statements about your DEPARTMENT'S climate by circling the number corresponding to your level of agreement. Some of the items throughout the survey may seem similar; however, it is important that you try to carefully answer each question.

Overall Work Environment
(molar climate measure)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Employees develop supportive, positive working relationships among department members.	[1]	[2]	[3]	[4]	[5]
2. The environment is such that members of the department get along well with each other.	[1]	[2]	[3]	[4]	[5]
3. We have little conflict between our department members.	[1]	[2]	[3]	[4]	[5]
4. Members of this department are committed to each other.	[1]	[2]	[3]	[4]	[5]
5. Rules and policies are clearly communicated to department members.	[1]	[2]	[3]	[4]	[5]
6. Established procedures and policies generally govern what employees do in their jobs.	[1]	[2]	[3]	[4]	[5]
7. Employees in my department are encouraged to follow their job descriptions.	[1]	[2]	[3]	[4]	[5]
8. Department employees make sure that work activities are organized and predictable.	[1]	[2]	[3]	[4]	[5]
9. Employees are able to adapt to new demands when they arise.	[1]	[2]	[3]	[4]	[5]
10. Department employees are flexible enough to take on new tasks as they arise.	[1]	[2]	[3]	[4]	[5]
11. Change is embraced within the department.	[1]	[2]	[3]	[4]	[5]
12. Department employees are able to make changes in daily, weekly, or monthly operation routines as required.	[1]	[2]	[3]	[4]	[5]
13. A big concern of the department is to reach our set goals.	[1]	[2]	[3]	[4]	[5]
14. There is an emphasis on setting goals for the department.	[1]	[2]	[3]	[4]	[5]
15. It is important that we plan for the future.	[1]	[2]	[3]	[4]	[5]

16. Department employees are rewarded for reaching goals.	[1]	[2]	[3]	[4]	[5]

Training <mark>(measure of training climate)</mark>

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. There is a performance appraisal system that ties financial rewards to use of newly acquired knowledge and skills.	[1]	[2]	[3]	[4]	[5]
2. My department offers opportunities for excellent training programs.	[1]	[2]	[3]	[4]	[5]
3. Department employees are provided with resources necessary to acquire and use knowledge and skills.	[1]	[2]	[3]	[4]	[5]
4. There are rewards and incentives for acquiring and using new knowledge and skills.	[1]	[2]	[3]	[4]	[5]
5. My department rewards employees for using newly acquired knowledge and skills on the job.	[1]	[2]	[3]	[4]	[5]

Service <mark>(measure of service climate)</mark>

	Poor		Average		Excellent
1. How would you rate the job knowledge and skills of employees in your department to deliver superior quality service?	[1]	[2]	[3]	[4]	[5]
2. How would you rate efforts to measure and track the quality of the service in your department?	[1]	[2]	[3]	[4]	[5]
3. How would you rate the recognition and rewards employees receive for the delivery of superior service?	[1]	[2]	[3]	[4]	[5]
4. How would you rate the overall quality of service provided by your department?	[1]	[2]	[3]	[4]	[5]
5. How would you rate the leadership shown by management in your department in supporting the service quality effort?	[1]	[2]	[3]	[4]	[5]
6. How would you rate the effectiveness of the communications efforts to both employees and customers?	[1]	[2]	[3]	[4]	[5]
7. How would you rate the tools, technology, and other resources provided to department employees to support the delivery of superior quality service?	[1]	[2]	[3]	[4]	[5]

Innovation <mark>(measure of innovation climate)</mark>

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. The department is always moving toward the development of new answers.	[1]	[2]	[3]	[4]	[5]
2. Assistance in developing new ideas is available.	[1]	[2]	[3]	[4]	[5]
3. The department is always open and responsive to change.	[1]	[2]	[3]	[4]	[5]
4. People in this department are always searching for fresh, new ways of looking at problems.	[1]	[2]	[3]	[4]	[5]
5. In this department we take the time needed to develop new ideas.	[1]	[2]	[3]	[4]	[5]
6. People in the department cooperate in order to help develop and apply new ideas.	[1]	[2]	[3]	[4]	[5]
7. Members of the team provide and share resources.	[1]	[2]	[3]	[4]	[5]
8. Team members provide practical support for new ideas and their application.	[1]	[2]	[3]	[4]	[5]

Safety <mark>(measure of safety climate)</mark>

		Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1.	As long as there is no accident, department employees don't care how the work is done.	[1]	[2]	[3]	[4]	[5]
2.	Whenever pressure builds up, department employees just want to get the job done, rather than do it by the rules.	[1]	[2]	[3]	[4]	[5]
3.	Department employees only keep track of major safety problems and overlook routine problems.	[1]	[2]	[3]	[4]	[5]
4.	Department employees watch each other more often when an employee has violated a safety rule.	[1]	[2]	[3]	[4]	[5]
5.	Department employees approach each other during work to discuss safety issues.	[1]	[2]	[3]	[4]	[5]
6.	Department employees get annoyed with each other ignoring safety rules, even minor rules.	[1]	[2]	[3]	[4]	[5]
7.	Department employees seriously consider each others' suggestions for improving safety.	[1]	[2]	[3]	[4]	[5]
8.	Department employees pay less attention to safety problems than do employees in other similar departments.	[1]	[2]	[3]	[4]	[5]
9.	Department employees say good words whenever they see each other do a job according to the safety rules.	[1]	[2]	[3]	[4]	[5]
10.	As long as work remains on schedule, department employees don't care how this has been achieved.	[1]	[2]	[3]	[4]	[5]

SECTION 2. YOUR ATTITUDES

Please select the choice that best describes your attitudes. Choose only one answer for each question.

Work Attitudes (measure of job attitudes)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Most days I am enthusiastic about my work.	[1]	[2]	[3]	[4]	[5]
2. I think that I could easily become as attached to another organization as I am to this one.	[1]	[2]	[3]	[4]	[5]
3. I enjoy discussing my organization with people outside of it.	[1]	[2]	[3]	[4]	[5]
4. I intend to remain with this organization indefinitely.	[1]	[2]	[3]	[4]	[5]
5. I really feel as if this organization's problems are my own.	[1]	[2]	[3]	[4]	[5]
6. I do not feel like "part of the family" at my organization.	[1]	[2]	[3]	[4]	[5]
7. I would leave my job if a position were available in another organization.	[1]	[2]	[3]	[4]	[5]
8. I do not feel a strong sense of belonging to my organization.	[1]	[2]	[3]	[4]	[5]
9. I consider my job rather unpleasant.	[1]	[2]	[3]	[4]	[5]
10. This organization has a great deal of personal meaning to me.	[1]	[2]	[3]	[4]	[5]
11. My job is pretty uninteresting.	[1]	[2]	[3]	[4]	[5]
12. I would be very happy to spend the rest of my career with this organization.	[1]	[2]	[3]	[4]	[5]
13. I am disappointed I ever took this job.	[1]	[2]	[3]	[4]	[5]
14. I find real enjoyment in my work.	[1]	[2]	[3]	[4]	[5]
15. I intend to leave this organization within the next year.	[1]	[2]	[3]	[4]	[5]
16. I do not feel "emotionally attached" to this organization.	[1]	[2]	[3]	[4]	[5]

SECTION 3. ADDITIONAL INFORMATION ON YOUR DEPARTMENT

> Please indicate how much you agree or disagree with the following statements by circling the number corresponding to your level of agreement.

Supervisor Behavior (measure of leader informing behavior)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. My supervisor informs me about issues that can affect me.	[1]	[2]	[3]	[4]	[5]
2. My supervisor informs me about work practices and strategies.	[1]	[2]	[3]	[4]	[5]
3. My supervisor guides me by providing clear information about my job.	[1]	[2]	[3]	[4]	[5]

Rate the extent to which you are clear about the procedures, scheduling, and time allocations required to perform your work tasks. (measure of process clarity)

	Very Unclear	Somewhat Unclear	Neither Clear or Unclear	Somewhat Clear	Very Clear
1. My duties and responsibilities.	[1]	[2]	[3]	[4]	[5]
2. The goals and objectives for my job.	[1]	[2]	[3]	[4]	[5]
3. The expected results of my work.	[1]	[2]	[3]	[4]	[5]

(measure of meaningfulness)

	Strongly Disagree	Disagree	Neutral	Strongly Agree	Strongly Agree
1. Department employees believe that their projects are significant.	[1]	[2]	[3]	[4]	[5]
2. Department employees feel that their tasks are worthwhile.	[1]	[2]	[3]	[4]	[5]
3. Department members feel that their work is meaningful.	[1]	[2]	[3]	[4]	[5]

SECTION 4. YOUR BACKGROUND INFORMATION

Please provide us with some background information about you. This information will NOT be used to identify any individual.

1. What is your education level? Please circle the highest level you have completed.

Some High School	Some Graduate School
High School	Masters Degree
Some College	Doctoral Degree
College Degree	

2. How old are you? _____
3. What is your sex (please circle):   male   female
4. Which of the following BEST describes your ethic or racial background (please circle)? If none of the choices fits you, please describe your ethnic or racial background in the space labeled "other".

African American / Black	Latino/a
Asian American	Native-American
Caucasian	Biracial _____
Hispanic	Other _____

5. What is the name of your organization? _____
6. What department do you work in? _____

(continued on the back page)

7. Which of the following BEST describes your position at your organizations? If none of the choices fit you, please list your position in the space labeled "other."

Non-management	Middle-management	Other_____
Line-management	Senior/executive management	

8. How long have you worked for your organization? _____
9. How long have you worked in your department? _____
10. Approximately how many people work in your department? _____
11. Approximately how many employees work for your organization overall? (If you don't know for sure, make your best estimate.) _____

12. What is the main industry in which your organization operates? _____

APPENDIX G: IRB APPROVAL