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An Integrative Study of Service and Safety Climate and Performance: Do Climates Compete?

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AN INTEGRATIVE STUDY OF SERVICE AND SAFETY CLIMATE AND PERFORMANCE: DO CLIMATES COMPETE?

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Chapter I

INTRODUCTION

To fully understand the nature of behavior in organizations one must account not only for individual differences, but also for the context in which individuals operate. Scholars are expanding our knowledge of the latter by examining the social and organizational characteristics shaping the contextual backdrop in organizations. By examining the behavior equation beyond human differences researchers explore the nature and credence of environmental elements and subsequently provide a clearer understanding of how and why work contexts influence employee actions. One area attempting to capture this essence of the context employees experience is work climates. At their core, climate studies focus on the shared perceptions of aspects of the working environment held by a collective of individuals (Schneider, 2000). Over the past several decades, empirical findings, methodological advances, and theoretical debate have situated climate research as a relevant estimation of the contextual link to the perceptions, behaviors, and feelings of individuals in organizations (Ostroff, Kinicki, & Tamkins, 2003). Despite this assurgency in work climates, few scholars have considered more than one type climate at a time. Using the competing values framework (Quinn & Rohrbaugh, 1981; 1983), a hypothesized model of multiple climates is developed and tested using meta-analytic path modeling.

The purpose of the current study is to examine service and safety climates in conjunction to determine the influence on facet specific performance as well as overall

group performance. The existence of two or more specific climates may potentially "compete" within the environment leading to conflicting consequences as employees attempt to adhere to potentially divergent ambient stimuli and group norms. MacCormick & Parker (2010, p. 1773) describe this notion of competing climates as follows:

> "…focusing on specific climate…researchers focus on specific outcomes. For example, the climate for safety literature focuses on predicting injuries or accidents, whilst the climate for service literature focuses on customer satisfaction. This approach makes sense for understanding that particular outcome, but is less useful for understanding how climate contributes to overall unit or organizational performance (Nishii et al., 2008; Yang et al., 2007), or for considering how multiple climates for something might have their effects via different effectiveness outcomes."

Climate competition is conceptualized as the presence of two or more shared collections of perceived policies, practices, and procedures applying differing influence on aspects of performance objectives. This definition addresses the multidimensional nature of climate variables and organizational performance measures (MacCormick & Parker, 2010), as well as acknowledges not only the existence of multiple climates but also the conflicting pressure exerted by each climate. Climates are in competition when the climate objectives (e.g. service performance or safety performance) and/or the means to achieve those objectives (policies, rewards, expectations, etc.) are misaligned. Prior scholars have put forward the idea of climate competition (Kuenzi & Schminke, 2009), for example a climate for service might hamper a climate for efficiency (Schneider, White, & Paul, 1998). Other examples include the notion that a climate for predictability might weaken a climate for innovation (Anderson & West, 1998) and a climate for safety may have competing priorities with an efficiency focus (Zohar & Luria, 2005).

The presence of competing climate perceptions is important as it could diminish the performance capability of work groups as the shared interpretation of contextual factors are constrained in divergent directions. While the multiple perceptions shared by the group are similar in the face of existing climates (by definition), it is the potential contradictory influence of those climate forces that is the phenomenon of interest here. If the pursuit of organizational rewards or fulfillment of group expectations in one regard (i.e. safety performance) attenuates or impedes the ability to meet other objectives (i.e. service performance) then subsequent contextual tension may diminish facet and overall measures of performance.

Updating climate theory to include climate competition may explain prior inconsistent or null findings. As noted by Litkin and Stringer (1968, p. 29), climates provide scholars a means to analyze "the determinants of motivated behavior in actual, complex social situations". A focus on multiple facet climates simultaneously may provide a closer look at how that complexity plays out. Kuenzi and Schminke (2009, p. 705-706) recommend future research on multiple climates by noting, "[i]nteractive effects between climates, and especially between competing climates, present a rich opportunity for scholars to understand how these contextual influences operate in organizational settings."

This study not only seeks to extend the literatures on safety and service climates by studying them simultaneously, but also strives to directly test this notion of climate competition meta-analytically. This study also contributes to a better understanding of the complex performance relationships at the group level. By acknowledging the diverse situational characteristics exerting influences on individuals and groups we gain a clearer

picture of how group performance is affected by multiple, simultaneous climates. An additional contribution of this study is to provide enhanced generalizability for safety and service climates through the use of meta-analytic procedures. By combining multiple primary studies, the effect sizes given are more robust than primary studies alone. From a practical standpoint, this study should reinforce for managers the complexities existing in trying to understand and manage the amorphous realm of employee perceptions of their work environment. The idea of competing climates should be realistic for practitioners; also, the direct evidence of contradictory performance outcomes stemming from this climate competition should be noteworthy. As employees make sense of their environment, the presence of multiple strong constraints within that environment has ramifications for employee focus and productivity

In order to accomplish these objectives this project is organized as follows. First an overview of the climate research literature is provided, detailing the definitional, theoretical, and methodological elements of organizational work climates as they relate to the current research. Following this review, an examination of the notion of climate competition is offered by hypothesizing direct and interactive relationships between safety and service climates and safety and service performance as well as overall performance outcomes. Finally, a methodology for testing these hypothesized relationships through meta-analytic path modeling is proposed.

Chapter II

LITERATURE REVIEW

This section reviews the extant climate literature as it pertains to accomplishing the objectives of the current project. First a definition is provided to clarify the meaning and scope of how this study views the construct of work climates. Second, key theoretical foundations of climate formation and methodological issues regarding climate measurement are highlighted and discussed. Third, several relevant topics of conceptual discourse are presented in order to specify the relationships under investigation in the current study. Next, I narrow the focus of the review to specifically address the multiple climate perspective and briefly overview the specific climates of safety and service. Finally, the criterion of interest for the current study, group performance, is reviewed as well as facet (i.e. safety and service) performance.

Climate Definition

The specific operationalization of organizational work climates may vary by study, however a generally acknowledged definition stems from shared perceptions, developed through interaction, regarding the policies, practices, and procedures[1] that are rewarded, supported, and expected by an organization (James, Joyce, & Slocum, 1988; Schneider & Reichers, 1983). The important components of this description are the collective and perceptual nature of climates that are forged through sociological influences. While climates are formed from individual perceptions, the extent to which

[1] This and all references to policies, practices, and procedures refer to generally accepted definition typified by Zohar & Luria (2005, p. 616). "Policies…define strategic goals and means of their attainment, whereas procedures provide tactical guidelines for actions related to these goals and means. Practices…relate to the implementation of policies and procedures in each subunit."

those individual perceptions are shared becomes a property of the collective in question (Morgeson & Hoffman, 1999). By aggregating individual level perceptions (given appropriate levels of agreement), the perceptions of employees within a unit reflect the shared fabric of their environment (Kuenzi & Schminke, 2009). This definition is perceptual in that it represents workers personal manifestations of contextual characteristics of their organization, in turn those micro-perceptions, when aggregated become macro-perceptions of the organizational context (Dietz, Pugh, & Wiley, 2004). In their review of work climates, Ostroff and colleagues describe a work climate as an "experientially based description of what people see and report happening to them in an organizational situation" (Ostroff et al., 2003: p. 566). After this understanding what climate is, it is useful to consider how climates function by addressing the theory behind climate research.

Theoretical Underpinnings

The theoretical foundations of organizational work climates began over 70 years ago with the work of Lewin and associates (1939) as they experimentally examined the atmosphere or climate formed by different leadership styles and subsequent differential attitudes and behaviors of group members. This and other early studies established climates as a construct reflecting an abstraction of the environment above and beyond the individuals functioning within it (Ostroff et al., 2003). The underlying social psychological view that human behavior is a function of the individual and the environment (Lewin, 1951) is at the theoretical core of climate studies. Another property of climates which is important to grasp to understand the theory behind climate formation is the emergent nature of climates. Climates are emergent in that they emanate from the

individuals within groups, and are amplified by ongoing group interactions (Kozlowski & Klein, 2000). Therefore climates are formed by and ultimately constrain the actions of individuals functioning within the group.

At least four theoretical viewpoints on climate formation have been recognized and studied including structuralist, homogeneity, social interaction, and leadership (Ostroff, et al., 2003). Indicative of the definition of climates, the structuralist perspective is rooted in the policies, practices, and procedures of the organization and views characteristics of the organization as an objective reality in which climate perceptions are partially based (Lewin, 1951). The homogeneity viewpoint is based on attraction-selection-attrition (ASA) in which employees attracted to, selected by, and remain in organizations that share and value similar views and attributes (Schneider & Reichers, 1983). A social interaction perspective emphasizes the shared meaning that arise from the iterative contextual interpretation cycle by employees (Morgeson & Hoffman, 1999), as individual behaviors and attitudes are molded by the information gleaned from the social environment (Li & Cropanzano, 2009). The leadership viewpoint focus on the leader's role in filtering and focusing organizational policies, practices, and procedures as leader's become "climate engineers" (Naumann & Bennett, 2000).

These four theoretical views provide a glimpse at the process(es) through which work climates emerge, and are useful in explaining the mechanisms by which employees play a part in forming (through their collective abstractions of the environment) and are transformed by (through the constraining nature of the environment) these climates. Next I look at several ongoing methodological considerations of note regarding work climates

that should be addressed in order to couch the current research in the existing climate literature.

Methodological issues

In order to effectively explore the shared, emergent nature of climate, scholars suggest that the extent of sharedness or consensual agreement within a collective on climate perceptions should be the focal phenomenon rather than merely a statistical prerequisite for aggregation (Brown, Kozlowski, & Hattrup, 1996). While this justification (within unit consensus and between group variability) is needed to support aggregation of individual perceptions to a higher level of analysis, the degree to which a climate is present is meaningful beyond the existence of the climate alone. In addition to measuring the extent individual perceptions are shared, climate researchers have also incorporated climate strength into their models. Measured by indexing the degree of within unit agreement, climate strength has demonstrated main and moderating effects, often accentuating existing climate relationships (e.g. Gonzalez-Romá, Peiró, J., & Tordera, 2002; Schneider, Salvaggio, & Subirats, 2002).

Climate referents. Another consideration for assessing work climates in the field is related to the focal point or referent for measuring climate (Ostroff et al., 2003). The nature of the referent of the climate measure will influence the measurement of the particular climate. While some climates aggregate direct individual perceptions (e.g. *I think that…*), researchers proffer that we may also tap into what an individual perceives others in the unit perceive the climate (e.g. *my team thinks that…*). Several composition models have been provided to enhance the specificity in which scholars identify the functional relationships of constructs across levels of analysis (Brown & Kozlowski,

1999; Chan, 1998). Climate referents can range across hierarchical levels from supervisors to work groups up to organizational level referents, and depending on how the measure is framed the referent used can influence empirical findings (Ostroff & Rothausen, 1997).

Climate dimensionality. Another methodological issue in climate research is the dimensionality of climate measures. There remains disagreement in the field on the necessity to conceptualize climates as uni- or multi-dimensional (Kuenzi & Schminke, 2009). Early studies on work climates attempted to identify components of the global climate, which partly led to the eventual shift to facet specific climates (James & Jones, 1974). As noted above, more recent work on climate dimensions move beyond global climates to deal with facet specific climates, for example service climate (Borucki & Burke, 1999; Schneider et al., 1998). Dimensions such as the extent of management support or reward orientation have been used to further understand the formation and influence of climates. More studies considering multiple dimensions of climates are needed as well as tighter definitions in order to increase measurement precision and remove potential overlapping of subdimensions (Kuenzi & Schminke, 2009).

These methodological issues are meaningful in order to accurately conceptualize and measure the desired nuances of work climates. By understanding how climates are formed and how they are measured, scholars are able to better study and explain this important organizational phenomenon. The next section maps the conceptual discourse of scholars that has helped clarify the amorphous topic of work climates.

Conceptual Debate

Development of the notion of work climates has been spurred on by the acknowledgment and attempted resolution of several debates regarding the nature of climates which has resulted in important distinctions for climate researchers to consider. Some of the theoretical debates of note that lead to these distinctions include: climate vs. culture, psychological climate vs. organizational climate, and global climate vs. facet-specific climates. The following sections provide an overview of these distinctions and attempt to precisely situate the current project in the existing literature. Following this discussion of climate distinctions a review of the theoretical underpinnings and methodological considerations of work climates is offered. Next the idea of a multiple climate perspective is presented, detailing the notion of climate competition. This chapter concludes with a specific look at safety climate and service climate, as well as group performance outcomes.

Climate vs. Culture

One notable topic of theoretical discourse has been to distinguish the constructs of climate and culture. Work climate and culture both focus on how individuals make sense of the environment in organizations through a shared understanding of certain aspects of the organizational context (Schneider, 2000). Similarly both culture and climates are influential for individual, group, and organizational performance and job attitudes (Ostroff et al., 2003). Essentially both constructs tap into what Ostroff and colleagues describe as the "creation and impact of social contexts", however the authors assert that "maintaining a distinction between [climate and culture] is important if we are to understand different aspects of the social context and shared meaning perceptions that develop in organizational life" (2003, p. 586).

This distinction between climate and culture becomes apparent when considering the definitional aspects as well as the tangibility and measurement of the two constructs. While the specific operationalization of work climates varies by study, a generally acknowledged definition of climate stems from shared perceptions developed through interaction regarding the policies, practices, and procedures that are rewarded, supported, and expected by an organization (James, Joyce, & Slocum, 1988; Schneider & Reichers, 1983). Recall, climate is an "experientially based description of what people see and report happening to them in an organizational situation" (Ostroff et al., 2003, p. 566).

While climate focuses on the shared perceptions of *what* happens in organization, culture gives insight into *why* things happen the way they do (Schein, 2000). Similar to climate, definitions of organizational culture abound, however several common qualities of these definitions exist. Definitions of culture generally include the notions regarding the socially constructed nature of culture influenced by historical and spatial boundaries, cognitive and symbolic aspects of organizational context, the idea of shared meaning, and manifestation through multiple layers of accessibility and subjectivity (i.e. observed artifacts, espoused values, and basic assumptions)(Ostroff et al., 2003). With its roots in historical and symbolic aspects of an organization, culture depicts a broader representation of work context and is generally more stable and resistant to manipulation than are work climates (Dennison, 1996).

Inherent in these definitional differences between climate and culture, the two constructs are experienced differently by individuals and subsequently have differing influences on the contextual frame through which employees perceive and make sense of their environment. As climate is essentially an experiential description of the work

context, it is much more immediate and salient than culture in that individuals can palpably sense it more tangibly (Turnispeed, 1988). This tangibility is demonstrated through facets of the work environment such as the attitudes and emotions displayed by employees, the physical appearance of the location, and the experiences of visitors and new employees (Ostroff et al., 2003). Culture, on the other hand, is rooted in deeper symbolic interpretations of the history and values that underlie the beliefs and assumptions of employees (Hatch, 1993; Schein, 1992). While it is apparent that climate is more of a short-term phenomenon, open to manipulation and development; culture is more enduring and resistant to exploitation (Dennison, 1996).

A final element distinguishing culture and climate is the methodological approaches used to ascertain the existence and nature of each in a given research setting (Glick, 1985). Climate is rooted in the interactionist idea of social psychology (Lewin, 1951) and is typically measured through survey instruments designed to assess employee perceptions, as well as the 'sharedness' of those perceptions, of organizational events (Rentsch, 1990). As noted above, culture is much less tangible than climate and more difficult to ascertain. Therefore culture is typically assessed through qualitative efforts to inductively determine the shared assumptions surrounding organizational events (McMurray, 2003). As such, climate measures essentially determine how organizational phenomena are perceived by employees while culture studies delve more deeply into the assumptions and ideologies in order to understand why the phenomena occurred.

Admittedly there is some degree of overlap in the notions of culture and climate, notably the idea that human behavior is shaped by the social context in which they operate. Despite this overlap, the present study focuses on work climate rather than

culture because of the more proximal influence on employee behavior resulting from strong climates as well as the immediacy of climate perceptions. Culture studies typically look at the forms (e. g. myths, symbols, and artifacts) through which these contextual influences are displayed; while climate researchers, on the other hand, are interested in the processes through which these sociological constraints are enacted. Ultimately, the focus and nature of the research questions described in Chapter 3 of this study are more appropriate for a climate framework. Given this focus on climate rather than culture it is important to identify the psycho-sociological sway on employee behavior leading to the distinction between individual psychological climate and collective organizational climate.

Psychological Climate vs. Organizational Climate

Another controversy in the progression of work climate research was the debate about whether climates are inherently an attribute of the individual or collective (Guion, 1973). This division resulted in the clarification of psychological climate and organizational climate constructs. Psychological climate is defined and measured at the individual level while organizational climate is defined and measured at the unit (i.e. group or organizational) level (Hellreigel & Slocum, 1974). This distinction is important for several reasons, primarily due to the necessity of matching the unit of theory with the unit of measurement (Kozlowski & Klein, 2000).

Psychological climate refers to the individual level perceptions of the context arising from mutual interaction with others in the workplace and interaction with the context itself (James & Jones, 1974). Specifically, psychological climate has been

defined as “the individual’s cognitive representations of relatively proximal situational conditions, expressed in terms that reflect psychologically meaningful interpretations of the situation” (James, Hater, Gent, & Bruni, 1978, p.786). Psychological climate can be viewed as an individual’s cognitive map of his or her work context (Ashkanasy, 2010).

Organizational climate, on the other hand, refers to the sharedness of these individual level perceptions within a collective (Zohar, 2002). Simply put, organizational climate is the extent that members of the collective agree on, or share, these psychological climate perceptions. Therefore if individuals’ cognitive maps are in relative alignment, an organizational climate exists for the collective. Given sufficient level of agreement on the individual climate perceptions, these interpretations of the work environment are aggregated, resulting in an organizational climate.

While organizational climate has at its foundation in individual level perceptions, the key lies in demonstrating consensus among unit members’ individual perceptions to justify aggregation to the higher order organizational climate. Research in this field relies on reciprocal social forces influencing individuals to develop and strengthen this consensus through exposure to similar settings, interaction with others, and even sharing their interpretations of the context with other collective members (Ostroff et al., 2003).

Both psychological and organizational climates are meaningful representations of employee perceptions of contextual influences on behavior. However, depending on whether climate is conceptualized as an individual level or collective level construct, this distinction has important implications for theory and measurement. As such it is crucial to distinguish between the two when undergoing climate research. The present project

focuses on the collective nature of work climates and group level outcomes to contribute to knowledge on team level studies. Accordingly, an organizational climate perspective is adopted to effectively assess the sharedness aspect of contextual interpretations. To align the hypothesized model in Chapter 3 of the current research along the appropriate level of theory and measurement a collective level or organizational climate is utilized in this case. With this focus on organizational climates, it is equally important to differentiate between the broader global climate and more specific facet climates discussed in the next section.

Global vs. Facet-specific Climates

Much of the early work on climate focused on a global or general climate within an organization, also referred to as foundational or molar climates (Ostroff et al., 2003). Global climates refer to shared perceptions of an overall or broad conceptualization of the encompassing situational elements of the work environment (Kuenzi & Schminke, 2009). One of the primary goals of their global climate model, Litwin and Stringer (1968, p. 38) strive "to provide a quantification…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". Along this vein researchers endeavored to ascertain the different dimensions that encompass the more pertinent aspects of organizational climate (Ostroff et al., 2003). This search for the most important elements of a foundation climate resulted in a proliferation of climate dimensions and definitions that muddied the conceptual waters of climate research. Ultimately, this proliferation led Schneider (1975) to describe the concept of foundation climates to be too nebulous to be useful for predicting and understanding organizational phenomena.

In order to assuage the conceptual and definitional issues of global climates, Schneider and colleagues (e.g. Reichers & Schneider, 1990; Schneider, 1990; Schneider, Ehrhart, and Holcombe, 2000) proposed a shift to facet-specific climates. This shift called for a focus on tying climate to a specific referent or a *climate for something*, such as a climate for safety or climate for service, rather than the abstract idea of foundational climates that may or may not relate to the outcomes of interest (Schneider, 1990). The notion of facet-specific climates is meaningful for researchers attempting to link climates with criterion variables along the same level of specificity (Schneider & Reichers, 1993). While foundation climates often focus on organization goals and means for obtaining those goals while facet climates focus on specific strategic goals related to the particular referent of interest (Carr, Schmidt, Ford, & DeShon, 2003).

In their recent review of organizational work climates, Kuenzi & Schminke (2009) classified 11 particular types of facet-specific climates from the prevailing literature (diversity, ethical, innovation/creativity, involvement/empowerment, justice, leadership, learning/transfer, political, safety, service, support/affective). Furthermore dozens of other idiosyncratic climates have been published, for example implementation climate (Klein, Conn, & Sorra, 2001), initiative climate (Baer & Frese, 2003), and climate for risk-taking (Schmit & Allscheid, 1995) to name a few. This shift to climates for something has benefitted from a tighter connection between the facet-specific climate and facet-specific focus of an organization as well as increased predictability, the lack of both inhibited global climate research findings (MacCormick & Parker, 2010; Schneider et al., 2000).

Despite the increased predictability and relative success of the findings of facet-specific climates as compared to molar climate, the climate literature is once again in danger of becoming overly disjointed as described below:

> "This recent focus on facet-specific climates has increased our understanding of work climates and their influence on employee and organization outcomes. However, it has come at a cost as well. In addition to suffering from definitional, theoretical, and methodological challenges of its own, facet-specific climate research has been almost entirely subsumed under particular topical areas (e.g., literatures related specifically to service, ethics, justice, or safety). Thus, rather than composing an increasingly strong and broad foundation for understanding organizational climate, climate research has splintered, thereby fragmenting our knowledge about and understanding of work climates." (Kuenzi & Schminke, p. 637)

Essentially the distinction between foundation and specific climates is one of bandwidth and fidelity (Cronbach & Gleser, 1957). The form of climate used (foundation or specific) is typically dependent on the criterion of note (e.g. service climate for service performance, foundational climate for general work performance). Accordingly, the breadth of the outcome(s) of interest in a particular study should directly drive the necessary extensiveness of the climate constructs chosen (Carr et al., 2003). An aspect of this distinction between foundation and specific climates that is relatively understudied is how the two climate types may work in conjunction to lead to organizational outcomes. One way they may function together is that global climates establish group norms that influence employee actions resulting in specific behaviors relating to facet-specific outcomes (Wallace, Popp, & Mondore, 2006). Similarly, foundation climates also help establish ambient stimuli that are subsequently permeated and enacted in facet-specific climates (Hackman, 1992). Foundation climates help form the norms that are fortified in specific climates that more directly relate to specific outcomes (Wallace et al., 2006).

While global climates have been shown to be meaningful constructs in assessing the environmental backdrop influencing individual and group actions and attitudes, the present study focuses on facet-specific climates. To effectively address the research questions outlined in Chapter 3 which directly address specific referent outcomes, referent specific climates are utilized; specifically the notion of multiple climates existing simultaneously which is addressed in the next section.

Multiple Climate Perspective

While it is well established that multiple types of climates exist within organizations (Schneider & Snyder, 1975), limited work has been done to examine the notion of more than one climate exerting concurrent contextual influences on employees. Many studies have considered the dimensionality of specific climates (sub) types simultaneously and some research has been conducted on multiple levels of the same type of climate (e.g. Seibert, Silver, & Randolph, 2004; Zohar & Luria, 2005). However very few projects have studied multiple and potentially competing climates (see MacCormick & Parker, 2010 for exception), which is surprising given calls by scholars to integrate multiple climates.

As noted by Ostroff and coauthors (2003, p. 575) "[i]t may be fruitful to simultaneously examine multiple climates…[d]ifferent configurations of climates are likely to be related to effectiveness outcomes in different performance domains, and different configurations of climates may be related to more global indicators of effectiveness." Also Kuenzi & Schminke's (2009, p. 705) review of work climate literature asks future researchers to consider, "[t]here is little doubt that multiple climates

exist in organizations. But what happens when they exist simultaneously [?]… [i]t is therefore reasonable to ask how they relate to one another and whether certain climates exert greater relative impacts on outcomes than others." Answering these calls for concurrent consideration of multiple climates will expand the breadth of knowledge related to the complex, nuanced understanding of situational influences of the work context.

This study considers two of the more predominantly researched facet climates, safety climate and service climate. Safety and service climates are two appropriate constructs to consider for this multiple climate perspective for several reasons. First, these two climates feasibly may exist at the same time in actual organizational settings as they represent imperative, albeit competing, foci for many organizations (e.g. Schneider et al., 1998; Zohar & Luria, 2005). Second, while not in direct opposition, the behaviors induced by safety and service climates are not necessarily conducive to the achievement of the objectives of both safety and service initiatives at the same time at high levels. For example a safety climate may influence employees to function in a safe manner with little regard for the satisfaction of a waiting customer. On the other hand, a service climate might emphasize practices that may be deemed unsafe in order to speed up delivery time or otherwise increase perceived service quality. Third, both safety and service climates have been examined extensively and both exhibit significant research programs supported by empirical findings. These two streams of research on safety and service climates have been particularly fruitful and demonstrate a set of convincing effects on facet and overall group performance (Kozlowski & Ilgen, 2006).

These examples roughly demonstrate some of the tenets of service and safety in organizations that may be at odds with one another. The two main dimensions on which service and safety climates function differently are (1) the safety vs. speed tradeoff and (2) the internal vs. external focus of the organization. A service climate, by nature, focuses on providing service quality primarily to stakeholders external to the organization. A main determinant of these external customer attitudes is the speed or efficiency of transactions (Dietz et al., 2004). From a safety climate standpoint, the focus shifts from speed of task completion to the safety in which the task in completed (e.g. Muchinsky, 1997; Pate-Cornell, 1990). Furthermore, although safety in organizations potentially affects internal and external stakeholders alike, safety is inherently an internal focus for organization. The following sections overview safety and service climate, respectively, and help tease out these competing influences group performance.

Safety Climate

Occupational safety has been an increasingly pertinent topic of interest as workplace accidents, injuries, and even deaths impute significant personal and organizational costs on employers and employees alike. In recent decades with an increased focus on workplace safety and regulations aimed at creating a safer work environment (e.g. Occupational Health & Safety Administration [OSHA]) progress has been made, but much work is left to make the workplace safer for employees and the public in general. Scholars have influenced this effort through research conducted with the primary purpose of understanding the causes of unsafe work practices stemming from both individual differences in employees as well as situational characteristics of the workplace (Wallace, Paul, Landis, & Vodanovich, forthcoming). As described above, one

way to account for the situational characteristics in a work context is through work climates. Contextual influences specifically related to occupational health and safety is the notion of safety climate (Zohar, 1980).

The concept of safety climate was introduced over 30 years ago with the seminal work of Dov Zohar (1980) through which he clarified the construct of climate for safety and provided a validated measure that significantly predicted safety effectiveness. Safety climate can be defined as the shared perceptions regarding the policies, procedures, and practices related to safety (Zohar, 2002). This definition is in line with the collective, facet-specific conceptualization of climate described above, with a focus on safety and safety related outcomes. Since the introduction of safety climate, theoretical and empirical studies have provided evidence that safety climate predicts safety-related performance and associated outcomes (e.g. accidents) of individuals and groups (for a recent review of safety climate, see Christian, Bradley, Wallace, & Burke, 2009).

Essentially scholars have found that when the context of a given group or collective emphasizes safety behavior, subsequent accidents and injuries are reduced. In fact, in a recent meta-analysis on safety climate, these shared perceptions regarding the focus on safety in an organization is the strongest predictor of safety related outcomes (e.g. accidents and injuries; rho = -.51; Christian et al., 2009). While primary and meta-analytic research has demonstrated these significant relationships with safety climate and safety performance and safety related outcomes (e.g. Barling, Loughlin, & Kelloway, 2002; Burke, Chan-Serafin, Salvador, Smith & Sarpy, 200; Clarke, 2006; Hoffman & Stetzer, 1996) relatively few studies have examined safety climate in light of other, non-safety related, performance outcomes. Wallace and Chen (2006) provide a

notable exception as the authors find that safety climate negatively predicts unit productivity performance.

As the results of unsafe work practices are increasingly evident in workplace accidents and costs related to accidents and other safety related outcomes there has been an increased focus on creating and maintaining a safe work environment (Wallace et al., forthcoming). This contextual focus on safety is the foundation for safety climate which remains a meaningful representation of one aspect of the situational characteristics in which employees operate. Another component of the workplace context that has gained attention in popular press, news media, and scholarly literature is a focus on service in an organization.

Service Climate

Whereas safety climate speaks to the general 'feel' of a given unit or organization relating to safety, service climate has at its core a focus on customer satisfaction and service quality. One main driver of external customer attitudes is the speed or efficiency at which the transaction is completed (Dietz et al., 2004). Service performance has proven to be a key competitive advantage throughout almost all industries and job types as virtually all employees and units have customer concerns (Albrecht & Zemke, 2001). As such, the concept of service climate has been considered the linchpin between internal organizational service goals and external customer perceptions of service quality (Andrews & Rogelberg, 2001). Scholars and managers alike recognize that an important determinant for instilling and pursuing the organizational goal of providing quality service in its employees is to create and maintain an atmosphere that encourages and

rewards service performance. One area that effectively encompasses this atmosphere for providing service quality is service climate.

The concept of service climate has been championed by Benjamin Schneider and is often viewed as an archetypal example of climate as it represents the shared experiences of individuals that directly affect the achievement of service related outcomes (Ashkanasy, 2010). Service climate can be defined as the shared perceptions of service policies, procedures and practices that are rewarded, supported, and expected related to customer service (Schneider et al., 1998). This definition is in line with the collective, facet-specific conceptualization of climate described above, with a focus on customer service and service related outcomes. Service climate can be viewed as the extent to which an organization is committed to providing service to its customers by establishing an environment focused on quality service and ultimately, customer satisfaction.

Since the introduction of service climate, cross-sectional and longitudinal studies have provided evidence that service climate links employees perceptions of a collective's service focus with subsequent customers' perceptions of service quality (e.g. Johnson, 1996; Schmit & Alscheid, 1995; Schneider & Bowen, 1985). Additionally, service climate researchers have shown positive relationships with other service outcomes such as service behaviors and customer satisfaction (e.g. Borucki & Burke, 1999; Dietz et al., 2004). By harnessing employee efforts through the contextual influence of service climate, organizations yield positive customer expectations and perceptions (Schneider et al., 1998).

As organizations continue to recognize the vitality of providing quality service for internal and external customers alike, scholars and managers emphasize the impact that strong contextual influences, such as service climate, have on the behavior of employees and perception of service by customers. This situational aspect of the work environment that focuses on maintaining a customer-oriented emphasis represents another element of the work context that guides individual and unit level service performance (Kuenzi & Schminke, 2009). While both service climate and safety climate have demonstrated to be meaningful stimuli for guiding the actions and attitudes of employees and other organizational stakeholders toward a particular focal point of work, service and safety, respectively; they have been studied in relative isolation from one another. The focus of the present study is to consider both climates in conjunction to determine the differential and interactive effects these two climates may have when considered simultaneously.

Safety and Service Climate

By examining safety climate and service climate simultaneously this project endeavors to explicate the direct and interactive relationships these climates have on facet performance (i.e. safety performance and service performance) and overall performance at the group level. Each in their own right has empirically demonstrated these relationships with facet performance, that is safety climate predicted safety-related performance (e.g. Hofmann & Stetzer, 1996; Zohar & Luria, 2005) and service climate predicts service-related performance (e.g. Gelade & Young, 2005; Liao & Chuang, 2004). Additionally, both climate types individually have been shown to influence group level performance (e.g. service - Borucki & Burke, 1999; safety - Zohar, 2000), however

virtually no studies have considered the simultaneous influence of safety and service climates on performance (i.e. safety, service, and task).

Therefore it may be theoretically stimulating to consider the influence of a safety climate on service performance (and service climate on safety performance) as well as their influence on overall group task performance. From a theoretical standpoint, the testing of competing safety and service climate would help validate the notion of climate competition which enhances our knowledge of the direct and interactive effects of multiple climates. From a practical standpoint, studying the simultaneous existence of these two competing climates may enable organizations and managers to more effectively understand and handle the potential confusion and conflicting influences of multiple strong contextual forces shaping behavior. Overall, incorporating the notion of climate competition into exiting climate research has the potential to clarify our understanding of how work climates affect group performance (facet performance as well as overall performance) above and beyond considering only one facet-specific climate and facet outcome at a time.

Before moving to the specific focus of the current investigation an overview of the outcomes of interest is provided. In order to effectively assess the implications of competing climates, this study looks at the direct and interactive effects of safety climate and service climate on group performance. Specifically, the following overview of performance will cover overall group performance as well as facet performance aspects related to safety and service, respectively.

Group Performance

While the goal for many management scholars is to explain and predict employee behavior in organizations, perhaps the most impactful of these behaviors is the performance of individuals and groups. Parker and Turner (2002, p. 70) define individual job performance as "behaviors enacted by an employee that are aimed at meeting organizational goals." However, behavior and performance are not equivalent in the work context, neither are performance and results as Motowidlo describes (2003, p. 40):

> "Behavior is what people do. Performance is the expected organizational value of what people do. Results are states or conditions of people or things that are changed by what they do in ways that contribute to or detract from organizational effectiveness."

Acknowledging that the *results* of employee behavior should not be the performance outcome of interest, rather the behavior itself should be tied to performance, Motowidlo (2003) recognizes that there are components of the results that are outside the control of the individual or team (e.g. economic conditions, market factors).

With the increasing movement towards structuring work in teams (Ilgen, 1999), group performance has become as important a construct of interest as individual performance. The notions of individual and group performance are inextricably linked however as the performance of a group cannot be understood completely without accounting for individual performance (Sonnentag & Frese, 2003). The task performance of individuals within a group is a critical component of overall group performance, however other, non-task related skills are needed for increased group performance as well (Podsakoff, Ahearne, & MacKenzie, 1997). While task performance is a function of the underlying individual performance abilities of group members, the culmination of group performance is more nuanced than a simple aggregation of individual performance

(Sonnentag, 1999). To address the complex nature of group performance and staying in line with a multiple climate perspective, the current project includes facet-specific aspects of performance in addition to group task performance alone. This premise acknowledges the requirement that the criterion and predictor variables are linked conceptually and operate at the same level of specificity (Ostroff et al., 2003; Schneider & Reichers, 1983).

In line with the recommendation to align specific climates with specific facets of performance (Schneider et al., 2000), this study includes safety and service performance as well as task performance into a composite group performance measure. This distinction is important for the current research as the difference between task performance and more specific forms of performance relate to particular referent values or strategic foci of the organization (Reichers & Schneider, 1990) and have differential impact on overall performance. In this vein, scholars have recognized that these performance types are inherently different from general performance and have created different conceptualizations and measures for safety performance (e.g. Burke, Sarpy, Tesluk, & Smith-Crowe, 2002) and service performance (e.g. Bowen & Waldman, 1999).

Safety performance. Safety performance is defined as "actions or behaviors that individuals exhibit in almost all jobs to promote the health and safety or workers, clients, the public, and the environment" (Burke et al., 2003, p. 432). Safety performance and a safety conscious workforce are undeniable focal points for organizations of all sizes and industries due to increased regulatory actions as well as financial and physical costs of unsafe behavior (Wallace et al., forthcoming).

Service performance. Service performance has been defined simply as "behaviors of serving and helping customers" (Liao & Chuang, 2004, p. 42). A key difference between service and safety performance is that service performance often deals directly with customer perceptions of the speed and quality the service encounter, while safety performance is often linked with more tangible outcomes (e. g. accidents and injuries). As noted by Bowen & Waldman (1999, p.164-165), "the consumer experience is as, if not more important than, the consumer good."

Chapter III

CURRENT INVESTIGATION

The hypothesized model of relationships to be tested for the current study is provided in Figure 1. This chapter develops the predictions of these relationships by building on extant climate theory and empirical findings to determine the differential effects on facets of group performance of climate competition. Previous studies have focused primarily on the connection between a single facet-specific climate and corresponding facet performance. This project not only looks at these direct facet climate to performance effects, but also the cross-facet climate to performance effects as well (e.g. safety climate to service performance and vice versa). The current investigation also examines the combinative effects of simultaneous competing climates on facet performance as well as task performance at the group level. In order to understand and predict these relationships resulting from climate competition, a theoretical framework is needed to address the differential effects on performance outcomes.

The predictions in this study utilize the competing values framework (CVF) (Quinn & Rohrbaugh, 1981, 1983; Quinn & McGrath, 1985) in order to provide a clear, organized view of the fundamental differences inherent in climate competition. This meta-theoretical model depicts the contrasting influences that competing underlying values in organizations have and proposes that effectiveness criteria, as well as the means to achieve those performance outcomes, can be organized along a set of competing

influences. The following sections provide a brief overview of the CVF, then proceeds to specifying the anticipated relationships of the current study.

Competing Values Framework

The competing values framework (CVF) was introduced through a series of studies by Quinn & Rohrbaugh (1981, 1983) as a tool to analyze the underlying competing values an organization uses to achieve desired outcomes. This approach provides a framework for considering multiple climates concurrently as well as examining their respective relationships with multiple gauges of performance (MacCormick & Parker, 2010). The spatial model is developed by juxtaposing the competing perspectives that an organization values, and the means used to subsequently pursue desired outcomes. This framework has been utilized sparingly in climate studies (Kuenzi, 2008; MacCormick & Parker, 2010) but has been used in many different domains of research including culture (e.g. Cameron & Quinn, 1999), strategy (e.g. Bluedorn & Lundgren, 1993), and leadership (e.g. Denison, Hooijberg, & Quinn, 1995) to name a few. The CVF is relevant for the current study as it deals directly with the notion of multiple simultaneous competing influences and the framework can be used to effectively delineate the effects of varying values that an organization pursues.

The framework differentiates these values, and the means used to achieve them, along the dimensions of focus (internal vs. external) and structure (flexibility vs. control) (Quinn & Rohrbaugh, 1981). The focus dimension deals with whether an organization has an *internal* concentration on the well-being of employees (e.g. safety) or an *external* emphasis on the strategic intent of the organization (e. g. service). The structure

dimension addresses whether the organization emphasizes flexibility in meeting needs or control in organizational structuring (Kuenzi, 2008). By crossing these two dimensions, quadrants develop that represent the value orientations of most organizations (Kalliath, Bluedorn, & Gillespie, 1999) (see figure 2).

Facet climates are meaningful indicators of these values as enacted through the policies, practices, and procedures in an organization; while the employee perceptions of the means to obtain such values are used as a basis for work climates. The climates under consideration here (i.e. safety & service) are conceptualized in opposing quadrants of the CVF and accordingly, are predicted to be negatively related. The following section addresses this by situating climate for safety and climate for service within the CVF in order to assess the existence and effects of climate competition.

Climate Competition

Reiterating from chapter two, a climate for safety emphasizes the shared perceptions regarding the policies, procedures and practices related to safety (Zohar, 2002). This focus on safety is indicative of one of the primary values in an organization which is enacted through actions of top management and front-line supervisors, and revealed in the individual employee appraisals of the true priorities in an organization (Zohar & Luria, 2005). The means through which the value on safety is diffused through the workplace, such as procedural actions and rewarded behaviors, are evident in the collective perception of safety climate.

As noted in Figure 2, safety climate can be placed in the internal-control quadrant of the CVF based on the values and means indicated above. The internal aspect relates to

the notion that organizations are focused primarily on well-being of employees (e.g. health and safety), while the control dimension relates to an emphasis on stability (Kuenzi, 2008; Quinn & Rohrbaugh, 1981). The means represented in this quadrant to achieve the overarching environmental emphasis on safety include information management and communication. These means are particularly appropriate for a safety climate as expectations are formally communicated through safety training and meetings (Christian et al., 2009).

Service climate, on the other hand, emphasizes external customer satisfaction and perceptions of service quality (Schneider et al., 1998). This focus on service, by nature, looks primarily to external stakeholders to determine relative success or failure in achieving organizational values related to service. With external customers as the central component, the organization becomes more oriented to the external environment as seen through the practices through which this relationship is managed (e. g. customer feedback and product/service reviews) (MacCormick & Parker, 2010).

As noted in figure 2, service climate can be placed in the external-flexibility quadrant of the CVF based on the values and means to achieve those values as noted previously. The external facet is apparent in the primary consideration of customer perceptions of quality and other measures of service performance. In fact, in one study on service climate, the authors found the main correlate with service climate is being cognizant of external customers' service expectations (Schneider et al., 1998). The flexibility dimension is represented by the adaptability needed to adjust to customer needs and wants, which is necessary for achieving customer satisfaction (Kanter, 1983; Parasuraman, Zeithaml, & Berry, 1988). The means represented in this quadrant to meet

external environmental demands are used to respond to the marketplace (Kiresler & Sproull, 1982) and align internal employees which external expectations (MacCormick & Parker, 2010).

These definitional differences between safety climate and service climate as well as the different means evident in the CVF situate these two climates in potential opposition with each other. In addition, the inherent trade-off between speed and safety (Zohar, 2008) align these two climates as opposing influencing contextual forces on employee behavior. Zohar and Luria (2005, p. 616) note that "…focal organizational facets such as customer service or work safety present competing operational demands", and as such the shared perceptions of each are predicted to be negatively related. This predicted negative relationship sets the stage for climate competition through which multiple, opposing stimuli are exerting competing influences on employee perceptions of the work environment. This prediction is formally presented in the first hypothesis below:

H1: Climate for safety is negatively related to climate for service.

Focal Performance

As noted previously, the respective research streams for safety climate and service climate have been notably well developed (Kozlowski & Ilgen, 2006), particularly for the realm of climate studies as a whole (Kuenzi & Schminke, 2010). Safety climate has shown consistent positive relationships with safety related performance outcomes in meta-analytic & primary research (e.g. Barling et al., 2002; Burke et al., 2008; Christian et al., 2009; Nahrgang et al., in press). Similarly, service climate researchers have demonstrated positive relationships with service related performance (e.g. Borucki &

Burke, 1999; Dietz et al., 2004; Schneider & Bowen, 1985). Both service and safety climate have established the link between related organizational values (e.g. safety and/or service) and subsequent achievement of those values through performance outcomes.

In addition to existing research, the CVF predicts that alignment of organizational values and means to achieve those values is predictive of desired outcomes. The ideological influences indicated in developed practices and rewarded behaviors are important drivers of climate (MacCormick & Parker, 2010), as such the underlying values become ingrained in the context experienced by employees. For safety climate an internal focus is indicative of the emphasis on the well-being of employees (Quinn & Rohrbaugh, 1981). In conjunction with the control dimension of the CVF, safety climate scholars have noted that consistency or stability in the enacted practices across levels enhances the relationship between safety climate and safety performance (i.e. Zohar, 2010). For service climate an external viewpoint is taken as employees react to external demands of customers to achieve service related values (Quinn & Rohrbaugh, 1981). The flexibility dimension is related to the notion of adaptability or flexibility needed to meet service performance expectations (Bowen & Ford, 2004).

The specified relationships between safety climate and safety performance as well as service climate and service performance are grounded in a stream of established theoretical and empirical research. As employees respond to social cues and enacted organizational policies which combine to create the perceived context, subsequent behavior falls in line with the ambient stimuli (Hackman, 1992) to guide these facet performance outcomes. These relationships as modeled in figure 1 between facet climate and facet performance are formally predicted here:

H2a: Climate for safety is positively related to safety performance.

H2b: Climate for service is positively related service performance.

Cross Focal Performance

While the facet climate approach has an advantage of increased predictability due to enhanced focus (Ostroff et al., 2003), it comes as no surprise that few studies have considered cross-facet performance. The effect of safety climate on service performance and vice versa, however is a meaningful relationship given the potential for the values of safety and service to exist simultaneously in a given work context (Kuenzi & Schminke, 2009). Even in contexts that tend to focus on aspects of service more than safety would still value a safe working environment (albeit perhaps not as valued as service its focus). This viewpoint of cross facet performance can speak to some primary effects of climate competition, as well as provide a more complete understanding of how these facet climates impact other aspects of performance beyond facet-specific performance.

Several reasons exist to expect a negative relationship between safety climate and service performance as well as service climate and safety performance. First, the CVF provides insight into the opposing values that service and safety viewpoints espouse. A safe environment is the primary goal for an organization that values safety (Wallace et al., forthcoming), even to the detriment of the convenience and concern of the customer. Recent aviation safety guidelines and screening procedures are good examples of safety concerns overriding customer service considerations (e. g. efficiency, speed, and expectation of privacy). On the other hand, service-minded organizations with a customer-driven focus may overlook safety considerations in order to increase customer

satisfaction. For example Pate-Cornell (1996) demonstrated the negative safety performance effects from a focus on speed and productivity.

The internal focus for safety and external focus for service plus the flexibility and control elements of the CVF situate the means used to achieve safety and service outcomes at opposite quadrants of the framework. While safety values necessitate an internal focus to enhance the well-being of internal employees, this does not provide adequate focus for external concerns. Similarly, service values require a concern for the satisfaction of customers rather than the well-being of internal employees. The flexibility needed to achieve service outcomes stands in contrast to the control and communication necessary to ensure safe working environment. Overall the competing demands of safety and service concerns indicate a negative relationship for cross-facet performance predictions. This expectation is formally predicted in the hypotheses below:

H3a: Climate for safety is negatively related to service performance.

H3b: Climate for service is negatively related to safety performance.

Task Performance

Utilizing facet specific climates to predict basic task performance is rarely done following Schneider's (1975) reconceptualization of climates to focus on climates *for something*. In order to combat the proliferation of 'general' climate dimensions that researchers continue to generate in order to describe some aspect of organizational effectiveness, Schneider's shift to facet specific climates necessitated a similar shift from

overall performance outcomes to facet specific performance. However, this shift to using specific climates (i.e. safety and service climate, respectively) to predict general performance outcome of task performance is an appropriate step in the current study to further delineate the differential effects of multiple climates existing simultaneously. Ultimately employee work effort is under their control (Brown & Leigh, 1996), and this effort is amenable based on the perception of what is expected and rewarded in an organization (Yoon, Beatty, & Suh, 2001).

Safety climate is expected to be negatively related to task performance for several reasons. First the inherent tradeoff between speed and safety by which employees must sacrifice productivity and/or efficiency in order to develop and maintain a safe working environment. In fact, the safety literature is rife with examples of managers that encourage productivity while discouraging safety (e.g. Janssens, Brett, & Smith, 1995; Wallace, Johnson, & Frazier, 2009). While safety is an overriding factor for most, if not all, organizations; aspects of task performance in the form of productivity are more often emphasized during normal work operations (Zohar, 2003). For example Kaminski (2001) found that pay systems based on performance did in fact increase productivity while also increasing injury rates at the same time. Wallace and Chen (2006) align the productivity-safety tradeoff with the speed-accuracy tradeoff that has been addressed in a broader research scope.

Service climate influences group level task performance, but in the opposite direction as predicted by safety climate. According to Yoon and colleagues (2001, p. 503): "When…employees perceive that the organization emphasizes customer service, they are likely to respond by investing more time and energy into their work activities

(i.e. engage in more work effort)". This increased time and energy input is expected to lead to an increase in task performance. The extra effort educed by the service climate has a strong impact on task-related performance (Brown & Peterson, 1994). The CVF also speaks to this predicted relationship as the alignment with external audience (i.e. customers) results in higher task performance by being attuned to the needs of the environment and providing flexibility to meet those needs. Overall service performance is expected to overlap more with task performance than safety performance. Aspects of service are more tangibly related to task performance (e.g. speed of execution, accuracy), whereas safety performance is not an inherently obvious component of task performance.

These two relationships between safety and service climates and task performance are formally presented below:

H4a: Climate for safety is negatively associated with task performance.

H4b: Climate for service is positively associated with task performance.

Composite Performance

Thus far the current study has predicted direct climate-facet (e. g. safety climate → safety performance), cross climate-facet (e. g. safety climate → service performance), as well as facet climate to general task performance. Now we begin to tie the group performance measures together to get a broader view of the climate to performance relationships. Again, setting the stage for competing climates hypotheses, evaluating individual facet climates to overall performance composite can provide a view of the competing influence on performance outcomes provided by facet climates. Recognizing that group composite performance (i.e. safety, service, and task performance) may be a

function of a myriad of different performance variables, as entire research programs have been undertaken to evaluate the dimensionality of performance (e. g. Borman & Motowidlo, 1993; Johnson, 2001), the present study utilizes only three dimensions of performance – task performance, safety performance, and service performance.

Reichers and Schneider (1990) recommend using facet climates to predict specifically focused outcomes (e. g. service climate to predict service outcomes) as they relate to the organization's goals. Recognizing that most organizations have multiple, often competing values (Quinn & Rohrbaugh, 1981, 1983), the composite form of performance in this study can increase our knowledge of potential climate competition by assessing the different impact the facet climates may have on more general forms of performance. The composite aspect of performance may more realistically represent the complexities that make up the environment influences on employee behavior. According to Zohar (2010, p. 1518):

> "From an employee standpoint, it is the overall pattern and signals sent by this complex web of rules and policies across competing domains that ultimately must be sorted out in order to discern what role behavior is expected, rewarded and supported. This argument suggests that [facet] climate perceptions should move beyond a focus on [facet outcomes] in isolation toward a more comprehensive evaluation that captures at least some of these competing domains."

The composite measure of performance is an attempt to tap into these competing domains. By assessing the relative effect on overall performance by each of these facet climates, the broader notion of climate competition gains further clarity.

Welbourne and colleagues' (1997) work on role-based performance is useful to describe the different effects that climates for safety and service may have on an overall evaluation of performance rather than facet or task performance alone. Recognizing the

growing trend that traditional performance evaluation systems were ineffective at examining the entirety of employee performance contributions (Milkovich & Boudreau, 1997), role-based performance attempts to frame this performance complexity. The divergent roles are similar to the competing values representative in the CVF in that they can provide potentially distracting stimuli for employees that are interdependent with their environment (Griffin, Neal, & Parker, 2007). Furthermore in attempting to predict a composite performance outcome, the use of narrowly focused criterion will provide a similarly narrow slice of the overall performance picture.

Reflecting the difficulties identified by Schneider (1975) in predicting broad outcomes with facet specific climates, I predict relatively minor positive associations between safety climate and overall group performance and service climate and overall group performance. As previously stated composite performance is multifaceted and inherently nuanced resulting in an underlying bandwidth-fidelity issue with the more fine-grained climate predictor variables. However the facet-specific climates of safety and service are, by definition, more focused in scope than foundational climate variables. In other words, the inability to match the broad measure of performance with equally broad predictor variables may ultimately mask the predictability of facet-specific climates (Moon, 2001). Nevertheless, the composite outcome of group performance is a meaningful representation of the complex, and often, competing contextual demands on employees. The limited predictability stemming from the criterion problem is represented in the anticipated modest positive relationship between both safety and service climate and overall group performance. These predictions are formally presented in the hypotheses below:

H5a: Climate for safety is weakly positively associated with overall group performance.

H5b: Climate for safety is weakly positively associated with overall group performance.

Interactive Effects on Performance

The final set of hypothesized relationships hit the core of climate competition, that is, what are the differential effects of these climates to performance relationships in light of multiple climates existing simultaneously? The aforementioned predictions all assume only one climate existing at a time; however the picture changes when considering multiple contextual forces influencing employee behavior. As mentioned above the existence of multiple, competing climates is expected to add complexity to an already multifaceted conceptualization of work context. By elucidating the expected effects that climate competition will have on the rest of the hypothesized model, scholars may be more prepared to account for the multiplex influences on the perceived work environment.

Climate competition is expected to have deleterious effects on the primary relationships predicted in this study. The existence of more than one set of ambient stimuli is would likely lead to confusion and a 'muddying of the waters' as to what is expected by employees in any given situation (Kuenzi & Schminke, 2009). Particularly the focus on safety and service are expected to be in misalignment as the internal/external focus as well as the flexibility and control are in direct opposition in the CVF (Quinn & Rohrbaugh, 1981). As employees attempt to make sense of these competing demands, performance is expected to suffer due to the underling competing values and the inherent

speed/safety tradeoff. Not only may employees misconstrue what is expected in regard to safety and service performance expectations, but also the opposition of these two foci precludes effective achievement of both objectives. This is because emphasis placed on safety or service is going to direct resources towards those emphasized target areas of operation (Wallace & Chen, 2006).

By nature, if speed is increased –thereby enhancing customer service perceptions, safety considerations may be reduced. On the flip side, if safety is a primary concern, the efficiency of a transaction or service encounter may suffer –thereby decreasing customer service perceptions. The conflicting values and means to obtain outcomes that may be at odds with one another are expected to reduce the strength of the aforementioned predictions. The interactive effects of two simultaneous climates are formally presented in the hypotheses below; additionally I provide graphical representation of these expected effects in figures 3a-6b:

> H6: Service climate moderates the relationship between safety climate and safety performance such that when there is a high service climate the relationship between safety climate and safety performance is a weaker positive relationship as opposed to when service climate is low.
>
> H7: Safety climate moderates the relationship between service climate and service performance such that when there is a high safety climate the relationship between service climate and service performance is a weaker positive relationship as opposed to when safety climate is low.
>
> H8: Safety climate moderates the relationship between service climate and task performance such that when there is a high safety climate the relationship between service climate and task performance is a weaker positive relationship as opposed to when safety climate is low.
>
> H9: Safety climate moderates the relationship between service climate and composite performance such that when there is a high safety climate the

relationship between service climate and composite performance is a weaker positive relationship as opposed to when safety climate is low.

Chapter IV

METHODOLOGY

The hypothesized predictions were tested via meta-analytic protocol in order to assess the interrelationships among climate and performance constructs. As part of an ongoing research agenda, a database of climate-related studies has been compiled with over 1500 effect sizes. The following sections details the steps taken to compile this meta-analytic database including an extensive literature search and article coding as well as discusses the meta-analytic procedures used to test the hypotheses.

Literature search

A comprehensive literature search was conducted for published, peer-reviewed empirical studies providing correlations between aggregated climates and aggregated (group, unit, organizational) outcomes. This search began with the most recent review of climate studies (Kuenzi & Schminke, 2009). While not all-inclusive, this extensive article represents an acknowledged critical review of the climate research domain at the time. Additional studies were obtained by searching multiple outlets (ABInform, PsychINFO, EBSCO, Social Science Citation Index, and Google Scholar) as well as manual searches of recent editions of major journals publishing work related to organizational climates (e.g. *Academy of Management Journal, Journal of Applied Psychology, Journal of Management, Journal of Organizational Behavior, and Personnel Psychology).* The literature search yielded a total of 136 studies.

Inclusion Criteria

Following this search of articles for potential inclusion in this database, criterion for inclusion was assessed by two expert raters who independently review all articles. The studies identified in the literature search were included in the final database if the articles met the following inclusion parameters. Studies were included if: (1) they reported an effect size between at least one of the climate variables and at least one of the performance outcomes, (2) the level of analysis was above the individual level of analysis (i.e. group, unit, organization) for both the climate variables as well as the dependent variables, (3) they included some variation of acceptable descriptive statistics for sample and variables such as means, standard deviations, correlation data, and effect sizes among others. Following initial assessment of inclusion criteria, the two researchers' agreement was 96%, and any discrepancies were resolved through discussion and inclusion criteria refinement, resulting in 100% inclusion agreement. Following this process the final database included 88 studies representing 1513 effect sizes, of which 25 studies and 153 effect sizes were used for the current project.

Categorization of Variables

To provide an effective testing of the hypotheses and to take advantage of as many primary studies as possible, the articles included in the final meta-database were categorized first by predictor constructs and then by the performance variables. While the climate variables were relatively straightforward and generally identified as either safety or service climate, the criterion variables were not as clearly segmented. Some studies did not report specific climate or performance labels that corresponded directly with the

categories of the present study. Also, as indicated by other researchers (e. g. Borman & Motowidlo, 1993; Witt & Ferriss, 2003) conceptualizations of performance categories can be fuzzy depending on the context of the situation. Therefore in these cases where the construct was not easily identifiable, we assessed sample information such as job title or industry to more accurately determine the appropriate category.

The same two raters independently assessed each study included in the database in order to sort the climate and criterion variables into appropriate categories as described below. Data related to effect sizes and variables included in these relationships were coded and compared between the two raters. Initial agreement was estimated at 94%, and all disagreements were resolved through discussion resulting in a final agreement rate of 100%.

Climate variables. As noted above, only aggregated climate constructs were included in this database, eliminating psychological climates studies. The studies included in the current project were all specifically identified in some form as safety and service climates respectively, thus eliminating more broad measures of foundational climates. Appropriate aggregation data such as measures of within-group consistency and between-group variability (e.g. $ICC_{1,}$ ICC_2 and R_{wg}) were coded.

Safety Performance. Safety performance was conceptualized from work on safety-related outcomes (e. g. Neal & Griffin, 2006), that describe core safety activities (safety compliance) and actions that support safety (safety participation). Following categorization of safety performance variables found within the meta-analytic database, we computed a composite of the overall safety performance measures. Other, more

tangible safety outcomes such as accidents and injuries were sorted into a separate category and not lumped in with safety performance.

Service Performance. Service performance was categorized based on service-related outcomes (e. g. Liao & Chung, 2004), which includes direct measures of service performance as well as perceptions of service quality, customer satisfaction, and customer loyalty As with safety performance, these varying means of measuring service performance were combined to create an overall composite of service performance.

Task Performance. Task performance was coded as behavior that directly relates to one's job or behaviors that support the core processes of the organization (Van Scotter, Motowidlo, & Cross, 2000). Examples of task performance within this study included production performance (Wallace & Chen, 2006), measures of competency and efficiency (Schnieder et al., 1998), and perceptions of responsiveness (Hoffman & Mark, 2006) to name a few. These different measures were used to calculate a composite of task performance to be used in hypothesis testing.

Overall Performance. Also included was a broad, higher order measure of overall performance to more effectively assess the differential influence of competing climates on performance outcomes. This composite measure was comprised of overall measures of performance-related behaviors including service, safety, and task performance as described above.

Coding of studies

The same coders determining article inclusion and proper categorization of variables mentioned above independently coded all climate effects from the given

primary datasets. Codesheets were developed to facilitate an efficient, standardized data collection process for both coders. As mentioned above, only group or unit level studies that included effect sizes from both, at least one predictor variable and at least one criterion variable were in the final database. When reported in the primary study all data related to sample characteristics, reliability, agreement, aggregation, method of measurement, and much more were collected at the time of initial coding. Any areas of disagreement that occurred were cross-checked with the original article and resolved through discussion. This resulted in 100% agreement on coded effects following 91% initial agreement.

Analyses

In order to test the relationships between the constructs of interest, the meta-analytic protocol presented by Raju, Burke, Normand, and Langlois (RBNL) (1991) is utilized. This procedure provides construct-level estimates of effect sizes after correcting for artifactual error using sample-based data rather than artifact distributions (Raju et al., 1991). To assess the viability of the model hypothesized in the current study, the meta-analytically derived correlations are evaluated to determine the significance of predictor-criterion interrelations. Using approximate sampling distributions allows testing the corrected correlation means using confidence intervals for statistical significance of the mean corrected effects.

In preparation for the meta-analytic calculations, two updates to sample data were necessary to correct for missing reliabilities and non-independence of construct correlations. For the effect sizes that lacked reliability information for one or more of the

variables, population-derived best estimates of reliability were substituted. These estimates were derived by construct using sample weighted reliability means from all available reliabilities within the population of studies. Table 1 reports the mean sample based reliability estimated for the meta-analytic calculations to follow. The other augmentation to the data occurred in cases in which multiple correlations were provided for the same climate construct or performance construct within the same sample. Due to the non-independent nature of these instances, a single effect composite was created by calculating a sample weighted correlation for the given construct in order to increase limit downward biasing and increasing construct validity (Hunter & Schmidt, 1990; Lipsey & Wilson, 2001).

As described by the RBNL (2001) meta-analysis protocol, the first step is to correct each effect size for sampling error by calculating sample-weighted variance estimates for mean climate and performance reliabilities. Second the mean population correlation sampling variance was calculated by adding up individual sample weighted estimates accounting for the number of participants by study. The third and final step is to generate 95 percent confidence intervals from the variance estimate from the previous step. To test the hypotheses, the meta-analytically derived mean population correlations will be tested around these confidence intervals to determine statistical significance using estimated standard errors of each individual corrected correlation (Raju et al., 2001).

Chapter V

RESULTS

As mentioned above, Table 1 contains the sample-weighted reliability calculations for each construct, and Table 2 provides the omnibus results for the predictor-criterion correlations for the hypothesized relationships. Included in the table are the number of independent effect sizes in each analysis (*k*), sample size (N), mean uncorrected correlation (M_r), standard deviation of uncorrected correlations (*SD*r), mean corrected correlation (M_p), standard error of mean corrected correlations (SE_{Mp}), 95% confidence interval, 80% creditability interval, and standard deviation of corrected correlations (SD_p). For each predicted relationship, if the 95% confidence interval of the mean population correlation between the predictor and criterion does not include zero then the relationship is statistically significant. Results for each hypothesized predictor-criterion relationship are described, except as noted in the climate competition and cross-facet performance subsections.

Climate competition. Due to limited studies assessing both safety and service climate simultaneously, results for hypothesis 1 and hypotheses 6-9 were inconclusive. Only one such study qualified for final inclusion in the meta-analytic database based on existing inclusion criteria (Veld, Paauwe, & Boselie, 2011). This lack of studies rendered hypothesis 1 predicting the negative relationship between safety climate and service climate inconclusive for the current project. Similarly, the predicted moderating relationship between safety and service climate and each of the performance constructs

(hypotheses 6-9) were inconclusive as well. The limitations of these shortcomings and future research potential are discussed in detail in the next chapter. As the notion of climate competition is at the core of the current project, this meta-analytic study will be augmented by a primary study, details of which are described at length in the future research section.

Focal Performance. Hypothesis 2a and 2b were straightforward and strongly anticipated to demonstrate significant relationships between each climate construct and the corresponding focal construct. As shown in Table 2, the corrected mean correlation between safety climate and safety performance (hypothesis 2a) was significant (M_p = 0.45) as was the relationship between service climate and service-related performance (hypothesis 2b) (M_p = 0.36). The magnitude of these effects demonstrate the strong connection between facet climates and there focal performance counterpart (Cohen, 1988). These relationships had the most input into the meta-analytic estimates with 12 studies (*k*) and over 1,097 groups (over 8,900 individuals) for the safety climate focal performance relationship and 11 studies and 1,599 groups (over 6,500 individuals – however not all service studies reported the number of individuals) for the service climate focal performance. As such, hypotheses 2a and 2b were supported.

Cross-Facet Performance. As noted above regarding the limited studies for assessing direction climate competition, the same problem hampered the cross-facet performance hypotheses as well. Hypothesis 3a was inconclusive as there was only one study that directed assessed safety climate and some form of service related performance (Hoffman & Mark, 2006). Likewise hypothesis 3b was inconclusive as well as with only one study (Stetzer & Morgeson, 1997) in which service climate was related with

accidents and injuries. These effect sizes from each of these studies are also included in Table 2 and discussed below, but they are for descriptive purposes only.

Task Performance. The two predicted relationships involving task performance were able to be assessed to a certain degree. While the minimum number of studies for meta-analytic been much discussed, at least 10 is recommended for stronger conclusions with a minimum of 3 for more cautious interpretation of data (i.e. Viswevaran & Ones, 1997). Hypothesis 4a which predicted safety climate to task performance only had 2 studies and 335 groups, therefore the minimum threshold was not reached. As such, the results noted in Table 2 indicating the relationship as not significant although in the predicted direction (M_p = -0.19), are for descriptive purposes. Hypothesis 4b, on the other hand, predicted the service climate to task performance relationship and was able to be tested as the minimum threshold was met with 4 studies, and with over 15,000 individuals in those studies more confidence is provided in the results. While again the direction of the relationship was as hypothesized (M_p = 0.10), hypothesis 4b was not supported as the 95% confidence interval included zero.

Composite Performance. Finally the relationships between climate variables and composite performance were able to be tested as each included over 10 studies in the meta-analytically derived correlations. Hypothesis 5a predicted that safety climate would be weakly positively related to the overall composite measure of performance. The results as noted in Table 2 indicate that this relationship was in the hypothesized direction, and even stronger than predicted (M_p = 0.44). Over 10,000 individuals in 1,178 groups were included in 13 studies used to calculate this relationship. Hypothesis 5b predicted service climate would be weakly positively related to the overall composite

measure of performance. The corrected mean correlation (M_p = 0.31) is in the hypothesized direction and not as strong as the safety climate-composite performance relationship. These results support both hypothesis 5a and 5b indicating that safety and service climate each have a positive relationship with the composite measure of performance. However, these results should be tempered due to the fact that the focal performance (e. g. safety performance for safety climate) drives the meta-analytic correlation in terms of number of studies and number of groups and individuals. The limited cross-facet studies and relatively few task performance studies led to a disproportionately balanced composite performance measure.

Chapter VI

DISCUSSION

Examining the existence and effects of multiple facet specific climates has the potential to yield unique insight into the complex dynamic of group level interactions. The results obtained by this study provide theoretical implications for scholars studying workers' perceptions of their environment with climate related projects as well as team effectiveness outcomes. Similarly, practitioners in the field can gain a better understanding of the nature of the social environment in which employees operate and the drivers of group performance. In addition to these theoretical and practical contributions of the study, this discussion section highlights several limitations of the current project as well as subsequent avenues for future research to extend and strengthen the findings of the current research.

Theoretical contributions

From a theoretical standpoint, the current project has the potential to contribution in the areas of climate research as well as group performance. This initial meta-analytic test of competing climate conditions in a group setting provides an intriguing starting point for further unraveling the multiplicative influences of different domain-specific climates. As noted in a recent chapter on organizational climate and culture (Zohar & Hoffmann, 2010, p. 6), "[c]limate perceptions should not only be domain specific, but they should also focus on the configurations, relationships or relative priorities among several, strategically focused domains." This study addresses more directly these

configurations of "relative priorities" exerting pressure on employee behavior and ultimately influencing measures of performance.

Although the notion of climate conflict had been suggested by prior scholars, few studies to date have implemented these calls to consider multiple facet specific climates simultaneously (MacCormick & Parker, 2010). The direct focus of the current study on the tension created by competing climates is a valuable progression in the climate discussion as it enables climate theory and methods to account for the complicating effect of multiple components of contextual forces. The results obtained herein could go far in explaining prior null or conflicting climate results (Kuenzi & Schminke, 2009).

This study also provides more evidence for the role of facet climates (e.g. safety and service climates) on performance outcomes. While the tie between focused climates and similarly focused outcomes has been established, the present study further reinforces the theoretical benefits of facet-climates providing "methodological refinement by creating congruent linkages between predictor and outcome criteria" (Zohar & Hoffman, 2010, p. 6). By solidifying the established linkages between safety and service climates and the corresponding safety and service dimensions of performance, the advantages associated with domain-specific climates are further clarified.

Along the same line, the notion of cross-facet performance ramifications is interesting as organizations attempt to manage to multiple influences on employee behavior. The findings of this study could demonstrate the unintended consequences and potential mutual suppression of focused objectives as off-focus objectives become affected (e. g. Moon, 2001). While not enough studies were present in the final meta-analytic database to adequately test these cross-facet performance outcomes, the notion of

multiplex performance influences due to competing climate perceptions would represent a logical extension of the notion that climates ought to be operationalized in conjunction with competing domains (Zohar & Hoffman, 2010).

Overall this project extends existing theorizing on the presence and influence of multiple climate perceptions and subsequent performance outcomes at the group level. Through the utilization of the competing values framework (e. g. Quinn & Rohrbaugh, 1981) and the assessment of multiple group performance outcomes, this present research provides a foundation for further examinations of the unique phenomena of climate competition. Although much progress remains on the path to answering the types of questions elicited from this project, the conversation represents a meaningful discussion of the interrelated and overlapping nature of employee climate perceptions and subsequent performance consequences. In addition to these theoretical contributions, several implications of the current research exist for practicing managers.

Practical Implications

From a practical standpoint, this study should reinforce for managers the complexities inherent in trying to understand and manage the amorphous realm of employee perceptions of work environment. The idea of competing climates should make sense for practitioners, and the evidence of potentially contradictory performance outcomes should be noteworthy as well. As employees make sense of their environment, the presence of multiple strong constraints within that environment has ramifications for employee cognition, attitudes, and productivity.

Perhaps most notable for managers is the necessity of consistency is enacting policies, practices, and procedures in such a way to minimize the potential drawbacks from a misalignment between espoused and enacted patterns of emphasis (e. g. Blau & Scott, 1962). Particularly in the complex work environment of today with often-conflicting needs of multiple stakeholders, it is incumbent on managers to provide and maintain an environment that clarifies and enforces the desired strategic objectives of upper management. Zohar (2000, 2003; Zohar & Luria, 2005) describes the process through which top managers create and espouse organization-wide policies. At lower organizational levels supervisors translate these company-wide policies into consistent, stable directives that more closely align employee behavior. By considering the potentially conflicting nature of competing climates, as well as understanding the unique pattern-as-practice (Zohar & Hoffman, 2010) developed by enacted (rather than espoused only) policies, practicing managers can create a more stable and consistent environment for employees in today's complex work environments.

Another implication for managers in the field is the necessity of assessing potential facet-specific and overall performance consequences when enacting procedures and policies for employees operating in groups. The idea of emphasizing practices encouraging safety and/or service considerations for employees should be accompanied by the realization that these differing emphases may have unintended consequences for facet-related performance, task performance, or even overall performance at the group level. By shifting the relevant priorities experienced by employees in groups, the corresponding behavioral outcomes will be affected as well. Just as the results of the current project reinforce the notion that strong safety climates lead to increased safety-

related performance (similarly for service climates and service-related performance) managers should be more aware of the direct influence that espoused operational objectives (as evident by in-practice policies) have on performance outcomes.

Study Limitations

All studies have inherent limitations; the present study is no different. First, due to the meta-analytic methodology used, the current study does not offer a direct test of climate competition in its current form. The lack of primary empirical studies that directly examine both facet-climates of safety and service provided a roadblock to the goal of assessing the simultaneous influences of competing climates. While the goal of the meta-analytic procedures used in the current research is to reduce sampling error from primary studies while obtaining a comprehensive view of the notion of climate competition, the dearth of existing studies limited the ability of current project to appropriately ascertain the importance of climate competition.

Similarly, the scarcity of studies focusing on cross-facet aspects of performance precluded the testing of the cross-performance hypotheses. Although the number of studies looking at direct facet performance (e. g. safety climate relating to safety performance) hampered obtainment of one of the overlying objectives of this project. The competing values framework (Quinn & Rohrbaugh, 1981) and extant climate theory strongly imply the existence of these cross-performance ramifications of multiple climates exerting influence on employee behavior, however the limited dataset of the current meta-analysis did not provide enough studies to directly test this notion. Another potential limitation related to the meta-analytic methods used is the limited access to

unpublished or misclassified projects that were not included. Often referred to as the "file-drawer problem" (Rosenthal, 1979), the chance that the current study does not include all valid datasets that fulfill criteria for inclusion in the current project could potentially limit the validity of the findings, despite the best efforts to obtain all appropriate studies (as detailed in the methodology section).

A further limitation of the present research on climate competition may have been the selection of the exemplar facet-climates to be used. Safety and service climate each have prominent empirical support for the theoretical mechanisms and performance outcomes from their respective research streams, and are prominently emphasized in existing organizations today. However, there may have been two more diametrically opposed conceptualizations of climate that would better illustrate the concept of climate competition. Examples of potentially competing climates are discussed in the future research section below.

Another potential drawback of the current research is the focus on group level climate and performance outcomes. While the objective of this research is on climate-related drivers of group effectiveness, the underlying concept of climate competition could have been also assessed by looking at individual or psychological climate perceptions. By analyzing the potential conflicting nature of multiple climate perceptions at the individual level, researchers can gain a more in-depth assessment on the individual performance effects of conflicting contextual influences. As mentioned in the introductory section, both individual and shared climate perceptions are meaningful predictors of subsequent performance outcomes. The present study's limited scope of aggregated climate perceptions and group level performance precludes the insight into

individual level considerations rather than emergent properties of a group (Kozlowski & Klein, 2000).

Future Research

Future research in this area of climate competition could be undertaken to overcome some of the aforementioned limitations of the current study as well as reinforce the theoretical and practical ramifications of the hypothesized notion of climate competition. Specifically future research should more directly test the notion of climate competition. Primary studies in appropriate contexts could empirically demonstrate the existence and interactive nature of multiple, competing climates. For example climates for safety and service would be expected to be present and potentially contradictory in the fields of healthcare, food services, and mass transit (e. g. air and rail travel), to name a few. By assessing the differing and interactive influence of safety and service climates in an actual work environment, scholars can ascertain the nuances underlying the behavioral outcomes of competing climate influences.

Field Study. The primary research questions of this current project focus on the concept of climate competition, unfortunately the meta-analytic results were not sufficient to adequately test these questions. In order to fully adhere to the goals of the current study, the current meta-analytic examination will be supplemented by an in-depth primary study to be completed following completion of this dissertation defense. This study, described briefly below, will fill in the gaps from the current meta-analytic project: (1) direct test of safety and service climates in conjunction with performance outcomes (i.e. safety, service, and task performance); (2) examination of cross-facet performance relationships (e. g. safety climate predicting service performance); (3) inclusion of other

potentially competing climates (to be determined upon further review of broader meta-analytic database and review of research climate research); and (4) perhaps most importantly, more effect sizes to fill out the meta-analytic database and provide enough empirical studies to justify making inferences from the results.

The location for the study is a large cancer treatment medical facility in the southwestern United States. There are currently over 750 employees operating with 75+ groups within this medical center. As part of a larger research program, a multi-phase data collection is scheduled to begin in the fall of 2011. Researchers have access to a vast amount of objective, archival performance data as well as proprietary employee survey data (multiple years of data) including cognitive and attitudinal measures at multiple levels of analysis – individual, group, and organizational. In addition to the archival data and the propriety survey information, we have the opportunity to administer multiple stages of survey-based instruments to directly test these ideas of climate competition in addition to other issues. Furthermore we have the chance to facilitate some in-person semi-structured interviews at the individual, group, and executive level. While no qualitative-based studies are planned, the used of mixed methods will help provide realistic, yet nuanced insight into the inner-working at this facility as well as the existence of climate competition.

As it pertains to the current project, I would utilize this field study to directly test the hypothesized model of climate competition presented within this document, including the interactive performance effects given multiple climates existing at once as well as cross-facet performance outcomes. The choice of the medical facility provides an ideal context to directly assess the interplay between safety and service expectations. While

customer satisfaction is stressed in the medical industry, safety considerations remain paramount due to the increased potential for patient harm or death if accidents occur. Again, the interview portion of the project could provide insight into the manner in which these potentially contradictory climates influence performance, while the survey components will directly assess individual, as well as aggregated group, perceptions.

Specifically climates for safety and service will be assessed two distinct ways. One the nature of the propriety employee survey data allow for climate perceptions to be derived from existing survey items. Two subject matter experts will independently categorize existing measures into climate questionnaires, a process used by others in climate research to obtain climate measures from archival data (e. g. MacCormick & Parker, 2011). Again, in addition to the archival data collection the direct researcher-developed questionnaire will include current reliable measures of safety climate (Zohar, 2000) and service climate (Schneider et al., 1998). Safety, service, and task performance measures will be collected from supervisor or organizational sources.

This proposed extension of the current meta-analytic methodology is a necessary step to ensure the appropriate testing of the core concept of climate competition. By triangulating climate perceptions and performance data, we hope to gain a clearer understanding of the interactive influence of multiple, conflicting climate perceptions. The multi-phase nature of the data collection will provide more than one testing of the effect sizes in the hypothesized relationships, which will serve the dual purpose of an effective test of differential performance effects of climate competition and help fill out the previously discussed meta-analysis.

Other Research Directions. Another direction for future research in the realm of climate competition is to test other climates that may be in a higher degree of misalignment than even safety and service climates. Examples of potentially conflicting climates that would address this core idea of multiple, contradictory behavioral stimuli could include innovation vs. stability, efficiency vs. safety, and ethics vs. bottom-line mentality, to name a few. The concern would be to find the appropriate context to adequately assess the climate competition construct in a relevant domain. The theoretical foundation for competing values (Quinn & Rohrbaugh, 1981) exerting conflicting pressure on employee behavior is valid, however more directly opposed climates could be more informative for the research questions presented in the current study.

Another avenue for future research in this area of climate competition would be to assess the phenomena at multiple levels of analysis. From an individual standpoint, looking at psychological climate perceptions and the potential competing influences of multiple climates could be tested to determine individual level performance and attitudinal outcomes. By understanding competing influences from an individual's perspective more insight can be gained for managers attempting to effectively balance conflicting procedural issues. Likewise individual level perceptions of climate competition can also provide precursory information for how these contradictory behavioral influences operate at the group level as well.

Furthermore, more integration should be attempted to explain the importance of climate competition across multiple levels of analysis. For example, Zohar and Luria (2005) demonstrate within organization climate variation by sub-units as different supervisors exercised differing policies, practices, and procedures in implementing

organizational objectives. This type of multi-level climate research could not only inform theoretical understanding of how competing climates influence behavior from an individual, group, and organizational standpoint; but also could provide more insight into how best to balance these potentially conflicting climate perceptions.

Conclusion

This study clarifies and examines the concept of climate competition in which multiple, conflicting shared perceptions of workplace characteristics provide differential influence on group-level performance outcomes. By unraveling the nuances of employee-perceived contextual factors and the potentially conflicting nature of these factors, this investigation answers the call for a multiple climate perspective. Through meta-analytic calculations, this project attempts to reduce sample error from primary studies to effectively evaluate the potential performance variability resulting from the existence of safety and service climate perceptions existing simultaneously in an organization. While there were insufficient studies to directly test the interactive and cross-facet performance predictions, this project contributes to the climate literature by providing theoretical justification and initial insight into climate competition.

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APPENDICES

Table1

Mean reliability estimates used for predictor and criterion variables

Construct	Mean reliability estimate	N(agg)	k	n (indiv)
Safety Climate	.853	421	5	4,392
Service Climate	.857	433	4	5,252*
Safety Performance	.858	287	3	2,731
Service Performance	.908	514	5	6,339*
Task Performance	.821	329	3	1,469*
Accidents/Injuries	1.00	616	11	16,151

Notes. Reliability estimates were calculated using sample-size weighted averages of the predictor and criterion reliability coefficients of all studies which report reliability in each particular analysis. Coefficients reflect internal consistency. '*' indicates that not all studies reported the number of individuals in the study (n), rather only the number of aggregated units (N) were recorded. The numbers denoted with an '*' includes only reported individuals for the studies included in reliability estimates.

Table 2

Omnibus results for hypotheses tests

Relationship	k	n	N	M_r	SD_r	M_p	SE_{Mp}	95% ConfInt L	ConfInt U	SD_p	80% CredInt L	CredInt U
SfC-SfP	12	8,903	1097	0.38	0.16	**0.45**	0.05	0.34	0.55	0.19	0.24	0.66
SfC-SvP	1	1,127	81	0.25	-	**0.28**	-	-	-	-	-	-
SfC-TP	2	1,381	335	-0.16	0.23	**-0.19**	0.18	-0.54	0.15	0.25	-0.50	0.11
SfC- CP	13	10,030	1178	0.37	0.16	**0.44**	0.05	0.33	0.54	0.19	0.23	0.64
SvC-Acc/Inj	1	14,553	025	-0.58	-	**-0.61**	-	-	-	-	-	-
SvC-SvP	9	6,519*	1599	0.31	0.15	**0.36**	0.06	0.25	0.47	0.17	0.16	0.55
SvC-TP	4	15,651*	402	0.08	0.14	**0.10**	0.09	-0.08	0.28	0.18	-0.08	0.28
SvC- CP	13	21,828*	1887	0.27	0.18	**0.31**	0.06	0.19	0.42	0.20	0.07	0.55

Note. SfC _ safety climate; *SvC* _service climate; *SfP* _safety performance; *SvP* _service performance; *TP* _task performance; *CP* _ composite performance; *Acc/Inj* _ accidents and injuries; *k* _ the number of independent effect sizes included in each analysis; n _ sample size for individuals (* denotes not all studies reported individuals, data represents reported number of individuals); *N* _ number of group; M_r _ mean uncorrected correlation; SD_r _ standard deviation of uncorrected correlations; M_p _ mean corrected correlation (corrected for unreliability in the predictor and criterion); SE_{Mp} _ standard error of *M*_; 95% ConfInt. _ 95% confidence interval for M_p; SD_p _ standard deviation of estimated _*s;* 80% cred. int. _ 80% credibility interval; L _ lower; U _ upper.

Figure 1 – Hypothesized model

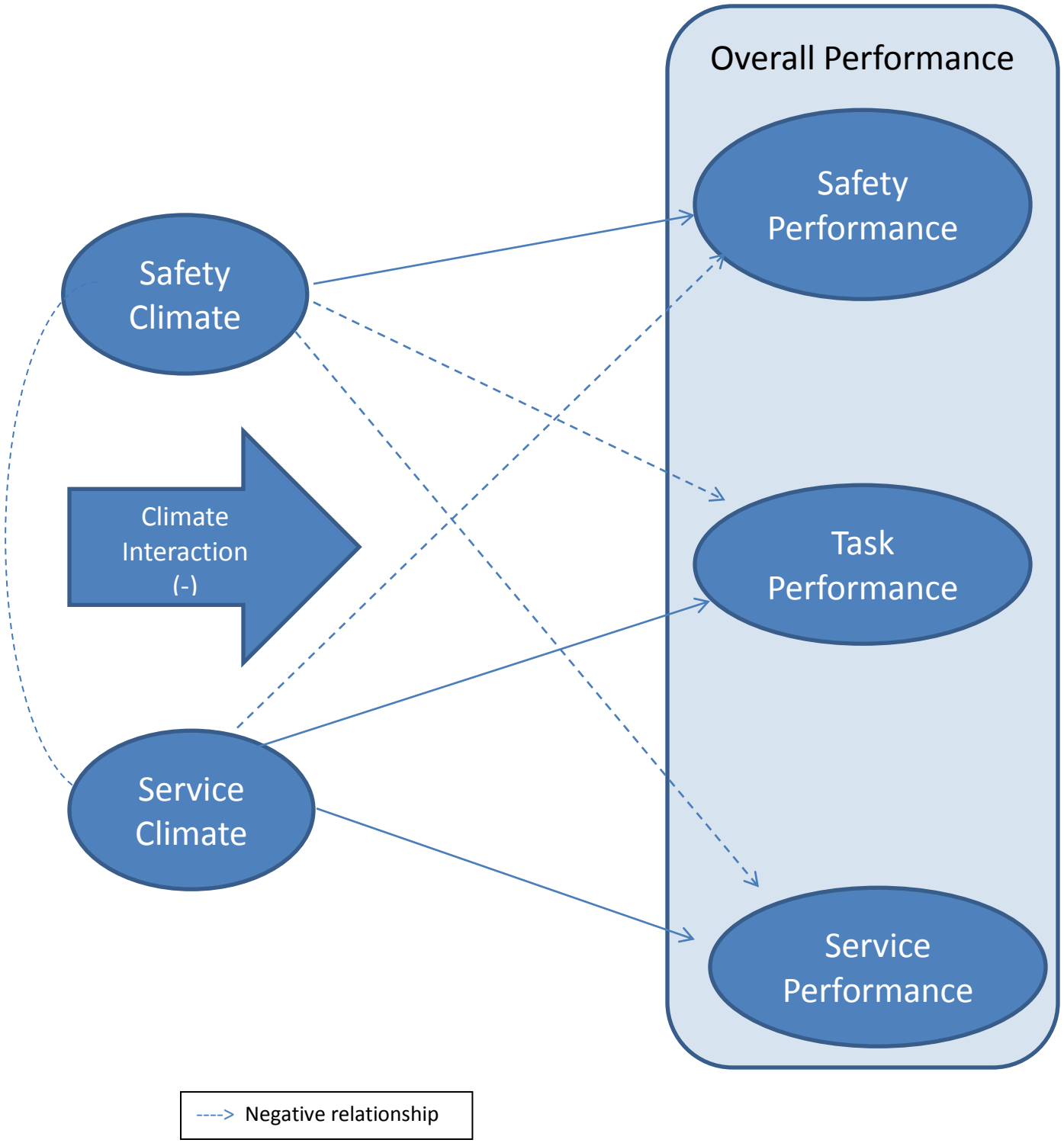


Figure 2 - Competing Values Framework

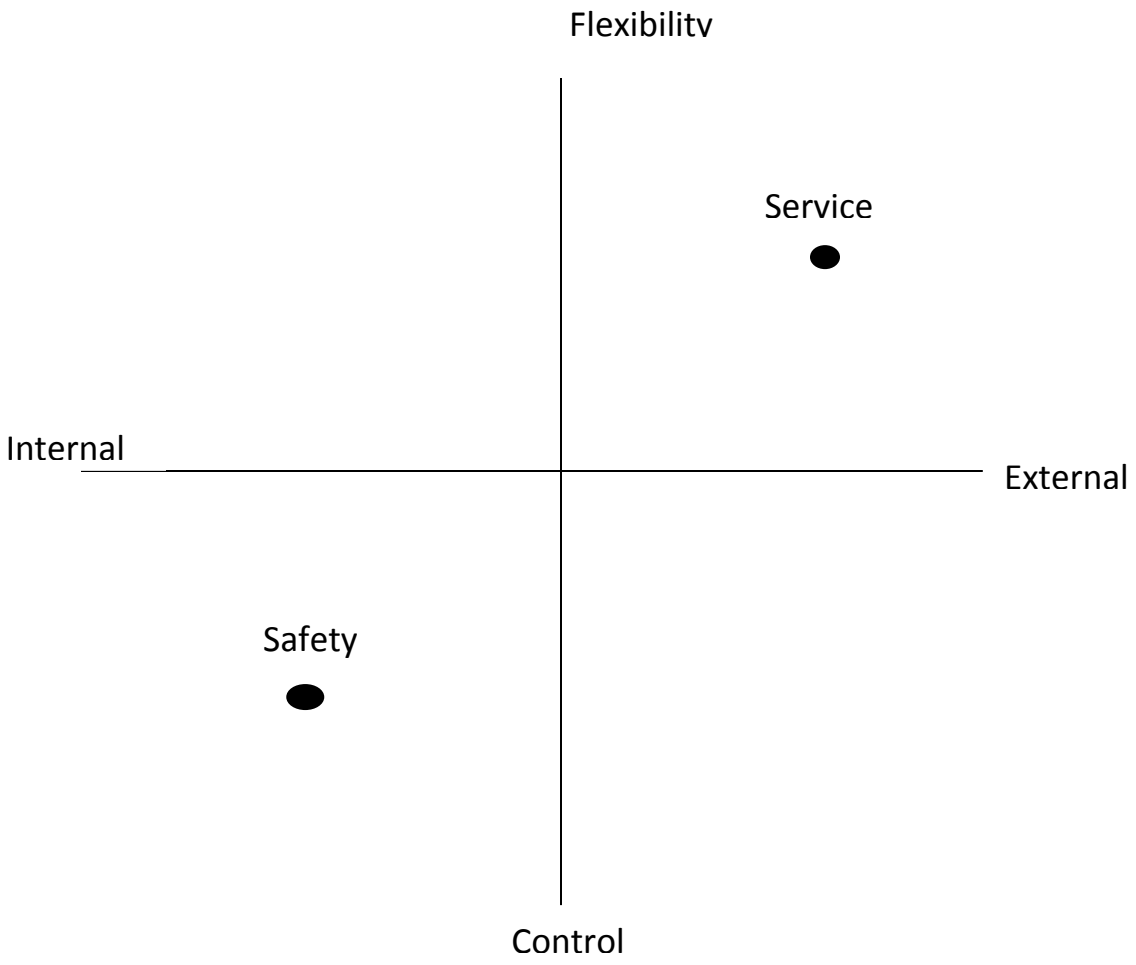


Figure 3 – Hyp. 6: Predicted Interaction - Safety Climate/Service Climate/Safety Performance

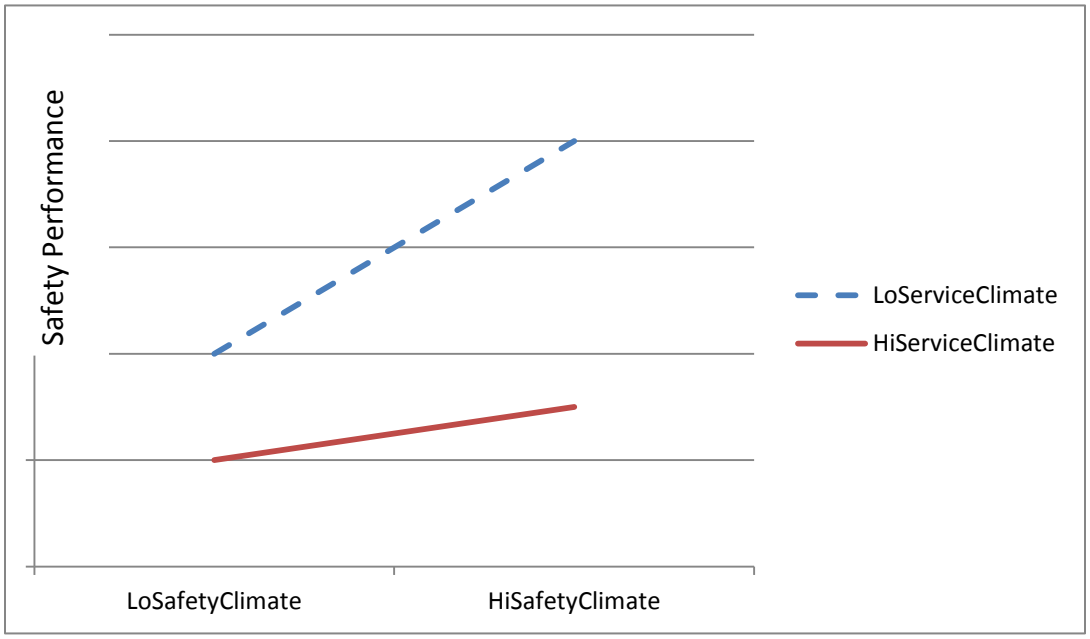


Figure 4 – Hyp. 7: Predicted Interaction - Service Climate/Safety Climate/Service Performance

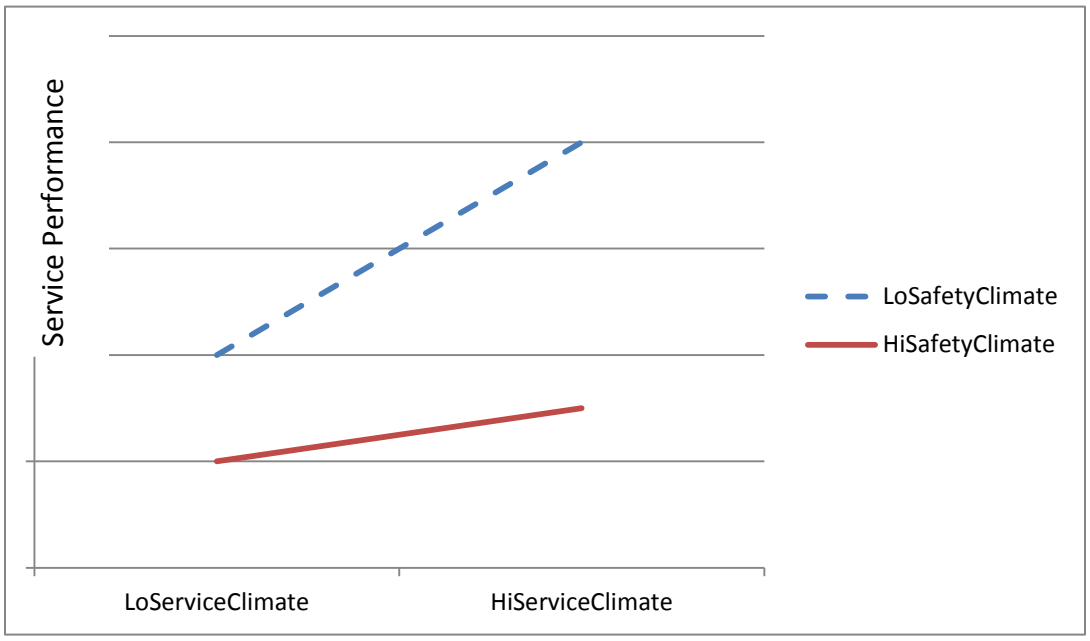


Figure 5 – Hyp8: Predicted Interaction - Service Climate/Safety Climate/Task Performance

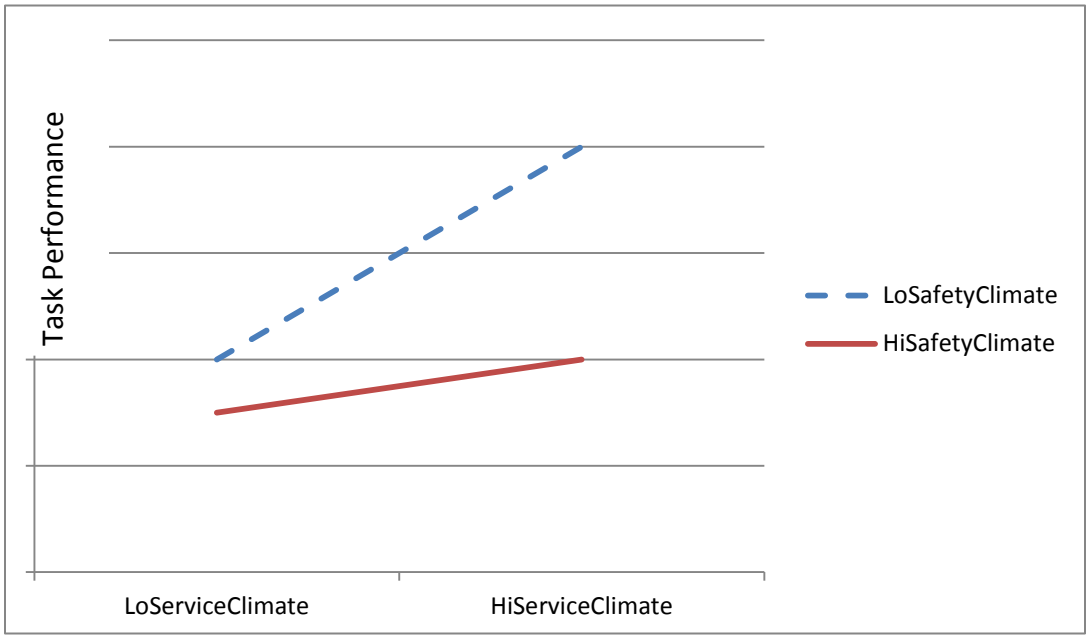
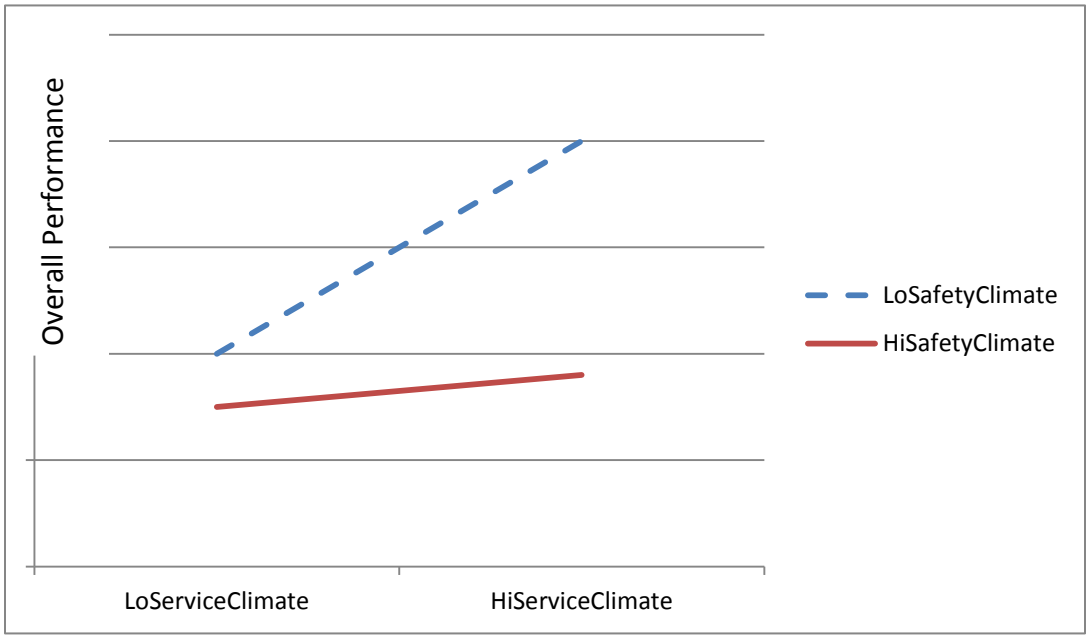


Figure 6 – Hyp 9: Predicted Interaction- Service Climate/Safety Climate/Composite Performance



VITA

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Scope and Method of Study: Organizational work climate competition studied via meta-analytic path modeling

Findings and Conclusions:

Safety climate is strongly related with safety performance and service climate is strongly related to service performance. Both are related to overall composite performance. Although inconclusive test of climate competition, this project provided theoretical contribution of addressing competing climates and practical applications for managing conflicting climate perceptions.

ADVISER'S APPROVAL: Craig Wallace