ABSTRACT

Title of dissertation: DOES MORE THAN ONE COOK SPOIL THE BROTH?
AN EXAMINATION OF SHARED TEAM
LEADERSHIP

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Despite extensive theory and research on teams and leadership, few scholars have examined *team leadership* per se. To help fill this void, I examine a construct that intertwines leadership and teams: shared team leadership. Shared team leadership occurs when multiple individuals (not just the formal leader) exert downward, upward, and lateral influence (not just downward influence) on other team members in an effort to realize team goals. As shared team leadership is an emerging construct, I address several questions to understand (1) What is the relationship between shared and traditional conceptualizations of vertical team leadership? (2) How is shared team leadership different than potentially overlapping constructs? (3) What are the antecedents of shared team leadership? (4) How does shared team leadership relate to team processes, climate, and outcomes? and (5) How does shared team leadership relate to processes, climate, and outcomes over and above vertical team leadership as well as the potential overlapping constructs?

I examined these questions with a sample of 461 individuals in 39 fast-food restaurants using three different measurements of shared team leadership. Results illustrated both the promises and problems with the construct of shared team leadership. In particular, questions remained regarding several measurement issues of shared team leadership; there was a lack of between-group heterogeneity as well as convergent validity among the measures. However, the referent shift consensus measurement approach of shared team leadership was significantly and positively related to team functioning. Using this measurement strategy, shared team leadership was moderately related to the potential correlates of cooperation, helping, and climate for initiative. In addition, shared team leadership was related to the antecedent of team member ability, the team process of cohesion, climate for service, and the outcome of subjective performance assessments. Further, shared team leadership related to these potential consequences over and above vertical team leadership as well as the potential correlates in several cases. Overall, these results provide some support for shared team leadership, but also raise new questions about the construct.

DOES MORE THAN ONE COOK SPOIL THE BROTH? AN EXAMINATION OF
SHARED TEAM LEADERSHIP

by

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Introduction

Teams are growing increasingly common as the primary work unit in

organizations (Cohen & Bailey, 1997; Guzzo & Dickson, 1996; Guzzo & Shea, 1992;

Kozlowski & Bell, 2003). Over the last fifteen years, organizations have shifted from a

reliance on individual-centered work structures to a reliance on teams (Lawler, Mohrman,

& Ledford, 1995). Accompanying this organizational design shift are increased theory

and research on teams (see Kozlowski & Bell, 2003 for a recent overview).

Despite increased theory and research, scholars have devoted relatively little

attention to the relationships between teams and leadership. Both the team and leadership

literatures have overlooked the topic of *team leadership*. Major reviews of team

effectiveness either do not mention the topic of leadership or reference it briefly in

passing (e.g., Campion, Medsker, & Higgs, 1993; Cohen & Bailey, 1997; Guzzo &

Dickson, 1996; Ilgen, Hollenbeck, Johnson, & Jundt, 2005). In addition, major reviews

of leadership stress the relationship between the leader and the individual subordinate,

ignoring the impact of teams (e.g., Bass, 1990; House & Aditya, 1997; Yukl & Van Fleet,

1992).

The goal of this dissertation is to examine the interplay between teams and

leadership. I take a multilevel view and examine shared leadership in teams. Shared

team leadership exists when multiple team members exert downward, upward, and lateral

influence on their fellow teammates in an effort to realize team goals. In contrast,

vertical team leadership occurs when one leader exerts downward influence on team

members in an effort to realize team goals. In a team characterized by shared team

leadership, all team members can and do perform leadership functions. For example,

every team member may provide structure for the team, reward other team members, and inspire other team members. Essentially, shared team leadership is "a dynamic, interactive influence process among individuals in work groups in which the objective is to lead one another to the achievement of group goals. This influence process often involves peer, or lateral, influence and at other times involves upward or downward hierarchical influence" (Conger & Pearce, 2003, p. 286).

A number of prominent leadership scholars have called for research on shared team leadership (e.g., Avolio, Sivasubramaniam, Murry, Jung, & Garger, 2003; Day, Gronn, & Salas, 2004; House & Aditya, 1997; Yukl, 1998). For example, Yukl (1998) stated that "the extent to which leadership can be shared, the conditions facilitating success of shared leadership, and the implications for design of organizations are all important and interesting questions that deserve more research" (p. 504). And Pearce (2004) commented that "we need to ask if our traditional models and approaches to leadership are still appropriate – or if they need revising and rethinking" (p. 47). Examination of shared team leadership is also of interest to an applied business audience (e.g., Pearce, 2004; Teerlink, 2000) as the top management teams of many major corporations have utilized shared or co-leadership (O'Toole, 1999; O'Toole, Galbraith, & Lawler, 2003). And yet, some leadership scholars are skeptical (e.g., Locke, 2003), wondering whether shared team leadership is "simply the latest in a seemingly never-ending list of adjectival forms" of leadership (Day et al., 2004, p. 875).

To better understand shared team leadership, I address several key questions to explore and examine the construct. More specifically, in this dissertation, my goal is to answer five questions: (1) What is the relationship between shared and vertical team

leadership? (2) How is shared team leadership different than potentially overlapping constructs? (3) What are the antecedents of shared team leadership? (4) How does shared team leadership relate to team processes, climate, and outcomes? and (5) How does shared team leadership relate to processes, climate, and outcomes over and above vertical team leadership as well as the potential overlapping constructs?

Team Leadership

To establish a foundation, I provide an overview of team leadership in this section. I begin broadly with a general definition of the construct. Next, I describe why research on team leadership is necessary before discussing vertical team leadership. I then turn to shared team leadership and define the concept as well as highlight pertinent literature on the topic. I conclude this section by presenting the specific dimensions of leadership that I use in the study.

General team leadership definition. A team is a collection of two or more individuals who are interdependent in their task, see themselves as a social entity, share responsibility for an outcome, are part of a larger organizational system, and perform tasks that impact others (Cohen & Bailey, 1997; Guzzo & Dickson, 1996; Kozlowski & Bell, 2003). But what is leadership? As Bass (1990) has noted, "there are almost as many different definitions of leadership as there are persons who have attempted to define the concept" (p. 11). However, most definitions emphasize that leadership is an influence process affecting various organizational components towards a goal or objective (Yukl & Van Fleet, 1992; Yukl, 1998). Accordingly, I define leadership as individuals' purposeful efforts to influence tasks, strategies, people, groups, and cultures towards the achievement of objectives and goals (Yukl & Van Fleet, 1992; Yukl, 1998).

From these definitions, I define team leadership as individuals' purposeful efforts to influence their team and its members toward the achievement of objectives and goals. For the current study, I examined internal (as opposed to external) team leadership. I focused on leaders who were members of the teams rather than outsiders who were not directly involved in team functioning.

Need for general team leadership theory and research. Traditional leadership theories are not appropriate for the study of leading teams. These theories focus on the relationship between the leader and an individual subordinate (see Bass, 1990; House & Aditya, 1997; Yukl & Van Fleet, 1992 for a review) and rarely consider the team. As House and Aditya (1997) noted, "the dominant portion of leadership theories and research is primarily concerned with relationships between leaders and their immediate followers or with supervisory behaviors. It is almost as though leadership scholars…have believed that leader-follower relationships exist in a vacuum" (p. 445).

In contrast, team leadership theory and research do take the properties of teams into account and explore how leaders influence team functioning. However, questions remain as to how leadership operates within teams (see Table 1 for example quotations) (e.g., Bell & Kozlowski, 2002; Hackman & Walton, 1986; Kozlowski, Gully, Salas, & Cannon-Bowers, 1996; Salas, Burke, & Stagl, 2004; Stewart & Manz, 1995; Zaccaro, Rittman, & Marks, 2001). To address these questions, I first present an overview of vertical team leadership as a foundation before focusing on shared team leadership.

Vertical team leadership. As noted above, vertical team leadership is the downward influence of a single leader (e.g., a superior) on the team (e.g., subordinates) to achieve some goal. McGrath's (1962) functional approach underlies nearly all work on

vertical team leadership (Salas et al., 2004; Zaccaro et al., 2001). According to McGrath (1962), the job of the leader "is to do, or get done, whatever is not being adequately handled for group needs." (p. 5). An effective team leader is a problem-solver who makes sure that the functions needed for task accomplishment and group maintenance are adequately filled (Hackman & Walton, 1986; Kozlowski, Gully, Salas et al., 1996; Zaccaro et al., 2001).

Several theorists have built on McGrath's initial insights, clarifying the functions team leaders may serve. First, Hackman and Walton (1986) detailed conditions necessary for team effectiveness: a clear and engaging direction, a team structure that encourages performance, an organizational context that rewards and supports excellence, available and expert coaching, and adequate amounts of material resources. Hackman (2002) added a sixth condition for team effectiveness, arguing that a team must be a real team, and not just a team in name only. Second, Kozlowski and his colleagues (Kozlowski, Gully, McHugh, Salas, & Cannon-Bowers, 1996; Kozlowski, Gully, Salas et al., 1996) added a developmental component, suggesting that different leadership functions are necessary depending on the team's developmental stage. As a team develops, the leader's role shifts from mentor to instructor to coach to facilitator. Third, Zaccaro et al. (2001) specified an input-process-output (IPO) framework in which leader functions affect four different team processes (cognitive, motivational, affective, and coordination processes) that influence performance.

Shared team leadership. Again, shared team leadership differs from vertical team leadership as it is the process through which multiple team members (not just one leader) influence the team consisting of downward, upward, and lateral influence (not just

downward influence). In shared team leadership, the formal leader can still perform leadership behaviors; however, this individual is just one of the many potential team members leading the team. Thus, vertical and shared leadership are not orthogonal. That is, a team could be high in both vertical and shared team leadership when both the designated team leader and the team members are performing leadership functions.

The idea of sharing leadership is not entirely new. The construct has deep roots in the organizational sciences (see Pearce & Conger, 2003; Pearce & Sims, 2000; Pearce & Sims, 2002 for an overview). Follett (1924), for example, emphasized that individuals should not necessarily follow the formal leader, but rather should follow the individual with the most requisite knowledge of the particular situation. Bowers and Seashore (1966) demonstrated that mutual or peer leadership, in which multiple individuals enacted the same leadership behaviors at the same time, often had a higher relationship with positive group outcomes than leadership exercised by the formal manager. Vroom and Yetton (1973) described the benefits of subordinate involvement in decision-making. And recently, the work on self-managing work teams (e.g., Manz & Sims, 1987; Stewart & Manz, 1995; Wageman, 2001) recognized the behaviors of all team members in team functioning.

These prior conceptualizations helped to shape current views of shared team leadership. Avolio, Jung, Murry, and Sivasubramaniam (1996) offered one of the first direct explications of the construct. Avolio et al. developed the notion of going from "I" to "We" where leadership "can and should be examined at multiple levels of analysis, including teams" (p. 200). Another advance in shared team leadership theory was Pearce and Sims' (2000) model. In this model, three main antecedents precede shared leadership

functions: group, task, and environmental characteristics. These antecedents influence several different types of shared team leadership behaviors, which, in turn, affect team processes and effectiveness. Day et al. (2004) offered the most recent theoretical conceptualization with shared team leadership as both an outcome of teamwork and team learning as well as an input to team member resources. In addition to these general theories, several shared team leadership models specifically address particular organizational contexts such as selling teams (Perry, Pearce, & Sims, 1999), top management teams (Ensley, Pearson, & Pearce, 2003), and new product development teams (Cox, Pearce, & Perry, 2003).

Together these theories provide a foundation for conceptualizing leadership as a shared process among the team. However, they each fall short of a full consideration of the construct; none fully explores the relationships of shared team leadership with vertical leadership, other potential correlates, potential antecedents, and a variety of processes and outcomes. Further, research examining these models is rare as "the empirical examination of this alternate source of leadership has remained relatively unexplored" (Pearce & Conger, 2003, p. 13). To empirically test a more complete conceptualization of shared team leadership, I utilized several specific leadership dimensions in this study.

Specific leadership dimensions. As team leadership theory has its roots in the functional approach, identifying the appropriate specific leadership dimensions to assess is difficult. The functional perspective is purposely vague in prescribing specific leadership dimensions; indeed, it is "generic almost to a fault" (Hackman & Walton, 1986, p. 77). By synthesizing across team leadership theory and research, I identified

several general leadership functions and the corresponding specific dimensions that I used in this research.

The first general leadership function addresses the team's affective climate. Hackman and Walton (1986) noted that leader functions must take into account the affective nature of the team. Kozlowski, Gully, Salas et al. (1996) described the mentor role as maintaining the social structure within the team to create shared affect. Zaccaro et al. (2001) discussed affective processes and stated that "an important role of team leaders is to moderate the degree of affect in the team" (p. 471). And Edmondson's (2003) research stressed the "interpersonal and affective dimensions of team leadership" (p. 1443). To address this affective component, I examined *consideration*. From the Ohio State leadership studies (e.g. Stogdill, 1950), consideration is "the degree to which a leader shows concern and respect for followers, looks out for their welfare, and expresses appreciation and support" (Judge, Piccolo, & Ilies, 2004, p. 36). Leaders who demonstrate concern maintain the affective well-being of the group.

The second broad function is directing and structuring activities. Zaccaro et al. (2001) advocated that a leader should plan, coordinate, and communicate a clear direction. One of Hackman and Walton's (1986) conditions required for effectiveness is a group structure encouraging work on the task. Shared leadership theory and research also highlight directive behaviors for team leaders (Pearce & Sims, 2000; 2002). Reflecting this broad function, I assessed *initiating structure*. Initiating structure is "the degree to which a leader defines, and organizes his role and the roles of followers, is oriented toward goal attainment, and establishes well-defined patterns and channels of

communication" (Judge et al., 2004, p. 37). Leaders demonstrating a high level of initiating structure provide direction and organization to the team.

The third function is the rewarding and supporting of team members. Hackman and Walton (1986) advocated a context that supports and reinforces excellence through a reward system that provides positive consequences and recognition for performance. Further, Zaccaro et al. (2001) discussed the need for leaders to allocate material resources. Shared team leadership models and research examined how multiple leaders provided rewards (e.g., Avolio et al., 1996; Pearce & Sims, 2000; Pearce & Sims, 2002; Sivasubramaniam, Murry, Avolio, & Jung, 2002). To represent this leadership function, I assessed *contingent rewards*. Contingent rewards represent exchange relationships; leaders provide things of value to subordinates who perform well (Northouse, 2004). Leaders demonstrate contingent rewards by recognizing and compensating team members based on their performance.

The fourth function is teaching and providing instruction. Development is at the heart of Kozlowski, Gully, Salas et al.'s (1996) model; the team leader's main job is to facilitate growth of the team. Similarly, one of Hackman and Walton's (1986) conditions for team effectiveness is available and expert coaching. Recently, Hackman and Wageman (2005) noted that coaching is a central act of team leadership. And research has illustrated that coaching behaviors are determinants of team outcomes (Edmondson, 2003; Morgeson, 2005). I directly assessed this function with *coaching* leadership behaviors. Coaching is the "direct interaction with the team that is intended to shape team processes to produce good performance" (Wageman, 2001, p. 561). Team leaders provide instruction to facilitate team member learning.

The fifth function is motivating team members. This motivational component is clear in the Zaccaro et al. (2001) model where "team effectiveness is grounded in members being motivated to work hard on behalf of the team" (p. 465). Similarly, Hackman and Walton (1986) stressed that team members must have an appealing purpose guiding their behavior. Further, a number of studies have illustrated the utility of shared transformational team leader behaviors on team functioning and outcomes (e.g., Avolio et al., 1996; Pearce & Sims, 2002; Pirola-Merlo, Haertel, Mann, & Giles, 2002; Sivasubramaniam et al., 2002). To measure these motivational functions, I assessed *visionary inspiration*. Visionary inspiration leadership motivates team members by raising their understanding and awareness of team goals. In short, when team leaders provide a compelling vision, team members work harder.

The sixth function is monitoring. Monitoring is a main component in McGrath's (1962) model of functional leadership; the leader must know what needs to be done to address the team's needs. Monitoring both personnel and material resources is central in Zaccaro et al.'s (2001) model of team leadership. Research has also demonstrated that monitoring is a core leadership behavior in shock trauma medical teams (e.g., Klein, Knight, & Ziegert, 2004; Klein & Ziegert, 2002; Ziegert, Klein, & Zhao, 2004) as well as sailboat crews (Komacki, Desselles, & Bowman, 1989). To assess this dimension, I directly measured *monitoring* leader behaviors. Team leaders must monitor the situation to know what they need to address.

The final dimension is *general* leadership. I have included this overarching dimension as scholars have noted the potential for global perceptions of leaders to exist (e.g., Lord, Binning, Rush, & Thomas, 1978; Phillips & Lord, 1986). Accordingly, to

complement the six specific behavioral dimensions, I included an all-purpose dimension assessing general leadership.

These seven leader behaviors are rooted in team leadership theory and research. Thus, these wide-ranging behaviors provide a solid foundation resulting in the assessment of the most appropriate team leadership behaviors. With this foundation and background, I now turn to the specific research questions addressing shared team leadership.

What is the Relationship between Shared Team Leadership and Vertical Team Leadership?

Based on a role-modeling framework from social cognitive theory (Bandura, 1986), I expect positive relationships between vertical and shared team leadership. Role modeling suggests that shared team leadership behaviors displayed by team members should mimic or emulate the vertical team leader's behaviors. For example, team members emulate the leader so that when the designated leader exhibits consideration for the team, team members are likely to do so as well. One way shared leadership can flourish is through the vertical team leader's illustration of appropriate leadership behaviors (Cox et al., 2003). These modeling behaviors should result in positive relationships between each of the specific dimensions of leadership. Indeed, the two research studies that examined both vertical and shared team leadership together illustrate strong positive correlations between the two (Pearce & Sims, 2002; Pearce, Yoo, & Alavi, 2004). From this theory and research, I hypothesize that:

> *Hypothesis 1 A (H1A):* The specific dimensions of vertical team leadership
>
> (consideration, initiating structure, contingent reward, coaching, visionary

inspiration, monitoring, and general leadership) will be positively related to the corresponding dimensions of shared team leadership.

While I predict positive relationships, I also expect stronger relationships for consideration, contingent reward, coaching, and monitoring behaviors and weaker relationships for visionary inspiration and initiating structure behaviors. Inherent with consideration, contingent rewards, coaching, and monitoring is the idea that more is better. In other words, the team will perform better with increasing concern, teaching, rewards for performance, and monitoring by team members. As these dimensions are additive in nature, I expect strong relationships between vertical and shared team leadership for them.

In contrast, I expect weaker relationships for the visionary inspiration and initiating structure dimensions. When multiple team members provide vision and structure, the result may be redundancy or confusion on part of the team. For example, once the designated leader sets the vision and direction for the team, other team members may not need to perform these behaviors as they may seem redundant, unneeded, and wasteful. Further, if the designated leader prescribes a vision and structure and then another team member prescribes a somewhat different vision and structure, confusion may arise among the team. From these distinctions, I hypothesize that:

Hypothesis 1 B (H1B): The vertical and shared team leadership dimensions of consideration, coaching, contingent reward, and monitoring will be more strongly related than visionary inspiration and initiating structure.

How is Shared Team Leadership Different than Other Potential Overlapping Constructs?

As shared team leadership is a relatively new construct, researchers must examine how it relates to preexisting constructs. Is shared team leadership more than just "old wine in new bottles"? As shared team leadership consists of multiple team members influencing one another, a logical step is to explore the relationship of it to variables that also describe mutual influence or the absence of a designated leader. As such, I examine the relationship of shared team leadership to self-management, empowerment, cooperation, helping, and climate for initiative.

Self-management occurs when team members take on roles previously reserved for management (Manz & Sims, 1987). Self-management is similar to shared team leadership as team members are responsible for decisions within the team. However, theory and research on self-management, in general, do not address how leadership functions are shared by the team as a whole (Pearce & Conger, 2003). In other words, theory and research on self-management generally focus on where leadership resides while work on shared team leadership centers on how the leadership functions are carried out. A team may be self-managing but an external leader may still provide much of the leadership influence (Morgeson, 2005). Similarly, empowerment examines the transfer of power to team members (Spreitzer, 1996). A team may be empowered, but team members may not perform leadership behaviors. Thus, empowerment is a necessary, but not a sufficient condition for shared team leadership.

Constructs describing team members' mutual influence may also relate to shared team leadership. Cooperation occurs when team members contribute useful behaviors to facilitate the completion of interdependent projects (Kozlowski & Bell, 2003). Cooperation is similar to shared team leadership as it involves team members working

together on a common task. However, cooperation lacks the influence component of shared team leadership. A team could be high in cooperation with each individual just focusing on his or her own part of the task. Helping behaviors are similar to shared team leadership as they involve assisting others with a task. Helping, however, also stops short of the active influence process. An individual could help out another team member on a task without exerting influence on how the task is accomplished. Finally, climate for initiative refers to the "formal and informal organizational practices and procedures guiding and supporting a proactive, self-starting, and persistent approach toward work" (Bear & Frese, 2003, p. 48). Climate for initiative relates to shared team leadership; both constructs address how individuals take charge. However, while climate for initiative describes team members having control, it does not describe the influence process among these individuals.

Each of these potential correlates overlap with shared team leadership to some degree. However, each also fails to capture some important element of shared team leadership, most notably the active influence process. Thus, I expect that shared team leadership will only partially overlap with these constructs resulting in moderate relationships or medium effect sizes. According to Cohen (1977), a medium effect size occurs when a correlation equals .30. From this, I hypothesize that:

> *Hypothesis 2 (H2):* The measures of shared team leadership will be moderately positively related to the potential correlates of self-management, empowerment, cooperation, helping, and climate for initiative.

What are the Antecedents of Shared Team Leadership?

A number of theorists (e.g., Burke, Fiore, & Salas, 2003; Cox et al., 2003; Pearce & Sims, 2000) have proposed a variety of antecedents to shared team leadership. Pearce and Sims (2000) offered three main antecedents: group, task, and environmental characteristics. Group characteristics are the set of predictors encompassing individuals' attributes such as ability, familiarity, and group size. Task characteristics are comprised of components such as complexity, criticality, and urgency. Finally, environmental characteristics are the organizational support, reward, and cultural systems. Building on this, Cox et al. (2003) hypothesized that the team characteristics of proximity, team size, ability, and maturity would influence shared leadership. Complementing this theory, a recent study by Carson and Tesluk (2005) examined the antecedents of shared team leadership. The authors found that internal team conditions (shared purpose, social support, voice, and mutual inspiration) interacted with external leader coaching to predict shared team leadership.

I build off this literature and examine both team composition and task characteristic antecedents of shared team leadership. In particular, I study how the team characteristics of size, experience, and ability and the task characteristics of interdependence and complexity relate to shared team leadership.

Size. In larger sized teams, it may be more difficult for team members to share leadership. Cox et al. (2003) suggested that shared team leadership decreases when team size increases; maintaining close working relationships among all team members of a larger team is difficult due to proximity barriers. In contrast, a small team may also diminish shared leadership behaviors. Conger and Pearce (2003) proposed that less of a chance exists for team members to possess a wide range of skills in smaller sized teams.

This reduced skill set diminishes the value-added contribution of shared leadership. I aim to reconcile these different perspectives and hypothesize that:

Hypothesis 3 A (H3A): A curvilinear relationship between team size and shared team leadership will exist. Both small and large sized teams will display lower levels of shared team leadership.

Experience. I expect a positive relationship between team experience and shared team leadership. Indeed, the life cycle of the team can affect team functions (Kozlowski, Gully, Nason, & Smith, 1999). As team members become more familiar with the work setting and each other, they are likely to become more comfortable and engage in team leadership behaviors (Cox et al., 2003; Pearce & Sims, 2000). From this, Avolio et al. (2003) suggested that researchers should use measures of shared team leadership with teams that have a long shared history. Accordingly, I hypothesize that:

Hypothesis 3 B (H3B): Team experience will be positively related to shared team leadership.

Ability. I expect a positive relationship between ability and shared team leadership. Ability can refer to a number of different constructs (e.g., cognitive ability, interpersonal ability, etc.). For the current study, I focus on task competence. When team members have a high level of task competence, many members of the team should be able to perform leadership functions (Conger & Pearce, 2003; Cox et al., 2003). Conversely, if an individual is not competent with the task s/he is performing, then s/he will not be able to take on the additional role of performing leader behaviors. Further, team members who perceive an individual to lack task competence will most likely not believe in his/her leadership capabilities. From this, I hypothesize that:

Hypothesis 3 C (H3C): Ability of team members (i.e., task competence) will be positively related to shared team leadership.

Task interdependence. I expect a positive relationship between task interdependence and shared team leadership. The level of interdependence is a salient task characteristic for many teams (Kozlowski & Bell, 2003). With high task interdependence, team members will need to work together to a greater degree, which increases the opportunity for shared team leadership to develop (Pearce & Sims, 2000). Conversely, when tasks are independent, team members are more likely to be isolated and work alone prohibiting shared team leadership. Accordingly, I hypothesize that:

Hypothesis 3 D (H3D): Task interdependence will be positively related to shared team leadership.

Task complexity. Pearce and Sims (2000) noted that task complexity should positively relate to shared team leadership. When the task is routine, little need exists for any type of leadership whether it be shared or vertical leadership. Indeed, substitutes for leadership theory suggests that less complex tasks can act as a substitute for leadership (Kerr & Jermier, 1978). As such, I hypothesize that:

Hypothesis 3 E (H3E): Task complexity will be positively related to shared team leadership.

What are the Consequences of Shared Team Leadership?

A number of theorists (e.g., Cox et al., 2003; Pearce & Sims, 2000) and researchers (Avolio et al., 1996; Pearce & Sims, 2002; Sivasubramaniam et al., 2002) have explored the relationship between shared team leadership and team processes and outcomes. And yet, this research is scattered; studies do not consider a variety of team

processes and outcomes. I build off this prior work and hypothesize specific

relationships between shared team leadership and a number of team processes (potency,

cohesion, and conflict), team climate (for service), and team outcomes (satisfaction,

objective performance, and subjective performance).

Potency. Group potency refers to group members' "generalized beliefs about the

capabilities of the team across tasks and contexts" (Gully, Incalcaterra, Joshi, &

Beaubien, 2002, p. 820). A team high in group potency will take on, persevere in the

face of, and successfully accomplish difficult tasks (Guzzo, Yost, Campbell, & Shea,

1993). Following other theorists (Cox et al., 2003; Pearce & Sims, 2000), I hypothesize

that shared team leadership will positively relate to group potency. Team leaders need to

influence the motivation of team members and raise their efficacy (Kane, Zaccaro,

Tremble, & Masuda, 2002). By modeling appropriate behaviors, team leaders can create

task confidence and a "can do" attitude (Kozlowski, Gully, Salas et al., 1996). Indeed,

research (e.g., Avolio et al., 1996; Sivasubramaniam et al., 2002) has supported the

positive relationship between shared team leadership and potency. From this, I

hypothesize that:

> *Hypothesis 4 A (H4A):* Shared team leadership will be positively related to group
>
> potency.

Cohesion. While multiple definitions of cohesion exist, they generally have either

a social or a task focus (Gross & Martin, 1952; Zaccaro, 1991). I focus on the social

form of cohesion, which is group members' interpersonal liking or attraction to other

members of the group (Evans & Jarvis, 1980). Social cohesion allows for more open

communication and better coordination among team members.   Zaccaro et al. (2001)

proposed that team leaders could influence cohesion by planning, developing, motivating, and providing feedback. Shared team leadership should positively relate to social cohesion (Cox et al., 2003; Pearce & Sims, 2000). By structuring tasks, creating a strong sense of purpose, and modeling respectful and considerate behaviors towards others, leaders can create a team where the members interact and have close personal relationships with one another. Further, high levels of shared team leadership increase interaction among team members (Cox et al., 2003). This interaction and influencing of others should engender close ties among individuals. Therefore, I hypothesize that:

Hypothesis 4 B (H4B): Shared team leadership will be positively related to interpersonal cohesion.

Conflict. Similar to cohesion, theorists have conceptualized conflict as consisting of both task and relational incompatibilities among the team (Jehn, 1995). I expect that shared team leadership will negatively relate to conflict. Zaccaro et al. (2001) proposed that the leadership behaviors of controlling social norms, development, and managing personnel resources reduce team conflict. Indeed, research has demonstrated that leadership is positively related to a variety of affective team processes such as high cooperation (Erez, LePine, & Elms, 2002), positive team affect (Pirola-Merlo et al., 2002), freedom to express doubts (Lovelace, Shapiro, & Weingart, 2001), team task agreement (Lovelace et al., 2001), psychological safety (Edmondson, 1999), and speaking up (Edmondson, 2003). The definition of shared team leadership is consistent with low levels of conflict; team members are able to influence one another in an environment where disagreements are relatively absent. In a team characterized by high shared leadership, team members may respect one another and are open to influence from

each other suggesting lower levels of relationship and task conflict. From this theory and

research, I hypothesize that:

Hypothesis 4 C (H4C): Shared team leadership will be negatively related to team

conflict.

Climate. Climate is a function of what is rewarded, supported, and expected in a

work unit. Climate sends strong signals to employees and others about what behaviors

are socially acceptable (Schneider, 1972). Theorists and researchers typically

operationalize climate with a strategic focus (Schneider, 1975). In the current study, I

examine climate for service, as this is a main organizational focus for the teams assessed

in this study.

Evidence exists to support the assertion that shared team leadership will be

positively related to team climate. A variety of historical studies indicate that leadership

behaviors shaped climates among the work group (e.g., Lewin, Lippitt, & White, 1939;

Litwin & Stringer, 1968; McGregor, 1960). In summarizing the literature on the

influence of leadership on climate, Ostroff, Kinicki, and Tamkins (2003) noted that

"leaders…serve as interpretive filters of relevant organizational processes, practices, and

features for all group members, contributing to the development of common climate

perceptions" (p. 581). Leaders communicate meaning (Schein, 1985) and illustrate what

is rewarded, supported, and expected.

I hypothesize that shared team leadership will be positively related to climate for

service. Indeed, multiple team members communicating expectations should result in

strongly shared beliefs among team members. Further, as people follow similar others,

individuals are more likely to change their behavior and conform to a given standard

when the influencing agents are similar to themselves (Cialdini, 2001). Indeed, the most immediate and proximal influence is likely to be one's peers (Katz & Kahn, 1978). As shared team leadership involves influence by fellow team members, it should be positively related to the team's climate. From this theory and research, I hypothesize that:

Hypothesis 4 D (H4D): Shared team leadership will be positively related to climate for service.

Outcomes. Consistent with prior conceptualizations (Campion et al., 1993; Cohen & Bailey, 1997; Hackman, 1987; 1990; Sundstrom, DeMeuse, & Futrell, 1990), I operationalized team outcomes along two dimensions: performance and attitudinal outcomes. Performance outcomes are the quality, quantity, and efficiency of a team's output while attitudinal outcomes are the satisfaction and happiness of team members.

A number of theorists have predicted that shared team leadership will influence team outcomes (Pearce & Sims, 2000; Cox et al., 2003). As the definition of leadership suggests, leaders influence the team towards its objective and goals. This influence process by multiple team members will result in positive team performance. Shared team leadership provides a greater opportunity for effective leadership to occur as many team members can provide influence depending on the task at hand. As the law of the situation suggests (Follett, 1924), individuals with the most requisite knowledge and skills for a given situation will provide leadership behavior for the team. As such, shared team leadership results in competent leaders influencing the team to achieve its goals. This process should also result in high levels of satisfaction as team members will have the opportunity to influence the direction and processes of the team. With shared team

leadership, team members have greater control over the activities of the team, which should result in greater satisfaction.

Several studies support this theoretical link between shared team leadership and team performance (Carson & Tesluk, 2005; Avolio et al., 1996; Pearce & Sims; 2002; Sivasubramaniam et al., 2002) as well as team member satisfaction (Avolio et al., 1996). The outcomes include both subjective or self-report data (Avolio et al., 1996) as well as objective or outside data (Carson & Tesluk, 2005; Pearce & Sims, 2002). From this, I hypothesize that:

Hypothesis 4 E (H4E): Shared team leadership will be positively related to subjective assessments (i.e., self-report) of team performance.

Hypothesis 4 F (H4F): Shared team leadership will be positively related to objective assessments (i.e., sales and inspection reports) of team performance.

Hypothesis 4 G (H4G): Shared team leadership will be positively related to team member satisfaction.

While I predict that shared team leadership will have a positive impact on team functioning based on the existing theory and research, there is the potential for shared team leadership to negatively impact the team. As with the recent work on bad vertical leadership, shared leadership could be damaging to a team. For instance, leadership by multiple individuals who present conflicting messages may result in confusion or even conflict among team members. Thus, while I focus on the positive aspects of shared team leadership in this study, I note the possibility for negative consequences associated with the construct.

What Are the Consequences of Shared Team Leadership Over and Above Vertical Team Leadership and the Potential Overlapping Constructs?

While vertical leadership and the potential overlapping correlates should predict the team processes and outcomes, I expect stronger relationships for shared team leadership. Thus, I hypothesize that shared team leadership will predict over and above (i.e., when controlling for) both vertical team leadership as well as the potential overlapping constructs.

At the core of shared team leadership theory is the idea that the individuals with the most requisite knowledge, skills, and abilities will display the appropriate leader behavior depending on the task (Pearce & Sims, 2000). For example, if the team needs direction, the individuals who can best provide initiating structure will do so. As the most capable team members provide leadership behaviors, I expect that these behaviors will be more strongly related to outcomes than if only the designated leader performed them. Essentially, I am predicting that leadership by the most competent leaders for a given task results in better team processes, climate, and ultimate performance.

Katz and Kahn (1978) supported this assertion and noted that "the group utilizing its informational and experiential resources most fully will be most effective…the sharing out of the leadership function means using more fully the resources of the organization" (p. 571). Further, as there may be demands on any one leader's time and energy, sharing the leadership functions should result in the more optimal use of resources. Indeed, research has illustrated that shared leadership exhibits a stronger relationship with team outcomes and accounts for variance over and above vertical leadership (Pearce and Sims, 2002; Pearce et al., 2004).

There is also a motivational explanation for stronger relationships. When individuals play a role in a decision, they are more committed to it. Thus, if multiple individuals have the opportunity to lead and influence the team, they will be more dedicated to the direction of the team. People tend to follow the lead of similar others (Cialdini, 2001); thus, influence is the most effective when it comes from peers rather than a superior. Indeed, Cialdini (2001) noted that "influence is often best exerted horizontally rather than vertically" (p. 76) suggesting the utility of shared team leadership above vertical team leadership. Supporting these assertions, Katz and Kahn (1978) stated that "perhaps the most persistent and thoroughly demonstrated difference between successful and unsuccessful leadership…has to do with the distribution or sharing of the leadership function…those organizations in which influential acts are widely shared are more effective" (p. 571). From this, I hypothesize that:

> *Hypothesis 5 A (H5A):* Shared team leadership will be related to the predicted processes, climate, and outcomes over and above vertical team leadership.

> *Hypothesis 5 B (H5B):* Shared team leadership will be related to the predicted processes, climate, and outcomes over and above the potential overlapping constructs (i.e., cooperation, helping, empowerment, self-management, and climate for initiative).

Summary

In this dissertation, I detail a study exploring shared team leadership. While leadership theorists have extolled the potential benefits of team members sharing leadership, fundamental questions about the construct remain. I attempt to answer these questions and examine (1) the relationship between shared and vertical team leadership,

(2) the relationships between shared team leadership and other potentially overlapping constructs, (3) the antecedents of shared team leadership, (4) the consequences of shared team leadership, and (5) how shared team leadership relates to outcomes over and above vertical leadership and the other correlates.

Method

Using a survey-based methodology, I examined shared team leadership in a sample of fast-food restaurants. I first discuss the characteristics of this sample before describing the procedures of the study. I then detail the general measurement strategies that I used to assess team leadership. Next, I introduce the specific measures that I used in the study including the assessments of shared team leadership and the proposed correlates, antecedents, and consequences of it. I conclude with a discussion of the analytical strategy and focus on the justification for aggregation and specific analyses that I used.

Sample

The final sample consisted of 39 fast-food restaurants from the same national chain. One corporation owned all of these restaurants. These restaurants fit the definition of a team: they consisted of individuals that were interdependent in their task, individuals saw themselves as a team, the corporation saw each restaurant as a distinct entity, individuals were interdependent with each other in achieving their goals, et cetera. The nature of the restaurants required a high level of interaction among the employees. A food order was not prepared until it was placed by a customer; thus, employees were interdependent and relied one another (e.g., one to take the order, one to do the grill, one to bag the order, etc.) in carrying out the task of serving the customer.

Prior to survey data collection, I conducted a series of interviews and focus groups with employees in five restaurants. From these interviews and focus groups, I determined the appropriate terminology to use in the survey to make sure that it fit with the sample. For example, I clarified that the term "crew members" referred to all non-managerial employees in the restaurant and that this wording would be recognized and understood by all employees. I also went through sample survey items with individuals in order to make sure that they made sense and were appropriate in the fast-food restaurant context. Finally, I observed the daily work in these restaurants in order to understand the interdependencies and interactions among team members. Based on these interviews, focus groups, and observations, I finalized the survey that I used in this study.

I equally administered two survey versions (which I describe below) to 1368 employees in 75 stores and received completed data from 529 employees (39% response rate) across 58 stores. As the level of analysis for this dissertation is the restaurant level, in order to increase the reliability of the restaurant level measures, I only included restaurants with at least three respondents per survey version (i.e., at least six total respondents per restaurant). This cutoff resulted in a final sample of 461 respondents across 39 restaurants (62% response rate within the final sample).

The average number of respondents per store was 11.82 ($SD = 4.32$) with a range from 6 to 25. Respondents were predominantly female (58%) and averaged 25.83 ($SD = 11.75$) years of age. The sample was fairly diverse: 51% African American, 41% Caucasian, 4% Hispanic, 1% Asian, and 3% Other. Respondents had worked at their particular restaurant for an average of 17.43 months ($SD = 12.00$) and 58% had their high school degree or equivalent.

Procedure

Surveys were administered to employees in the restaurant. Respondents

completed the survey and placed it in a sealed envelope before returning it. To address

potential issues with same source method bias, I administered two versions of the survey.

The versions were identical except that they measured shared team leadership in two

different ways, which I describe below. These two versions were evenly distributed

within the restaurants such that 228 individuals completed one version of the survey

(store $M = 5.85$; $SD = 2.39$) and 233 individuals completed the other (store $M = 5.97$; SD

$= 2.33$). The Vice President of Human Resources provided the objective data of

restaurant sales and inspection reports (i.e., quality ratings) for the quarter immediately

following the administration of the survey (January 2005 – March 2005).

Measurement of Team Leadership

Researchers need to recognize that organizations are multilevel systems (Klein,

Dansereau, & Hall, 1994; Klein & Kozlowski, 2000a; Klein & Kozlowski, 2000b;

Kozlowski & Klein, 2000). Accordingly, scholars must examine and measure leadership

with a multilevel perspective (Avolio, Sosik, Jung, & Berson, 2003; Dansereau,

Yammarino, & Markham, 1995; House, Rousseau, & Thomas-Hunt, 1995; Hunt, 1991;

Yammarino, Dansereau, & Kennedy, 2001). An appropriate multilevel lens to examine

the distinctions between different types of leadership is Chan's (1998) typology of

composition models.

Vertical team leadership. In Chan's (1998) terminology, vertical team leadership

is a direct consensus model. A direct consensus model "uses the within-group consensus

of the lower level units as the functional relationship to specify how the construct

conceptualized and operationalized at the lower level is functionally isomorphic to another form of the construct at the higher level" (Chan, 1998, p. 237). In order to assess vertical team leadership, I worded items with the referent of the designated leader, which are the restaurant managers for this sample (e.g., "To what extent do *managers* emphasize the meeting of deadlines?"). I calculated vertical team leadership by aggregating these items to the restaurant level of analysis.

Shared team leadership. I operationalized shared team leadership as both a referent shift consensus model as well as an additive model in Chan's (1998) terminology. For the referent shift consensus model, I shifted the referent of the items to the group as a whole, or in this study, the crew members of the restaurant ("To what extent do *crew members* emphasize the meeting of deadlines?"). The term "crew members" refers to all employees in the restaurant who are not managers. I aggregated the responses of these items to the restaurant level. Referent shift consensus models are similar to direct consensus models except that in referent shift models "the lower level attributes being assessed for consensus are conceptually distinct through derived from the original individual-level construct" (Chan, 1998, p. 238). This change in referent is significant as researchers must write items to refer to the level of interest (Klein et al., 1994) and the use of the group as the referent increases the critical aspects of both within-group agreement and between-group variability (Klein, Conn, Smith, & Sorra, 2001).

I also operationalized shared team leadership as an additive model. An additive model exists when the higher-level construct (shared team leadership) is a summation of the lower level units (personal assessments of leadership). In this case, I worded the items to ask about an individual's own personal display of leadership ("To what extent do

you emphasize the meeting of deadlines?"). I then aggregated the results to the restaurant

level. As this additive model asks about the behavior of the self, agreement is not

necessary for aggregation as the variance among the lower level units is no longer as

meaningful as it asks about personal, rather than group, behavior.

In comparing these two assessments of shared team leadership, the referent shift

consensus model represents a "group as a whole" approach while the additive model is a

"group as the sum of its parts" approach (Conger & Pearce, 2003). Throughout this

dissertation, I refer to the referent shift measurement approach as "crew member" shared

team leadership and the additive measurement approach as "personal" shared team

leadership.

I also measured shared team leadership with a percentage approach. For this

measure, individuals first identified the employees that they worked with and then

indicated whether these individuals displayed leadership behavior. The percentage of

individuals who were rated as displaying leadership behavior is an additional

representation of shared team leadership; it illustrates the degree to which multiple

individuals influenced team functioning.

Need for multiple measures of shared team leadership. As shared team leadership

is a new construct, researchers have not yet identified the most appropriate strategy, or

strategies, to operationalize it. Attention to measurement is critical as "there has been

little research to date examining the effective measurement of shared leadership…we are

now at a juncture where sophisticated methods are critical to advancing our

understanding" (Conger & Pearce, 2003, p. 297). Accordingly, I used the three

measurement approaches (crew member, personal, and percentage) in an effort to assess their relative merits as operationalizations of shared team leadership.

Measures of Leadership

Below, I detail the specific measures that I used in this study. I also present a complete list of items for each of the measures in the Appendix. For all of the survey-based scales, I assessed participants' responses on a five-point Likert scale.

Based on the above discussion of leadership measurement, for the specific dimensions, I used the same item stem with three different referent roots: "managers" for vertical team leadership, "crew members" for crew member referent shift consensus shared team leadership, and "you" for personal additive shared team leadership. All respondents completed the vertical leadership items, while half of the sample completed the crew member shared team leadership items and the other half completed the personal shared team leadership items. I split these particular assessments of shared team leadership to reduce the number of items each respondent was required to complete and to limit potential single source bias. Participants responded to these dimensions of leadership along a five-point Likert scale ranging from "not at all" to "to a very great extent".

Consideration. I used four consideration items modified from the Leader Behavior Description Questionnaire (LBDQ) (Halpin, 1957) to assess consideration. A sample item is "To what extent do (*managers, crew members, you*) look out for the personal welfare of employees?" The coefficient alpha reliabilities were .85, .90, and .81 at the individual level and .78, .92, and .79 at the restaurant level for the respective

measures of managerial vertical team leadership (VTL), crew member shared team leadership (STL), and personal shared team leadership (STL).

Initiating structure. I assessed initiating structure with a modified version of four LBDQ initiating structure items. An example item is "To what extent do (*managers, crew members, you*) encourage the use of standard procedures?" The coefficient alpha reliabilities were .86, .91, and .88 at the individual level and .92, .96, and .92 at the restaurant level for the respective measures of managerial VTL, crew member STL, and personal STL.

Contingent reward. To clearly focus on exchange and rewards, I used four items from a slightly modified version of Pearce and Sims (2002) measure of the contingent reward transactional leadership. A sample item is "To what extent do (*managers, crew members, you*) give employees special recognition when their performance is especially good?" The coefficient alpha reliabilities were .91, .94, and .92 at the individual level and .94, .96, and .95 at the restaurant level for the respective measures of managerial VTL, crew member STL, and personal STL.

Coaching. I assessed team leader coaching behaviors with four items based on Morgeson's (2005) measure of active coaching. A sample item is "To what extent do (*managers, crew members, you*) serve as (a) coach(es) to employees here?" The coefficient alpha reliabilities were .91, .91, and .87 at the individual level and .92, .91, and .91 at the restaurant level for the respective measures of managerial VTL, crew member STL, and personal STL.

Visionary inspiration. I measured the visionary inspirational elements of leadership with two modified items from the inspirational motivation scale of the MLQ

(Avolio, Bass, & Jung, 1995) as well as two modified visionary items from Pearce and

Sims' (2002) scale of transformational leadership. A sample item is "To what extent do

(*managers, crew members, you*) provide a clear vision of where the restaurant is going?"

The coefficient alpha reliabilities were .92, .94, and .93 at the individual level and .91,

.94, and .96 at the restaurant level for the respective measures of managerial VTL, crew

member STL, and personal STL.

Monitoring. I assessed monitoring leader behavior with slightly modified items

from two different sources: two questions from Klein and colleagues' research (e.g.,

Klein et al., 2004; Klein & Ziegert, 2002; Ziegert et al., 2004) and two questions from

Yukl's Managerial Practices Survey (MPS) (Yukl, 1991). A sample item is "To what

extent do (*managers, crew members, you*) check on the quality of employees work?" The

coefficient alpha reliabilities were .92, .94, and .94 at the individual level and .95, .93,

and .96 at the restaurant level for the respective measures of managerial VTL, crew

member STL, and personal STL.

General leadership. I developed four items to assess general leadership. A

sample item is "To what extent do (*managers, crew members, you*) perform many

leadership functions?" The coefficient alpha reliabilities were .90, .91, and .89 at the

individual level and .93, .94, and .88 at the restaurant level for the respective measures of

managerial VTL, crew member STL, and personal STL.

Relationships among the dimensions. One potential issue with the measurement

of leadership is the potential for high overlap among the specific dimensions assessed.

Indeed, the potential for systematic bias in leadership ratings reflecting a general or

global perception of the leader is possible (e.g., Lord et al., 1978; Phillips & Lord, 1986).

Even some of the most popular measures of leadership such as the Multifactor

Leadership Questionnaire (MLQ) consistently produce correlations among the

dimensions in the .6 to .8 range (Lowe, Kroeck, & Sivasubramaniam, 1996).

Examination of the relationships among the six specific leadership behaviors

revealed high correlations among the dimensions. At the individual level, the average

correlation among the six dimensions (i.e., the average of the 15 correlations for the 6

specific dimensions) was .62 for managerial VTL, .70 for crew member STL, and .53 for

personal STL. At the restaurant level, the sizes of these relationships were magnified: .64

for managerial VTL, .79 for crew member STL, and .60 for personal STL.

Confirmatory factor analyses. Given these high intercorrelations, I conducted a

series of nested confirmatory factor analyses (CFAs) to examine the factor structure of

the specific leadership dimensions. Due to the small restaurant level sample size (N =

39), I conducted these CFAs at the individual level of analysis. I compared the expected

six factor solution to both a one factor solution representing a global leadership

dimension as well as a two factor solution representing task related (initiating structure,

rewards, monitoring) and developmentally related (consideration, coaching, visionary

inspiration) factors. The six factor model had good fit for the managerial VTL ($\chi^2(237)$ =

591.95; SRMR = .04; CFI = .95; RMSEA = .06), crew member STL ($\chi^2(237)$ = 446.90;

SRMR = .03; CFI = .96; RMSEA = .07), and personal STL ($\chi^2(237)$ = 578.70; SRMR =

.06; CFI = .91; RMSEA = .09) measures according to Hu and Bentler's (1999) joint

criteria. Conversely, a one factor model did not fit well for managerial VTL ($\chi^2(252)$ =

2272.41; SRMR = .08; CFI = .72; RMSEA = .15), crew member STL ($\chi^2(252)$ =

1500.22; SRMR = .07; CFI = .75; RMSEA = .16), or personal STL ($\chi^2(252)$ = 1833.62;

SRMR = .11; CFI = .59; RMSEA = .18). A two factor model also did not fit well for

managerial VTL (χ^2(251) = 2151.79; SRMR = .08; CFI = .73; RMSEA = .14), crew

member STL (χ^2(251) = 1475.89; SRMR = .07; CFI = .75; RMSEA = .16), or personal

STL (χ^2(251) = 1615.05; SRMR = .11; CFI = .65; RMSEA = .17).

As indicated by a change in chi-square test, the six factor model fit better than the

one factor model for managerial VTL ($\Delta\chi^2$(15) = 1680.46, $p < .001$), crew member STL

($\Delta\chi^2$(15) = 1053.32, $p < .001$), and personal STL ($\Delta\chi^2$(15) = 1254.92, $p < .001$). The six

factor model also fit better than a two factor model for managerial VTL ($\Delta\chi^2$(14) =

1559.84, $p < .001$), crew member STL ($\Delta\chi^2$(14) = 1028.99, $p < .001$), and personal STL

($\Delta\chi^2$(14) = 1036.35, $p < .001$). Given these adequate fit statistics for the six factor model

and the fact that it fit better than either the one or two factor alternative models, I retained

the six specific dimensions of leadership despite their high intercorrelations.

Percent shared team leadership. I also measured shared team leadership with a

percentage based approach. Respondents were asked to write the first name and last

initial of the "people that you work with on a regular basis" at the restaurant.

Respondents could list "as many or as few people who are relevant" and there was space

available to write in up to 15 people. After listing the names, the survey asked for each

person listed if "This person plays a leadership role in the restaurant?" Respondents

could check "yes" or "no" for each name. I calculated the percent shared team leadership

scale by dividing the number of names the respondent listed as playing a leadership role

in the restaurant by the total number of names listed. This calculation represented the

percentage of employees that a respondent worked with on a regular basis who played a

leadership role.   Respondents generated an average of 7.61 names (*SD* = 3.82) and

indicated that an average of 5.23 (*SD* = 3.29) of these individuals played a leadership role in the restaurant

Measures of Potential Correlates

I assessed the measures of the potential correlates with a five-point Likert scale ranging from "strongly disagree" to "strongly agree".

Cooperation. I measured cooperation with a five-item scale developed by Chatman and Flynn (2001). I removed one problematic item resulting in a four-item measure. An example item is "There is a high level of cooperation between employees here." The coefficient alpha was .72 at the individual level and .72 at the restaurant level.

Helping. I assessed team helping behaviors with the helping organizational citizenship behavior scale originally developed by Podsakoff, MacKenzie, Moorman, & Fetter (1990) and recently used by Ehrhart (2004) in his examination of grocery store departments. An example item from this five-item scale is "Employees here willingly help others who have work-related problems." The coefficient alpha was .90 at the individual level and .90 at the restaurant level.

Empowerment. I assessed team empowerment with nine items from the team empowerment scale used by Kirkman, Rosen, Tesluk, and Gibson (2004). This scale is a shortened version of Kirkman and Rosen's (1999) original empowerment scale. The nine items assessed three dimensions: meaningfulness, autonomy, and impact. I did not include potency, which is normally in this scale, as I assessed it as a separate construct. A sample item is "Employees here make their own choices without being told by management." The coefficient alpha was .88 at the individual level and .88 at the restaurant level.

Self-management. I used a slightly modified version of the three-item scale by Campion et al. (1993) to assess self-management in the restaurant. An example item is "Most work-related decisions are made by crew members rather than by managers." The coefficient alpha was .81 at the individual level and .76 at the restaurant level.

Climate for initiative. I assessed climate for initiative using a slightly modified version of Baer and Frese's (2001) seven-item measure. An example item is "Whenever something goes wrong, employees here search for a solution immediately." The coefficient alpha was .90 at the individual level and .92 at the restaurant level.

Measures of Potential Antecedents

For the measures of the potential antecedents, I assessed the survey based scales (ability, interdependence, and complexity) with a five-point Likert scale ranging from "strongly disagree" to "strongly agree".

Size. I operationalized restaurant size as the number of individuals employed in the restaurant. I obtained these data from company records at the time of survey administration. The average size of the restaurant was 18.95 employees ($SD = 5.61$).

Experience. I operationalized team experience as the average length of employment for individual team members in the restaurant. This operationalization is consistent with prior research on team experience (e.g., Berman, Down, & Hill, 2002). Respondents had worked at their particular restaurant for an average of 17.43 months ($SD = 12.00$).

Ability. To measure team member ability, I combined Edmondson's (1999) three-item scale and Faraj and Sproull's (2000) three-item scale. Both of these scales assess the perceived task competence of team members. A sample item is "Some employees

here lack certain knowledge that is necessary to do their task (reverse)." The coefficient alpha was .72 at the individual level and .79 at the restaurant level.

Interdependence. I assessed task interdependence with a five-item scale based on the measure by Van Der Vegt, Emans, and Van De Vliert (1999). An example item is "I depend on other employees' work for materials that I need to do my job." The coefficient alpha for was .84 at the individual level and .86 at the restaurant level.

Complexity. I assessed task complexity with the five-item scale from Podsakoff & MacKenzie (1994). This scale measures the routine nature of tasks and assesses task complexity when reversed scored. A sample item is "My job is rather simple and routine (reverse)." The coefficient alpha was .82 at the individual level and .86 at the restaurant level.

Measures of Potential Consequences

For the scales assessing the potential consequences, I measured the survey based items with a five-point Likert scale ranging from "strongly disagree" to "strongly agree" (except climate for service, which ranged from "poor" to "excellent").

Potency. To assess group potency, I used a slightly modified version of Guzzo et al.'s (1993) eight-item measure. A sample item is "Employees here feel they can solve any problem they encounter." The coefficient alpha was .90 at the individual level and .93 at the restaurant level.

Cohesion. I assessed social cohesion with Dobbins and Zaccaro's (1986) six-item measure. A sample question is "I feel that I am really part of the restaurant." The coefficient alpha was .71 at the individual level and .76 at the restaurant level.

Conflict. In assessing conflict, I used a slightly modified version of Jehn's (1995) measure. This measure assesses both relationship and task conflict. The relationship conflict scale consists of four items and had a coefficient alpha of .93 at the individual level and .94 at the restaurant level. An example relational conflict item is "There are a lot of personality conflicts in the restaurant." The task conflict scale also consists of four items and had a coefficient alpha of .92 at the individual level and .90 at the restaurant level. A sample task conflict item is "There are a lot of conflicts about the work we do in the restaurant." As these two subscales were highly correlated ($r = .85$), I combined the two scales into one measure of team conflict with a coefficient alpha of .95 at the individual level and .95 at the restaurant level.

Climate for service. I used Schneider, White, and Paul's (1998) measure of climate for service. In a series of focus groups, employees highlighted the importance of customer service in the restaurants and indicated that sample items from this scale appropriately assessed the construct. I assessed this measure on a five-point Likert scale ranging from "poor" to "excellent". An example item is "How would you rate the overall quality of service provided by your restaurant?" The coefficient alpha was .92 at the individual level and .95 at the restaurant level.

Subjective performance. I assessed subjective restaurant performance with a modified version of Edmondson's (1999) scales of team performance, which came from Hackman (1990). I combined Edmondson's two scales of team performance and added one item for a total of ten items. A sample item is "This restaurant does superb work." The coefficient alpha was .79 at the individual level and .87 at the restaurant level.

Satisfaction. I assessed satisfaction with a slightly modified version of Bishop and Scott's (2000) satisfaction with coworkers scale. The authors developed this four-item scale based on the Job Diagnostic Survey (Hackman & Oldham, 1980). An example item is "I am very satisfied with how I get along with other employees here." The coefficient alpha was .86 at the individual level and .86 at the restaurant level.

Sales. As objective measures of restaurant performance, I obtained several sales metrics from the Vice President of Human Resources: (1) average weekly sales for each restaurant, (2) average weekly sales divided by total number of employees for each restaurant, and (3) sales index for each restaurant, which is a proportion of total current sales versus sales for the same restaurant from the same time period from one year ago. To allow for a time lag, these figures were from the quarter that began approximately one month after the survey administration (i.e., between one to four months after respondents completed the survey).

Inspection reports. As another objective measure of restaurant performance, I obtained the inspection reports from the Vice President of Human Resources. Company general managers completed these reports by rating restaurants on performance and service (each general manager rated approximately six restaurants). These ratings were seen through the "eye of the customer"; they assessed restaurants' performance from the customers' perspective. Again, to allow for a time lag, these inspection reports were from the quarter immediately after survey administration (the quarter that took place between one and four months after respondents completed the survey).

Analytical Strategy

Aggregation statistics. As I focused on the restaurant level of analysis, I needed to justify aggregation for the measures by illustrating restaurant level properties. Researchers can justify aggregation with the ICC(1), ICC(2), and $r_{wg(j)}$ statistics. The ICC(1) tests how much of the variability in individual responses can be predicted by the case to which the data is being aggregated. The ICC(2) testes the reliability of the grouping variable means. The $r_{wg(j)}$ assesses agreement or degree to which raters provide the same rating to determine if individual ratings are interchangeable. The ICC(1) and ICC(2) are reliability based approaches while the $r_{wg(j)}$ is an agreement approach to aggregation (Bliese, 2000). I report these three aggregation statistics for all of the survey-based study variables in Table 2.

ICCs. The ICC(1) and ICC(2) values were generally low and did not provide strong support for aggregation. While a few ICC(1) values were significant based on the F-test of a one-way ANOVA, the values were small. Further, the ICC(2) values were below commonly accepted standards. Further, these values did not improve when calculating separate ICCs for respondents from within each shift. As the ICC(1) is a function of both within and between group variability, there did not appear to be substantial differences between the restaurants, which resulted in the low values across all of the study variables. One potential reason for this low between group variability is the high standardization across the restaurants; I discuss this possibility in more detail in the following sections.

$r_{wg(j)}$. In contrast to the low ICC statistics, the $r_{wg(j)}$ values generally appeared to support aggregation as most of them were above the .70 threshold (James, Demaree, & Wolf, 1984; 1993). These $r_{wg(j)}$ values also supported the contention that the low ICC

values were due to a lack of between group variability; the $r_{wg(j)}$ statistic does not take these differences between groups into account, but instead only examines agreement within groups. Therefore, I examined these $r_{wg(j)}$ values to justify aggregation.

   Excluded variables. To justify aggregation, I considered variables with $r_{wg(j)}$ values above the .70 cutoff as demonstrating acceptable restaurant-level properties. Based on this cutoff, I excluded several variables from the analyses. For the leadership dimensions, I examined the $r_{wg(j)}$ values for the managerial VTL measures and crew member STL dimensions. I did not consider the values for the personal STL measure as these items ask about the self instead of group-level perceptions. As a result of the .70 cutoff for both managerial VTL and crew member STL, I eliminated three dimensions (rewards, visionary inspiration, and monitoring) leaving four final leadership dimensions that I used in the analyses: consideration, initiating structure, coaching, and general leadership. In addition to these leadership dimensions, I also did not include three other study variables that did not meet the .70 cutoff: self-management, interdependence, and conflict.

   Analyses. I tested all of the hypotheses at the restaurant level of analysis ($N = 39$) with correlational and hierarchical linear regression analyses. To compare the relative impact of shared team leadership versus vertical team leadership and the potential correlates (H5), I entered the respective variables at different steps in the hierarchical regression equation to determine if shared team leadership related to the dependent variable over and above the other measures. In other words, after entering vertical team leadership or the other correlates first, I examined if shared team leadership still accounted for unique variance.

Split sample data. A potential problem that exists with survey research is same source method bias (Harrison & McLaughlin, 1993; Harrison, McLaughlin, & Coalter, 1996). Same source method bias, or common method variance, is "variance that is attributable to the measurement method rather than to the constructs the measures represent" (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p. 879). To eliminate this problem, I used split sample data in all of the analyses (except when using objective variables such as restaurant size or sales); the independent variable and dependent variable came from different sources. In particular, I split the data by the two survey versions such that responses to the predictor and criterion came from these two different versions. For example, the ratings of crew member shared team leadership were paired with the outcome variable from the other survey version. Splitting the sample effectively eliminated same source method bias (Podsakoff et al., 2003). At the same time, splitting the sample also results in reduced reliability. I did not correct for this unreliability in the analyses resulting in conservative underestimates of the relationships between the variables.

Power. The sample size (N = 39) for this study was relatively small due to the difficultly associated with collecting team level field data. Based on a power analysis, with 39 restaurants there was approximately only a 47% chance to detect moderate effects with $p < .05$ using a two-tailed test (Cohen, 1977). Given this low power, I utilized one-tail tests in analyses, which is appropriate given that I predicted directional effects in my hypotheses (Cohen & Cohen, 1983). With this one tail test, the resulting power to detect moderate effects with $p < .05$ increased to .59.

Results

Table 3 displays the descriptive statistics and intercorrelations for the final study

variables. These correlations are at the restaurant level of analysis (N = 39) and are from

the full sample (i.e., not split sample results). I follow the order of the questions and

hypotheses in presenting the results below.

Measurement of Shared Team Leadership

Aggregation statistics. Before testing the hypotheses, I examined whether the

shared team leadership measures exhibited the group-level properties of both

homogeneity within groups and heterogeneity between groups. As I discussed in the

method section, the ICC statistics for the leadership dimensions were generally poor. In

particular, the ICC(1) value was significant (based on a one-way ANOVA) only for crew

member general leadership. While the ICC results were weak for the specific shared

leadership dimensions, a consistent pattern emerged across all of the variables – not just

the shared leadership measures. Thus, for example, the ICC(1) values for established

group-level constructs such as empowerment, cooperation, and potency were all below

.03 and non-significant. These uniformly weak results suggest that sample characteristics

may well have caused the low values for all of the measures I collected.

Examination of the $r_{wg(j)}$ values for the shared team leadership dimensions were

more encouraging as the majority were above the .70 threshold (James et al, 1984; 1993).

For crew shared team leadership, the $r_{wg(j)}$ values were above .70 for consideration,

initiating structure, coaching, and general leadership (and above .60 for visionary

inspiration and monitoring). For personal shared team leadership, the $r_{wg(j)}$ values were

above .70 for consideration, coaching, and general leadership (and above .60 for initiating

structure, visionary inspiration, and monitoring).

Taken together, these results suggest a lack of between restaurant variability in

the shared team leadership measures. The low ICC(1) values coupled with acceptable

$r_{wg(j)}$ values suggest that homogeneity within the restaurant existed, but no heterogeneity

between groups existed. This may reflect high standardization across the restaurants. The

parent organization trains employees in all of the restaurants exactly the same way and

there are specific routines for carrying out daily tasks. These standardized procedures are

necessary in the fast-food industry to maintain a similar product and experience across

multiple restaurants.

As discussed above, given these results, I focused on the $r_{wg(j)}$ values as the metric

to justify aggregation and retained the specific dimensions of consideration, initiating

structure, coaching, and general leadership as well as the percentage based measure.

Relationships among shared team leadership measures. I examined the

convergence of the shared team leadership measures by analyzing the correlations among

the different dimensions, which I report in Table 3. Overall, the dimension-specific

correlations between crew shared team leadership and personal shared team leadership

were fairly weak; only the coaching ($r = .30, p < .05$, one-tailed) and general leadership

dimensions were significant ($r = .28, p < .05$, one-tailed). There were no significant

relationships between the percentage based measure of shared team leadership and the

crew member or personal assessments. These weak relationships suggest that the

different measures of shared leadership may be tapping distinct underlying phenomena,

calling into some question the meaning of shared team leadership. This observation is

noteworthy as prior studies of shared leadership have each relied on only one measurement strategy per study.

Fully cognizant of the weak results of the tests for aggregation and for convergent validity, I cautiously moved forward to test the hypotheses at the restaurant level of analysis.

What is the Relationship between Shared Team Leadership and Vertical Team Leadership?

Hypothesis 1 A. H1A predicted that the dimensions of managerial vertical team leadership would be positively related to the corresponding dimensions of crew shared team leadership as well as personal shared team leadership. To test this hypothesis, I examined the split sample correlations among the dimensions. Only the split sample correlation between crew member shared consideration and the managerial vertical consideration was significant: .29 ($p < .05$, one-tailed). The remaining correlations between the crew member shared leadership dimensions and the corresponding managerial vertical leadership dimensions were not significant: .22 for initiating structure, .06 for coaching, and .07 for general leadership. Similarly, only one of the split sample correlations between the personal shared team leadership dimensions and the corresponding managerial vertical team leadership dimensions was significant: .33 for initiating structure ($p < .05$, one-tailed). The remaining correlations were not significant: .06 for consideration, .15 for coaching, and .10 for general leadership. Thus, there was only minor support for this hypothesis.

Hypothesis 1 B. H1B predicted stronger relationships for the consideration, coaching, and general leadership dimensions and a weaker relationship for initiating

structure. This hypothesis was not supported. As there were only two significant relationships between shared and vertical team leadership, I could not test any differences between the magnitudes of the correlations. Further, initiating structure had the largest correlation with personal shared team leadership, as it was the only dimension that was significantly related to vertical team leadership.

Summary. Taken together, H1A and H1B were not supported; the analyses revealed few significant relationships between corresponding measures of shared and vertical leadership. I summarize the results of these and the other study hypotheses in Table 15. As I report in Table 15, of the four leadership dimensions, only crew member consideration and personal initiating structure were significantly related to the corresponding dimension of vertical team leadership. Further, initiating structure did not exhibit weaker relationships than other dimensions.

Post hoc analyses. These findings were surprising as prior research has found significant relationships between vertical and shared team leadership (Pearce & Sims, 2002; Pearce et al., 2004). One reason for this discrepancy was that the current analyses utilized split sample data while prior research did not. Post hoc analyses examining the same source correlations between corresponding crew member shared team leadership dimensions and managerial vertical team leadership dimensions revealed significant relationships among the dimensions: .68 ($p < .01$, one-tailed) for consideration, .66 ($p < .01$, one-tailed) for initiating structure, .71 ($p < .01$, one-tailed) for coaching, and .63 ($p < .01$, one-tailed) for general leadership. The same source correlations between the personal shared team leadership dimensions and the corresponding managerial vertical team leadership dimensions were weaker, but still stronger than the split sample results:

.14 for consideration, .38 ($p < .01$, one-tailed) for initiating structure, .48 ($p < .01$, one-tailed) for coaching, and .16 for general leadership. These findings suggest that common method variance was one potential reason for the positive relationships between vertical and shared team leadership in prior research.

How is Shared Team Leadership Different than Other Potential Overlapping Constructs?

Hypothesis 2. I examined the relationship of shared team leadership with empowerment, cooperation, helping, and climate for initiative. As each of these constructs overlap with shared team leadership to some degree (but not completely), I hypothesized (H2) that the measures of shared team leadership would be moderately correlated with these variables. To test this hypothesis, I examined the split sample correlations between the measures of shared team leadership and these four potential correlates, which I report in Table 4.

These results illustrated partial support for H4. Empowerment was not significantly related to any of the dimensions of shared team leadership. However, cooperation was significantly related to the crew member dimensions of consideration ($r = .30$, $p < .05$, one-tailed), initiating structure ($r = .28$, $p < .05$, one-tailed), coaching ($r = .27$, $p < .05$, one-tailed), and general leadership ($r = .33$, $p < .05$, one-tailed). Helping was significantly related to the crew member dimensions of consideration ($r = .37$, $p < .01$, one-tailed), initiating structure ($r = .31$, $p < .05$, one-tailed), and general leadership ($r = .33$, $p < .05$, one-tailed). Finally, climate for initiative was significantly related to the crew member dimensions of consideration ($r = .33$, $p < .05$, one-tailed), initiating structure ($r = .42$, $p < .01$, one-tailed), coaching ($r = .49$, $p < .01$, one-tailed), and general leadership ($r = .48$, $p < .01$, one-tailed). Conversely, empowerment, cooperation,

helping, and climate for initiative were not significantly related to the personal or percentage based measures of shared team leadership.

Summary. Overall, as I detail in Table 15, these results suggested that crew member shared team leadership moderately related to the potential correlates of cooperation (4 out of 4 dimensions significant), helping (3 out of 4 significant), and climate for initiative (4 out of 4 significant). Conversely, the personal and percentage assessments of shared team leadership were not significantly related to the potential correlates. Thus, H2 received partial support for the crew member shared team leadership measure.

What are the Antecedents of Shared Team Leadership?

I predicted that shared team leadership would be curvilinearly related to restaurant size (H3A), and positively related to experience (H3B), ability (H3C), and task complexity (H3E). To examine H3A, I conducted quadratic multiple regression to test for the curvilinear effects of restaurant size. For the remaining analyses, I examined split sample correlations for the ability and task complexity measures and full sample correlations with experience, as the number of months worked at the restaurant is an objective variable.

Size. I report the results of the quadratic regression equations testing the curvilinear effect of restaurant size on the various dimensions of shared team leadership in Table 5. I found significant curvilinear effects of size with a number of dimensions: crew member general leadership, personal consideration, personal initiating structure, and personal general shared team leadership. That is, in the hierarchical regression, the squared restaurant size term accounted for a significant amount of variance over and

above the linear size term.   However, a plot of these significant curvilinear effects revealed that they were opposite the hypothesized direction. The graphs were U-shaped (rather than the hypothesized inverted U-shape) such that shared team leadership was higher in small or large restaurants and lower in medium sized restaurants. Thus, H3A did not receive support as the significant results were opposite the hypothesized direction.

Experience. The correlations between the shared team leadership measures and experience, ability, and task complexity appear in Table 6. As illustrated in the table, H3B did not receive support. The average number of months employees have worked in the restaurant was not significantly related to any of the measures of shared team leadership.

Ability. Conversely, H3C received partial support (Table 6). Using split sample data, perceived ability of the employees was significantly positively correlated to all four dimensions of crew member shared team leadership: .39 ($p < .01$, one-tailed) for consideration, .38 ($p < .01$, one-tailed) for initiating structure, .35 ($p < .05$, one-tailed) for coaching, and .43 ($p < .01$, one-tailed) for general leadership. The greater the perceived ability of restaurant employees, the higher the ratings of crew member shared team leadership. However, perceived ability was not related to the personal or percentage measures.

Task complexity. Finally, H3E was not supported (Table 6); task complexity was not positively related to any measures of shared team leadership. In fact, complexity was negatively related to crew member consideration shared team leadership ($r = -.27$, $p < .01$, one-tailed).

Summary. In Hypotheses 3A through 3E, I predicted significant relationships between the measures of shared team leadership and restaurant size, employee shared experience, perceived employee ability, and task complexity. Overall, the results revealed little support for the hypotheses. As shown in Table 15, none of the hypothesized antecedents were significantly related to the personal or percentage measures of shared team leadership. A similar trend of non-significant relationships occurred with the crew member measures of shared team leadership except for one antecedent: perceived employee ability. Perceived employee ability was significantly positively related to all four dimensions of crew member shared team leadership. Thus, only H3C was supported and only for the crew member measures of shared team leadership.

What are the Consequences of Shared Team Leadership?

I predicted that the shared team leadership measures would be positively related to potency (H4A), cohesion (H4B), climate for service (H4D), employees' subjective ratings of restaurant performance (H4E), the objective performance outcomes of sales and inspection reports (H4F), and employee satisfaction (H4G). To test these hypotheses, I utilized a split sample with the process, climate, and subjective outcome variables and the full sample for the objective criteria of sales and inspection reports. I report these relationships in Table 7.

Potency. Support for H4A was limited. Based on split sample correlations, potency was only significantly related to personal initiating structure ($r = .32$, $p < .05$, one-tailed) and personal coaching ($r = .33$, $p < .05$, one-tailed) shared team leadership.

Potency was not significantly related to the crew member or percentage measures of shared team leadership.

Cohesion. H4B received moderate support. Based on split sample correlations, cohesion was significantly related to all of the crew member dimensions of shared team leadership: .36 ($p < .05$, one-tailed) for consideration, .36 ($p < .05$, one-tailed) for initiating structure, .43 ($p < .01$, one-tailed) for coaching, and .33 ($p < .05$, one-tailed) for general shared team leadership. Cohesion was also significantly related to personal coaching ($r = .31$, $p < .05$, one-tailed) shared team leadership. Cohesion was not significantly related to the other dimensions of personal shared team leadership or the percentage based approach.

Climate for service. H4C received moderate support. Based on split sample correlations, all of the dimensions of shared team leadership measured with the crew member approach were significantly related to climate for service: .45 ($p < .01$, one-tailed) for consideration, .35 ($p < .05$, one-tailed) for initiating structure, .27 ($p < .05$, one-tailed) for coaching, and .29 ($p < .05$, one-tailed) for general shared team leadership. Personal coaching ($r = .36$, $p < .05$, one-tailed) was also significantly related to climate for service. Climate for service was not significantly related to the other dimensions of personal shared team leadership or the percentage based approach.

Subjective performance. H4E was moderately supported. Consistent with the prior findings, all of the dimensions of shared team leadership measured with the crew member approach were significantly related to subjective performance using split sample correlations: .57 ($p < .01$, one-tailed) for consideration, .47 ($p < .01$, one-tailed) for initiating structure, .49 ($p < .01$, one-tailed) for coaching, and .51 ($p < .01$, one-tailed) for

general shared team leadership. Subjective performance assessments were also significantly related to the personal coaching dimension ($r = .28$, $p < .05$, one-tailed) of shared team leadership. Contrary to predictions, the percent measure of shared team leadership was significantly negatively related to subjective assessments of performance ($r = -.32$, $p < .05$, one-tailed).

Sales. H4F received minimal support. Restaurant weekly sales was significantly related only to the percent measure of shared team leadership ($r = .41$, $p < .01$, one-tailed); it was not significantly positively related to any of the crew member or personal dimensions of shared team leadership. Sales per employee and sales index were both not significantly positively related to any of the dimensions of shared team leadership. In fact, contrary to expectations, the dimensions of personal shared team leadership were significantly negatively related to sales per employee. Further, when controlling for restaurant size, region location, and employee experience, none of the sales outcomes were significantly positively related to any of the crew member or personal shared team leadership dimensions.

Inspection reports. H4F was partially supported. Crew member consideration ($r = .35$, $p < .05$, one-tailed), crew member coaching ($r = .29$, $p < .05$, one-tailed), and personal coaching ($r = .30$, $p < .05$, one-tailed) were all significantly and positively related to the inspection report scores. No other measures of shared team leadership were significantly positively related to the inspection report scores.

Satisfaction. Support for H4G was limited. Satisfaction was significantly related only to crew member initiating structure ($r = .29$, $p < .05$, one-tailed) and personal

coaching ($r = .28$, $p < .05$, one-tailed). No other measures of shared team leadership were significantly related to employee satisfaction.

Summary. Overall, these results lend partial support to the hypotheses addressing the relationships between shared team leadership and the team processes, climate, and outcomes. While the hypotheses received mixed support (Table 15), in general, crew member shared team leadership was significantly and positively related to cohesion (4 out of 4 dimensions were significant), climate for service (4 out of 4 were significant), subjective assessments of performance (4 out of 4 were significant), and inspection reports (2 out of 4 were significant).

What Are the Consequences of Shared Team Leadership Over and Above Vertical Team Leadership and the Potential Overlapping Constructs?

I hypothesized that shared team leadership would be positively related to the team processes, climate, and outcomes over and above vertical team leadership (H5A) and the other overlapping constructs (H5B). To test these hypotheses, I conducted a number of hierarchical multiple regressions with the significant relationships found in H4 using split sample data (i.e., the IVs and DV came from different sources). In particular, for H5A, I entered managerial vertical team leadership in the first step of the regression followed by the corresponding shared team leadership dimension in the second step. I then examined the change in R^2 and the F test to see if shared team leadership accounted for a significant amount of variance over and above vertical team leadership. I followed a similar analytical procedure for H5B except that I entered the potential correlates of empowerment, cooperation, helping, and climate for initiative together in the first step of

the hierarchical regression. I report the results of these split sample hierarchical regressions in a series of tables for each dependent variable beginning with Table 8.

Potency. H5A was supported for potency. Shared team leadership significantly predicted above vertical team leadership for both the personal initiating structure ($\Delta R^2 = .07$; $\Delta F = 2.73$; $p < .05$) and personal coaching ($\Delta R^2 = .07$; $\Delta F = 2.63$; $p < .05$) dimensions (Table 8). However, H5B did not receive support. These two dimensions of shared team leadership did not account for a significant amount of variance in potency above the correlates.

Cohesion. Support for H5A and H5B was limited for cohesion. Of the five dimensions of shared team leadership that were significantly related to cohesion, only crew member coaching significantly predicted over and above vertical team leadership ($\Delta R^2 = .09$; $\Delta F = 3.85$; $p < .05$) as illustrated in Table 9. Crew member coaching ($\Delta R^2 = .09$; $\Delta F = 3.78$; $p < .05$) and personal coaching ($\Delta R^2 = .08$; $\Delta F = 3.04$; $p < .05$) significantly predicted over and above the other correlates.

Climate for service. H5A and H5B received minimal support for the climate for service dimension. Of the five original shared team leadership dimensions that were significantly related to climate for service, two significantly predicted over and above the corresponding vertical leadership dimensions (Table 10): crew member consideration ($\Delta R^2 = .10$; $\Delta F = 4.67$; $p < .05$) and personal coaching ($\Delta R^2 = .08$; $\Delta F = 3.10$; $p < .05$). Two of the five dimensions also accounted for a significant amount of variance in climate for service above the other correlates: crew member consideration ($\Delta R^2 = .17$; $\Delta F = 7.04$; $p < .05$) and crew member initiating structure ($\Delta R^2 = .06$; $\Delta F = 2.92$; $p < .05$).

Subjective performance. H5A and H5B were partially supported for the subjective performance outcome (Table 11). Of the five shared team leadership dimensions that were significantly related to subjective performance, three of them accounted for a significant amount of variance over and above the corresponding dimensions of vertical team leadership: crew member consideration ($\Delta R^2 = .28$; $\Delta F = 15.90$; $p < .01$), crew member general leadership ($\Delta R^2 = .07$; $\Delta F = 3.56$; $p < .05$), and personal coaching ($\Delta R^2 = .07$; $\Delta F = 2.58$; $p < .05$). Three of the five dimensions also significantly related to subjective performance over and above the correlates: crew member initiating structure ($\Delta R^2 = .05$; $\Delta F = 4.00$; $p < .05$), crew member coaching ($\Delta R^2 = .04$; $\Delta F = 2.99$; $p < .05$), and crew member general leadership ($\Delta R^2 = .06$; $\Delta F = 4.91$; $p < .05$).

Sales. H5A and H5B were supported for the outcome of sales (Table 12). The one original dimension that significantly predicted sales, the percent measure of shared team leadership, did account for a significant amount of variance over and above vertical leadership ($\Delta R^2 = .22$; $\Delta F = 9.98$; $p < .01$) as well as the other correlates ($\Delta R^2 = .17$; $\Delta F = 7.19$; $p < .01$).

Inspection reports. H5A and H5B were not supported for the objective outcome of inspection reports (Table 13). None of the originally significant shared team leadership dimensions significantly predicted above vertical leadership or the other correlates.

Satisfaction. H5A was not supported for satisfaction. The two shared team leadership dimensions that originally significantly predicted satisfaction did not account for a significant amount of variance over and above vertical team leadership (Table 14).

However, personal coaching did account for a significant amount of variance above the other correlates ($\Delta R^2 = .08$; $\Delta F = 3.20$; $p < .05$) providing some support for H5B.

Summary. Taken together, these results for the processes, climate, and outcomes provided some support for the hypotheses that the measures of shared team leadership would account for a significant amount of variance over and above vertical team leadership (H5A) as well as the other correlates (H5B). As I summarize in Table 15, of the 23 originally significant relationships (from H5) between the shared team leadership measures and the team processes, climate, and outcomes, 9 remained significant after controlling for vertical team leadership and 9 also remained significant after controlling for the correlates of empowerment, cooperation, helping, and climate for initiative.

Post hoc analyses. I conducted supplementary analyses to see if vertical team leadership or the other correlates accounted for a significant amount of variance over and above shared team leadership. To do this, I switched the order of the regression steps. For vertical team leadership, I entered shared team leadership in the first step of the regression and vertical team leadership in the second step. The results suggested that vertical team leadership did not account for variance above and beyond shared team leadership in many of the cases. In particular, of the same 23 potential relationships, vertical team leadership accounted for a significant amount of variance above and beyond shared team leadership in only 4 of the cases (compared to 9 times for shared team leadership). Along similar lines, I also ran supplementary analyses with shared team leadership in the first step of the regression and the four correlates in the second step. With the same 23 relationships, the correlates predicted over and above shared team leadership only 5 times (compared to 9 times for shared team leadership). Thus, while

the results provided only partial support for the hypotheses of shared team leadership predicting over and above vertical team leadership or the other correlates, the converse was weaker; vertical team leadership and the correlates did not account for a significant amount of variance beyond shared team leadership in many of the cases.

Discussion

My goal in this dissertation was to examine the construct of shared team leadership to better understand what it is and how it operates. To this end, I addressed several questions in this study: (1) What is the relationship between shared and vertical team leadership? (2) How is shared team leadership different than potentially overlapping constructs? (3) What are the antecedents of shared team leadership? (4) How does shared team leadership relate to team processes and outcomes? and (5) How does shared team leadership relate to process and outcomes over and above vertical team leadership as well as the potential overlapping constructs? Unfortunately, the answers to these questions present a very mixed picture of shared team leadership.

In the following sections, I first summarize the results. Next, I provide several theoretical, methodological, and practical implications based on these findings. I then discuss the strengths and limitations of the research. Finally, I offer several future research directions to enhance the understanding of shared team leadership.

Summary and Discussion of Findings

Measurement of shared team leadership. Before testing the specific research questions, I examined the aggregation statistics to determine whether it is appropriate to operationalize shared leadership at the team level of analysis. The answer to this question is not clear. Several dimensions did not exhibit appropriate group level

properties in terms of the ICC(1), ICC(2) or the $r_{wg(j)}$ and were therefore excluded from the analyses: rewarding, inspiring, and monitoring leadership behaviors.

Whether shared team leadership can be operationalized at the team level of analysis also depends on the specific statistic that I used to index aggregation. The ICC(1) values were small; however, these values were consistent with the other non-leadership variables in the study. The ICC(2) values were far below accepted standards due to limited between-restaurant variance and the relatively small number of respondents per restaurant. Conversely, the $r_{wg(j)}$ statistic generally supported aggregation as most of the values were above the .70 threshold.

In sum, employees agreed on the ratings of shared team leadership as indexed by the $r_{wg(j)}$ statistic; however, these ratings did not differ substantially between restaurants as exemplified by the low ICC(1) values. In retrospect, this is perhaps not surprising. The parent organization promotes high standardization across the restaurants, endeavoring to ensure that customers will have the same service, food, and experience whenever they patronize any of the franchised restaurants. Training, procedures, and evaluations are comparable across the stores.

I expected the measures of shared leadership to converge within dimensions such that crew member shared consideration, for example, would be significantly positively correlated with personal shared consideration. Surprisingly, the findings suggest a relative lack of convergent validity. This may reflect poor design of the measures – especially the personal additive and percentage based measures, which are new to the literature on shared team leadership. Another potential reason is that shared team leadership may be multifaceted. The measures may have assessed different underlying

facets of the construct. However, this explanation does not seem likely as shared team leadership theory and research (e.g., Avolio et al., 1996; Pearce & Sims, 2000; 2002) have not explicated multiple components of the construct, and only the item referents differed across the measures. More research is needed to determine the reasons for this lack of convergent validity; however, I tentatively conclude that the personal and percentage measures were poor assessments of shared team leadership.

What is the relationship between shared team leadership and vertical team leadership? In general, shared team leadership was not significantly related to vertical team leadership. Only the crew member assessment of consideration and the personal assessment of initiating structure were significantly related to the corresponding dimensions of vertical team leadership. Initially, these results were surprising as the only other studies examining vertical and shared team leadership (Pearce & Sims, 2002; Pearce et al., 2004) have found significant positive relationships between the constructs. Post hoc analyses with the same source data (i.e., not split sample) revealed significant positive correlations between vertical and shared team leadership. These findings imply that one reason for the significant relationships between vertical and shared team leadership in prior studies is common method variance.

How is shared team leadership different than the other potential overlapping constructs? The relationships between shared team leadership and the potential overlapping constructs of empowerment, cooperation, helping, and climate for initiative depended on the specific measure of shared team leadership. The personal and percentage based measures of shared team leadership were not significantly related to these other constructs. However, the dimensions of crew member shared team leadership

were generally significantly positively related to cooperation, helping, and climate for initiative. The correlations exhibited medium effect sizes; crew member shared team leadership did overlap to some degree with other similar constructs, but not to a large extent. These results suggest that crew member shared team leadership is indeed more than "old wine in new bottles".

What are the antecedents of shared team leadership? In general, the hypotheses regarding the potential antecedents of shared team leadership received limited support. Size was significantly curvilinearly related to several dimensions of personal shared team leadership; however, unexpectedly, the relationship was in the opposite hypothesized direction. Personal shared team leadership was higher in small and large size groups. Further, experience and task complexity were not significantly related to the measures of shared team leadership. However, perceived employee ability was significantly positively related to the dimensions of crew member shared team leadership. Thus, the only antecedent of shared team leadership that emerged from this study was the subjective ratings of team members' knowledge, skills, and competencies. The greater the perceived capabilities of employees, the higher the level of crew member shared team leadership (Cox et al., 2003; Pearce & Sims, 2002).

What are the consequences of shared team leadership? Shared team leadership was significantly related to several team processes, climate, and outcomes. While a few dimensions of shared team leadership were significantly related to potency, stronger relationships existed for cohesion; all of the dimensions of crew member shared team leadership were significantly positively related to team cohesion. Similarly, all of the crew member leadership dimensions were significantly positively related to climate for

service. Mixed results occurred for the outcome measures. Subjective assessments of performance were significantly related to five measures of shared team leadership, including all of the crew member assessed dimensions. However, satisfaction was only significantly related to two assessments of shared team leadership. For the objective measures, shared team leadership was generally not significantly related to sales, sales per employee, or sales index, but three of the dimensions (crew member consideration, crew member coaching, personal coaching) were significantly related to the inspection reports. These non-significant relationships with the sales outcomes may be due to the fact that sales is a distal outcome. A number of factors inherent to the restaurant such as location and the amount of competition in the surrounding area may have accounted for much of the variance in sales.

What are the consequences of shared team leadership over and above vertical leadership and the potential overlapping constructs? Consistent with the prior results, mixed support existed for the utility of shared team leadership over and above vertical leadership and the other overlapping constructs. Of the originally significant relationships with the team processes and outcomes, shared team leadership remained significant when controlling for vertical team leadership in approximately 39% of the cases. A similar trend appeared when controlling for the potential correlates.

While these results were not overwhelming, post hoc comparisons helped to provide some context. In particular, the results were weaker for vertical team leadership as it significantly predicted above shared team leadership in only 17% of the cases. Similarly, the potential correlates were significantly related to the outcomes in only 23% of the cases when controlling for shared team leadership. Thus, while there were mixed

results for the utility of shared team leadership significantly predicting over and above

vertical team leadership or the potential correlates, the converse was worse.

Implications

  Theoretical. These results, unfortunately, present a very mixed picture of shared

team leadership. On one hand, the results cast some doubt on the construct of shared

team leadership. While prior theory and research on the topic has extolled the positive

benefits and possibilities of sharing leadership (e.g., Avolio et al., 1996; Pearce &

Conger, 2003; Pearce & Sims, 2002), scholars may have become too caught up in the

excitement of this new form of leadership to examine basic questions about the

phenomenon. This research calls into question the very nature of shared team leadership

to some degree.

  Based on the weak aggregation statistics, a fundamental question is whether

shared team leadership is indeed a group level property. The small ICC(1) and ICC(2)

statistics suggest that leadership should not be conceptualized higher than the individual

level. At the same time, evidence suggests that these weak values were due to sample

characteristics. Further, the $r_{wg(j)}$ values supported the aggregation of shared team

leadership to the restaurant level. Thus, while the results are mixed, I cautiously

conclude that leadership can exist at the group level and be shared by the team.

  Another fundamental question addresses the convergent validity of shared team

leadership. The three measures, which were all designed to assess shared team

leadership, generally did not significantly relate to one another. However, this lack of

convergent validity may be due to the design of the personal and percentage measures

which I created for this study. For the personal measures of shared team leadership, as

these items were worded about the self, response biases may have occurred such as leniency or social desirability. Indeed, the mean values of the personal measure were higher than the crew member measure for three of the dimensions. In addition, the percentage measure may have been confusing and somewhat tiresome to complete as I had respondents generate the names of co-workers rather than using a roster method. As a result, a range restriction may have occurred with the number of names generated; respondents listed an average of only 7.6 names of which 73% were rated as leaders. Given this relatively high percentage, many respondents may have primarily generated the names of individuals whom they thought to be leaders. Based on these potential problems with the personal and percentage-based approach, the relative lack of convergent validity may have been due to the possible design flaws of these measures. Overall, a clear implication from these findings is that researchers need to continue to explore multiple measurement strategies in samples with much greater between-group variability.

At the same time, the results with the crew member approach illustrated promise for the construct of shared team leadership. With the crew member approach, shared team leadership was significantly related to the hypothesized antecedent of perceived ability; the overlapping constructs of cooperation, helping, and climate for initiative; and the hypothesized consequences of cohesion, climate for service, and subjective performance. These results suggest that shared team leadership can have a meaningful impact on team functioning.

Taken together, these results suggest that scholars should be cautiously optimistic when considering shared team leadership. On one hand, I found fairly strong support for

several hypotheses. On the other hand, some results were both surprising and disappointing.   Thus, while this study began to answer questions about shared team leadership, many more still need to be addressed for a thorough understanding of the construct.

Methodological. One clear methodological implication is that the crew member shared leadership measurement approach is superior to both the personal and percentage based approaches. Across all of the hypotheses, the results were consistently stronger for the crew member measures. This finding is consistent with prior research that has used a referent shift consensus approach. Thus, shared team leadership should be measured with the referent of items at the group level.

Another methodological implication addresses the utility of the specific dimensions. While the four dimensions of crew member shared team leadership exhibited the same general relationships with the criterion of interest, consideration generally had the strongest and most consistent effects. The degree to which crew members provided support and respect for each other appears to be a primary factor that influenced restaurant functioning.

A final, and perhaps obvious, methodological implication is that the type of team assessed influences the nature of the results. Researchers should seek samples that allow for variability between groups. The standardization and similarity in the current sample most likely reduced any between group differences resulting in increased difficultly in finding significant relationships. Researchers should be aware of these sample characteristics when conducting team level research and heed the advice of Schneider,

Hanges, Smith, and Salvaggio (2003) to "focus on variables that can be measured such that they reveal maximal between-organizations differences" (p. 848).

Practical. The results of the current study suggest that organizations should be mindful of the potential for teams to share leadership. Again, while questions remain about the construct, the findings suggest that team members can share leadership and further that in highly effective teams, they do. As such, organizations should not only pay attention to the designated leader, but also they may want to focus on all team members. For example, perhaps organizations should not reserve leadership development training for just the nominal person in charge of the team. Developing leadership in all team members may result in better team functioning.

Organizations may also want to look for ways to facilitate shared team leadership. The current results suggest that one way to do this is through increasing the abilities of team members. Training team members should result in greater shared team leadership. In addition to ability, organizations may want to consider other potential facilitators outside the scope of this study such as team composition or a climate supportive of shared team leadership. Organizational efforts to reward, support, and encourage team members to perform leadership functions may enhance shared team leadership.

Strengths and Limitations

Like all research, this study is limited in several respects. First, the characteristics of the sample may reduce the generalizability of the results. Fast-food restaurants have unique characteristics such as highly standardized procedures and a frequently changing workforce. Most employees know how to perform many of the specific jobs in the restaurant (e.g., cook, cashier, etc.) and multiple individuals can be inserted into these

different roles. At the same time, these sample characteristics are representative of a variety of retail organizations as well as some action teams such as medical teams or flight crews.

The characteristics of the sample also may have limited the extent to which shared team leadership occurred in this setting. As the work in the restaurant was fairly routine and not very complex, there is less of a chance for shared team leadership to occur. Indeed, the high standardization of the restaurants could even act as a substitute for any form of leadership. As such, the sample reflects a conservative test of shared team leadership.

 Another limitation was the relatively small sample size. As only 39 restaurants were included in the analyses, the resulting power was low making it more difficult to detect any effects that may have existed. At the same time, this study did assess real world teams "in the wild" rather than student or laboratory teams. This sample should result in higher levels of external validity.

Finally, the cross-sectional design made it impossible for me to ascertain the causal direction underlying the significant relationships. For example, I predicted that shared leadership fosters cohesion, but cohesion may instead, or in addition, foster shared team leadership. Indeed, Day et al. (2004) have argued that team leadership is both an input and an outcome of team effectiveness. Longitudinal research is needed to address this limitation.

Several methodological strengths of the research partially offset these limitations. I eliminated same source bias in this study by using a split sample approach; I did not correct for the decreased reliability with this approach resulting in a conservative estimate

of the relationships. Further, this research included not only a variety of measurement strategies for shared team leadership, but also an assessment of vertical leadership. This use of multiple measures represents one of the most complete attempts to assess and evaluate different conceptualizations of leadership.

Future Directions

While I have highlighted a number opportunities for future research above, several more warrant discussion. First, researchers need to examine shared team leadership longitudinally. In addition to clarifying the causal relationships linking shared team leadership and team outcomes, a longitudinal design would also allow for an examination of how shared team leadership develops and changes over time.

More research is needed examining the facilitating factors of shared team leadership (Conger & Pearce, 2003). For example, how does the vertical leader augment or diminish the emergence and level of shared team leadership? How does the organizational structure affect shared team leadership? How does the composition of the team influence the level of shared team leadership? Can shared team leadership be trained? While the current study illustrated that perceived employee ability is related to shared team leadership, a variety of other potential antecedents and facilitators of the construct deserve investigation.

Researchers should also examine a role based view of shared team leadership. For example, instead of conceptualizing shared team leadership as increasing when more people in the team perform a specific leadership function, researchers should examine if specific members of the team share leadership by each performing role specific behaviors. In other words, a team may share leadership by having one member perform

the initiating structure function, another the visionary inspiration function, yet another the monitoring function, et cetera. One way to test this role based perspective would for researchers to examine alternative models of aggregation. For example, instead of aggregating the mean for the team in an additive model, researchers could examine the highest score of the team, the variance among team members, or even the skew of the responses among the team. Thus, a future research direction is to examine whether it is possible for a team to share leadership in role specific ways.

Along these lines, researchers should examine the nature of specific shared team leadership dimensions. Some dimensions might be reinforcing (e.g., consideration) where more of it is better, some dimensions might be redundant (e.g., monitoring) where more of it does not add anything, and some may actually be harmful (e.g., visionary inspiration) where more of it may lead to confusion among the team if conflicting views are presented by more than one individual. For example, while additional consideration may represent a supporting team function, additional initiating structure may represent a controlling team function, which could lead to worse team outcomes. This line of research could potentially highlight any negative consequences associated with shared team leadership. One way to examine these type of effects for specific leadership dimensions would be for researchers to test for curvilinear effects. Too much or too little shared team leadership may lead to negative outcomes for certain dimensions, which would be manifest in curvilinear relationships. Overall, while H1B was not supported for this study, more research examining specific dimensions and curvilinear effects is needed in a sample with greater interdependence and complexity among team members.

In addition, future research should address the measurement of shared team leadership. While a few researchers have examined new ways to conceptualize shared team leadership such as with a social networks approach (e.g., Carson & Tesluk, 2005), more research is needed to determine the best measurement strategy (Conger & Pearce, 2003). The results of the current study suggest that the personal and percentage based approaches do not hold much promise; however, other strategies such as a qualitative or network approach may help to triangulate the construct.

Finally, future research should examine potential moderators of shared team leadership. Team processes may augment or diminish the effects of shared team leadership. For example, cohesion could interact with shared team leadership. Shared team leadership may have a positive impact on outcomes in highly cohesive teams and the opposite effect in less cohesive teams. Further, this interaction may only occur for specific dimensions such as the controlling functions discussed above. Overall, as teams and leadership are complex phenomenon, researchers should be cognizant of potential interactions with shared team leadership.

Conclusion

In this study, I sought to answer several questions about shared team leadership. The answers to these questions were mixed; they provided some support for the construct, but raised new issues as well. Overall, shared team leadership remains a potentially viable construct, but many more questions need to be answered in order to know if it will change the direction of leadership theory or just be yet another fashionable research topic that will fall by the wayside. The title of this dissertation asked if more than one cook would spoil the broth. The results of the current study suggest that several

cooks can indeed be in the kitchen. But will the resulting broth taste better? The results

do not provide a definitive answer to this question.

Table 1

Quotations Illustrating The Need for Team Leadership Theory and Research

Source	Quote
Hackman and Walton (1986)	"So far we have not found among existing leadership theories one that deals to our satisfaction with the leadership of task performing groups in organizations" (p. 73).
Stewart and Manz (1995)	"A plethora of research has been conducted on the topic of leadership; however, little has been done to develop theory specifically related to leadership of self-managing teams" (p. 750).
Kozlowski, Gully, Salas, and Cannon-Bowers (1996)	"Although there are substantial literatures in both [the team development and leadership] areas…, existing models are limited in their ability to provide prescriptions to guide team leadership and enhance team development" (p. 255).
Zaccaro, Rittman, and Marks (2001)	"Despite the ubiquity of leadership influences on organizational team performance, and despite large literatures on both leadership… and team/group dynamics…, we know surprisingly little about how leaders create and manage effective teams" (p. 452).
Bell and Kozlowski (2002)	"Most models of group and team effectiveness recognize the critical role of team leaders, and there is certainly no shortage of leadership models in the literature. Remarkably, even as teams have increasingly become the primary building-blocks of organizations, there have been relatively few theoretical efforts to specify the functional requirements of team leaders" (p. 16-17).
Zaccaro and Klimoski (2002)	"We still know relatively little about how leaders create and direct team processes to achieve collective success" (p. 5).
Salas, Burke, and Stagl (2004)	"We know quite a lot about both leadership and teams, but have only recently begun to explore and understand team leadership. This is a problem because most current conceptualizations of leadership strictly describe how leaders go about managing their individual subordinates, ignoring in large part both teams and team processes" (p. 342).

Table 2

Aggregation Statistics for the Study Variables

	ICC(1)	ICC(2)	Average $r_{wg(j)}$
Managers' Consideration VTL	.02	.15	.72
Managers' Initiating Structure VTL	.06*	.44	.79
Managers' Rewards VTL	.05*	.39	.50
Managers' Coaching VTL	.03+	.25	.75
Managers' Visionary Inspiration VTL	.01	.13	.71
Managers' Monitoring VTL	.03+	.27	.75
Managers' General Leadership VTL	.06*	.44	.84
Crew Consideration STL	.01	.07	.79
Crew Initiating Structure STL	.04	.18	.70
Crew Rewards STL	.05+	.25	.59
Crew Coaching STL	.04	.22	.73
Crew Visionary Inspiration STL	.05+	.24	.61
Crew Monitoring STL	.05+	.24	.66
Crew General Leadership STL	.11*	.42	.77
Personal Consideration STL	.04	.20	.83
Personal Initiating Structure STL	.03	.16	.63
Personal Rewards STL	.01	.06	.51
Personal Coaching STL	.00	.00	.71
Personal Visionary Inspiration STL	.09	.38	.65
Personal Monitoring STL	.03	.14	.63
Personal General Leadership STL	.03	.18	.79
Percent STL	.03+	.26	NA
Cooperation	.01	.14	.77
Helping	.03+	.27	.78
Empowerment	.02	.20	.89
Self Management	.03+	.23	.64
Climate for Initiative	.04*	.31	.84
Size	NA	NA	NA
Experience	NA	NA	NA
Ability	.05*	.39	.76
Interdependence	.03+	.29	.64
Complexity	.05*	.37	.82
Potency	.03+	.27	.87
Cohesion	.05*	.36	.77
Conflict	.04*	.32	.68
Climate for Service	.08*	.52	.81
Subjective Performance	.16*	.70	.88
Satisfaction	.00	.04	.80
Sales, Sales per Empl., Sales Index	NA	NA	NA
Inspection Reports	NA	NA	NA

Note. *p < .05. +p < .10.

Table 3

Means, Standard Deviations, and Intercorrelations Among the Final Study Variables

	M	*SD*	1	2	3	4	5	6	7	8	9
1. Mgr Consid VTL	3.68	.29									
2. Mgr Init Struct VTL	3.94	.32	.58								
3. Mgr Coach VTL	3.89	.31	.66	.74							
4. Mgr Gen Lead VTL	3.99	.30	.52	.79	.76						
5. Crew Consid STL	3.57	.41	.61	.56	.56	.54					
6. Crew Init Struct STL	3.40	.48	.63	.53	.41	.44	.85				
7. Crew Coach STL	3.47	.45	.67	.55	.48	.50	.79	.86			
8. Crew Gen Lead STL	3.39	.49	.47	.47	.30	.40	.78	.80	.82		
9. Pers Consid STL	3.99	.37	.12	.49	.23	.25	.25	.39	.34	.36	
10. Pers Init Struct STL	3.47	.50	.12	.42	.23	.28	.13	.21	.30	.26	.60
11. Pers Coach STL	3.04	.55	.22	.35	.44	.34	.31	.15	.30	.31	.23
12. Pers Gen Lead STL	3.61	.42	.10	.26	.16	.17	.22	.28	.38	.28	.45
13. Percent STL	0.73	.11	-.02	-.07	-.11	-.20	.05	.12	.08	.01	-.04
14. Cooperation	3.65	.24	.50	.56	.64	.63	.60	.54	.56	.53	.26
15. Helping	3.78	.30	.45	.45	.51	.53	.65	.55	.50	.51	.09
16. Empowerment	3.59	.23	.56	.54	.55	.65	.68	.57	.57	.55	.25
17. Clim for Initiative	3.49	.30	.57	.38	.37	.46	.58	.66	.70	.65	.10
18. Size	18.95	5.61	.02	.19	.27	.17	.08	.08	.09	-.10	.26
19. Experience	17.43	12.00	-.07	-.20	-.23	-.26	-.10	-.16	-.09	.06	-.24
20. Ability	3.12	.26	.27	.31	.24	.16	.55	.52	.48	.59	.21
21. Complexity	2.29	.29	-.33	-.28	-.45	-.32	-.40	-.24	-.26	-.31	-.07
22. Potency	3.80	.28	.59	.62	.58	.56	.50	.47	.56	.47	.28
23. Cohesion	3.84	.26	.64	.53	.77	.59	.63	.46	.53	.37	.11
24. Climate for Service	3.63	.37	.59	.68	.75	.76	.69	.57	.53	.45	.26
25. Subjective Perf	3.45	.30	.40	.54	.57	.55	.57	.40	.46	.53	.29
26. Satisfaction	3.86	.25	.37	.35	.66	.49	.47	.42	.39	.28	.20
27. Weekly Sales	19549	4978	.08	.07	.34	.20	.20	.04	.09	-.03	-.14
28. Sales per employee	1075	305	-.05	-.17	-.12	-.09	-.04	-.14	-.06	.05	-.38
29. Sales Index	95.97	7.40	.24	.13	.16	.23	.26	.17	.19	.11	-.02
30. Inspect Report	87.40	4.14	.34	.51	.44	.56	.35	.25	.29	.25	.18

Note. Values larger than +/- .27 are significant at *p* < .05 (one-tailed).   Values larger than +/- .37 are significant at *p* < .01 (one-tailed). Relationships are for the full sample (not the split sample).

Table 3 Continued

Means, Standard Deviations, and Intercorrelations Among the Final Study Variables

	10	11	12	13	14	15	16	17	18	19
1. Mgr Consid VTL										
2. Mgr Init Struct VTL										
3. Mgr Coach VTL										
4. Mgr Gen Lead VTL										
5. Crew Consid STL										
6. Crew Init Struct STL										
7. Crew Coach STL										
8. Crew Gen Lead STL										
9. Pers Consid STL										
10. Pers Init Struct STL										
11. Pers Coach STL	.56									
12. Pers Gen Lead STL	.74	.51								
13. Percent STL	-.17	-.16	-.08							
14. Cooperation	.22	.36	.18	-.15						
15. Helping	.18	.30	.18	.23	.61					
16. Empowerment	.24	.24	.24	-.05	.79	.79				
17. Clim for Initiative	.37	.43	.30	.08	.61	.66	.61			
18. Size	.18	.19	.16	.21	-.04	-.11	-.08	-.13		
19. Experience	-.32	-.17	-.25	-.08	-.11	.10	.03	-.09	-.45	
20. Ability	.02	.20	.14	.15	.30	.48	.31	.43	-.21	.21
21. Complexity	.08	-.29	-.05	.23	-.59	-.18	-.35	-.19	.06	.04
22. Potency	.47	.64	.36	.01	.64	.55	.53	.71	.03	-.22
23. Cohesion	.32	.47	.23	-.20	.59	.58	.55	.47	.12	-.17
24. Climate for Service	.24	.43	.18	-.10	.80	.67	.76	.56	.14	-.17
25. Subjective Perf	.18	.23	.11	-.45	.57	.48	.54	.29	-.18	.16
26. Satisfaction	.29	.22	.14	-.21	.57	.50	.47	.45	.19	-.15
27. Weekly Sales	-.41	-.23	-.21	.41	.02	.15	.08	-.13	.35	.00
28. Sales per employee	-.54	-.44	-.39	.15	-.15	.12	-.03	-.08	-.56	.56
29. Sales Index	-.27	-.24	-.40	-.05	.33	.11	.33	-.01	.00	.12
30. Inspect Report	.20	.30	-.09	-.27	.27	.30	.36	.18	-.01	.02

Note. Values larger than +/- .27 are significant at *p* < .05 (one-tailed). Values larger than +/- .37 are significant at *p* < .01 (one-tailed). Relationships are for the full sample (not the split sample).

Table 3 Continued

Means, Standard Deviations, and Intercorrelations Among the Final Study Variables

	20	21	22	23	24	25	26	27	28	29	30
1. Mgr Consid VTL											
2. Mgr Init Struct VTL											
3. Mgr Coach VTL											
4. Mgr Gen Lead VTL											
5. Crew Consid STL											
6. Crew Init Struct STL											
7. Crew Coach STL											
8. Crew Gen Lead STL											
9. Pers Consid STL											
10. Pers Init Struct STL											
11. Pers Coach STL											
12. Pers Gen Lead STL											
13. Percent STL											
14. Cooperation											
15. Helping											
16. Empowerment											
17. Clim for Initiative											
18. Size											
19. Experience											
20. Ability											
21. Complexity	-.13										
22. Potency	.33	-.41									
23. Cohesion	.29	-.32	.59								
24. Climate for Service	.24	-.51	.65	.62							
25. Subjective Perf	.44	-.30	.35	.61	.50						
26. Satisfaction	.20	-.35	.40	.74	.55	.56					
27. Weekly Sales	.11	-.25	-.04	.08	.13	-.06	.08				
28. Sales per Employee	.32	-.16	-.20	-.18	-.15	.08	-.25	.54			
29. Sales Index	-.06	-.02	.02	.19	.20	.21	.02	.22	.13		
30. Inspect Report	-.06	-.27	.30	.42	.47	.37	.34	-.03	.00	.31	

Note. Values larger than +/- .27 are significant at $p < .05$ (one-tailed). Values larger than +/- .37 are significant at $p < .01$ (one-tailed). Relationships are for the full sample (not the split sample).

Table 4

Correlations between the Measures of Shared Team Leadership and the Potential Overlapping Correlates

	Empowerment	Cooperation	Helping	Climate for Initiative
Crew Consid STL	.23	.30	.37	.33
Crew Init Struct STL	.20	.28	.31	.42
Crew Coach STL	.15	.27	.26	.49
Crew Gen Lead STL	.21	.33	.33	.48
Pers Consid STL	.09	-.09	-.05	.03
Pers Init Struct STL	.12	-.03	-.06	.17
Pers Coach STL	.22	.12	.09	.07
Pers Gen Lead STL	.17	.03	.09	.21
Percent STL	-.09	-.14	.08	.03

Note. Values larger than .27 are significant at $p < .05$ (one-tailed). Values larger than .37 are significant at $p < .05$ (one-tailed). Relationships are using split sample data. The values for the percent STL dimension are the average correlations from the two split sample results.

Table 5

Quadratic Multiple Regression Analyses for Size Predicting the Shared Team Leadership Dimensions

	Crew Consid STL				Crew Init Struct STL				Crew Coach STL			
	β	SE	ΔR^2	ΔF	β	SE	ΔR^2	ΔF	β	SE	ΔR^2	ΔF
Step 1: Size	.083	.012	.01	.26	.076	.014	.01	.22	.09	.013	.01	.30
Step 2: Size Squared	1.149	.002	.03	1.18	1.586	.002	.06	2.31	1.63	.002	.06	2.47

	Crew Gen Lead STL				Pers Consid STL				Pers Init Struct STL			
	β	SE	ΔR^2	ΔF	β	SE	ΔR^2	ΔF	β	SE	ΔR^2	ΔF
Step 1: Size	-.10	.014	.01	.37	.259	.011	.07	2.67	.175	.014	.03	1.16
Step 2: Size Squared	2.17*	.002	.11*	4.63*	2.639*	.001	.17*	7.80*	2.146*	.002	.11*	4.60*

	Pers Coach STL				Pers Gen Lead STL				Percent STL			
	β	SE	ΔR^2	ΔF	β	SE	ΔR^2	ΔF	β	SE	ΔR^2	ΔF
Step 1: Size	.205	.012	.04	1.62	.164	.012	.03	1.03	.213	.003	.05	1.76
Step 2: Size Squared	1.244	.002	.04	1.44	2.073*	.002	.13*	4.24*	-1.034	.000	.03	.99

Note. * $p < .05$.

Table 6

Correlations between the Measures of Shared Team Leadership and the Potential Antecedents

	Experience	Ability	Task Complexity
Crew Consid STL	-.21	.39	-.27
Crew Init Struct STL	-.20	.38	-.15
Crew Coach STL	-.18	.35	-.15
Crew Gen Lead STL	.09	.43	-.26
Pers Consid STL	-.24	.13	-.05
Pers Init Struct STL	-.23	.07	.09
Pers Coach STL	-.09	.13	-.08
Pers Gen Lead STL	-.13	.10	.02
Percent STL	-.08	.14	.18

Note. Values larger than .27 are significant at $p < .05$ (one-tailed). Values larger than .37 are significant at $p < .05$ (one-tailed). Relationships are using split sample data (except for experience). The values for the percent STL dimension are the average correlations from the two split sample results.

Table 7

Correlations between the Measures of Shared Team Leadership and the Potential Consequences

	Potency	Cohesion	Climate Service	Sub Perf	Weekly Sales	Sales per Employee	Sales Index	Insp. Reports	Satis
Crew Consid STL	.09	.36	.45	.57	.20	-.04	.26	.35	.16
Crew Init Struct STL	.11	.36	.35	.47	.04	-.14	.17	.25	.29
Crew Coach STL	.15	.43	.27	.49	.09	-.06	.19	.29	.23
Crew Gen Lead STL	.17	.33	.29	.51	-.03	.05	.11	.25	.19
Pers Consid STL	.11	-.07	.13	.14	-.14	-.38	-.02	.18	.06
Pers Init Struct STL	.32	.10	.11	.07	-.41	-.54	-.27	.20	.05
Pers Coach STL	.33	.31	.36	.28	-.23	-.44	-.24	.30	.28
Pers Gen Lead STL	.25	.07	.20	-.04	-.21	-.39	-.40	-.09	.06
Percent STL	-.02	-.09	-.16	-.32	.41	.15	-.05	-.27	-.10

Note. Values larger than .27 are significant at *p* < .05 (one-tailed). Values larger than .37 are significant at *p* < .05 (one-tailed). Relationships are using split sample data for the processes, climate, and subjective outcome variables. The values for the percent STL dimension are the average correlations from the two split sample results.

Table 8

Hierarchical Regressions for Shared Team Leadership Predicting Potency Over and Above Vertical Leadership and the Potential Correlates

	DV = Potency					DV = Potency			
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.04	1.66	Step 1:			.05	1.78
Mgr Init Stru VTL	.21	.17			Mgr Coach VTL	.21	.13		
Step 2:			.07*	2.73*	Step 2:			.07*	2.63*
Pers Init Stru STL	.28*	.14			Pers Coach STL	.29*	.18		

	DV = Potency					DV = Potency			
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.27*	3.16*	Step 1:			.27*	3.16*
Empowerment	-.24	.35			Empowerment	-.24	.35		
Cooperation	.19	.26			Cooperation	.19	.26		
Helping	-.08	.23			Helping	-.08	.23		
Clim for Init	.56*	.18			Clim for Init	.56*	.18		
Step 2:			.02	.73	Step 2:			.05	2.42
Pers Init Stru STL	.15	.14			Pers Coach STL	.25	.16		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Analyses use split sample data (the IVs and DV come from different sources).

Table 9

Hierarchical Regressions for Shared Team Leadership Predicting Cohesion Over and Above Vertical Leadership and the Potential Correlates

DV = Cohesion	β	SE	ΔR^2	ΔF	DV = Cohesion	β	SE	ΔR^2	ΔF
Step 1:			.13*	5.57*	Step 1:			.25**	14.40**
Mgr Consid VTL	.36*	.10			Mgr Init Stru VTL	.50**	.10		
Step 2:			.03	1.12	Step 2:			.00	.06
Crew Consid STL	.22	.14			Crew Init Stru STL	.05	.11		

DV = Cohesion	β	SE	ΔR^2	ΔF	DV = Cohesion	β	SE	ΔR^2	ΔF
Step 1:			.10*	4.04*	Step 1:			.16**	7.09**
Mgr Coach VTL	.31*	.11			Mgr Gen Lea VTL	.40**	.11		
Step 2:			.09*	3.85*	Step 2:			.01	.41
Crew Coach STL	.42*	.13			Crew Gen Lea STL	.13	.11		

DV = Cohesion	β	SE	ΔR^2	ΔF
Step 1:			.09*	3.47*
Mgr Coach VTL	.29*	.12		
Step 2:			.04	1.46
Pers Coach STL	.21	.17		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Analyses use split sample data (the IVs and DV come from different sources).

Table 9 Continued

Hierarchical Regressions for Shared Team Leadership Predicting Cohesion Over and Above Vertical Leadership and the Potential Correlates

	DV = Cohesion					DV = Cohesion			
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.12	1.12	Step 1:			.12	1.12
Empowerment	.48	.28			Empowerment	.48	.28		
Cooperation	-.08	.21			Cooperation	-.08	.21		
Helping	-.20	.21			Helping	-.20	.21		
Clim for Init	.07	.21			Clim for Init	.07	.21		
Step 2:			.04	1.67	Step 2:			.05	1.78
Crew Consid STL	.38	.20			Crew Init Stru STL	.34	.15		
	DV = Cohesion					DV = Cohesion			
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.12	1.12	Step 1:			.12	1.12
Empowerment	.48	.28			Empowerment	.48	.28		
Cooperation	-.08	.21			Cooperation	-.08	.21		
Helping	-.20	.21			Helping	-.20	.21		
Clim for Init	.07	.21			Clim for Init	.07	.21		
Step 2:			.09*	3.78*	Step 2:			.03	.87
Crew Coach STL	.48*	.15			Crew Gen Lea STL	.21	.13		

	DV = Cohesion			
	β	SE	ΔR^2	ΔF
Step 1:			.15	1.46
Empowerment	-.51*	.36		
Cooperation	.10	.27		
Helping	.49*	.24		
Clim for Init	.11	.19		
Step 2:			.08*	3.04*
Pers Coach STL	.30*	.16		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Analyses use split sample data (the IVs and DV come from different sources).

Table 10

Hierarchical Regressions for Shared Team Leadership Predicting Climate for Service Over and Above Vertical Leadership and the Potential Correlates

DV = Climate for Service	B	SE	ΔR^2	ΔF
Step 1:			.10*	4.28*
Mgr Consid VTL	.32*	.19		
Step 2:			.10*	4.67*
Crew Consid STL	.44*	.25		

DV = Climate for Service	β	SE	ΔR^2	ΔF
Step 1:			.04	1.45
Mgr Coach VTL	.19	.20		
Step 2:			.03	1.24
Crew Coach STL	.26	.25		

DV = Climate for Service	β	SE	ΔR^2	ΔF
Step 1:			.03	1.16
Mgr Coach VTL	.18	.14		
Step 2:			.08*	3.10*
Pers Coach STL	.31*	.18		

DV = Climate for Service	β	SE	ΔR^2	ΔF
Step 1:			.10*	4.26*
Mgr Init Stru VTL	.32*	.19		
Step 2:			.03	1.40
Crew Init Stru STL	.25	.21		

DV = Climate for Service	β	SE	ΔR^2	ΔF
Step 1:			.14*	5.80*
Mgr Gen Lea VTL	.37*	.20		
Step 2:			.01	.24
Crew Gen Lea STL	.10	.20		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Analyses use split sample data (the IVs and DV come from different sources).

Table 10 Continued
Hierarchical Regressions for Shared Team Leadership Predicting Climate for Service Over and Above Vertical Leadership and the Potential Correlates

DV = Climate for Service					DV = Climate for Service				
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.23*	2.55*	Step 1:			.23*	2.55*
Empowerment	.73*	.47			Empowerment	.73*	.47		
Cooperation	.07	.35			Cooperation	.07	.35		
Helping	-.37	.35			Helping	-.37	.35		
Clim for Init	-.17	.35			Clim for Init	-.17	.35		
Step 2:			.14*	7.04*	Step 2:			.06*	2.92*
Crew Consid STL	.68*	.31			Crew Init Stru STL	.40*	.24		

DV = Climate for Service					DV = Climate for Service				
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.23*	2.55*	Step 1:			.23*	2.55*
Empowerment	.73*	.47			Empowerment	.73*	.47		
Cooperation	.07	.35			Cooperation	.07	.35		
Helping	-.37	.35			Helping	-.37	.35		
Clim for Init	-.17	.35			Clim for Init	-.17	.35		
Step 2:			.00	.08	Step 2:			.01	.44
Crew Coach STL	.07	.26			Crew Gen Lea STL	.14	.22		

DV = Climate for Service				
	β	SE	ΔR^2	ΔF
Step 1:			.22*	2.34*
Empowerment	-.35	.38		
Cooperation	.38*	.28		
Helping	-.02	.25		
Clim for Init	.38*	.20		
Step 2:			.05	2.03
Pers Coach STL	.24	.17		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Analyses use split sample data (the IVs and DV come from different sources).

Table 11

Hierarchical Regressions for Shared Team Leadership Predicting Subjective Performance Over and Above Vertical Leadership and the Potential Correlates

DV = Subjective Performance					DV = Subjective Performance				
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.07*	2.89*	Step 1:			.35**	19.96**
Mgr Consid VTL	.27*	.12			Mgr Init Stru VTL	.59**	.10		
Step 2:			.28**	15.90**	Step 2:			.01	.10
Crew Consid STL	.73**	.14			Crew Init Stru STL	.13	.12		
DV = Subjective Performance					DV = Subjective Performance				
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.22**	10.40**	Step 1:			.25**	12.04**
Mgr Coach VTL	.47**	.11			Mgr Gen Lea VTL	.50**	.11		
Step 2:			.05	2.50	Step 2:			.07*	3.56*
Crew Coach STL	.32	.14			Crew Gen Lea STL	.34*	.11		
DV = Subjective Performance									
	β	SE	ΔR^2	ΔF					
Step 1:			.01	.46					
Mgr Coach VTL	.11	.13							
Step 2:			.07*	2.58*					
Pers Coach STL	.29*	.17							

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Analyses use split sample data (the IVs and DV come from different sources).

Table 11 Continued

Hierarchical Regressions for Shared Team Leadership Predicting Subjective Performance Over and Above Vertical Leadership and the Potential Correlates

DV = Subjective Performance					DV = Subjective Performance				
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.52**	9.05**	Step 1:			.52**	9.05**
Empowerment	.87**	.24			Empowerment	.87**	.24		
Cooperation	-.03	.18			Cooperation	-.03	.18		
Helping	.28	.17			Helping	.28	.17		
Clim for Init	-.61**	.17			Clim for Init	-.61**	.17		
Step 2:			.03	2.22	Step 2:			.05*	4.0*
Crew Consid STL	.32	.16			Crew Init Stru STL	.37*	.12		

DV = Subjective Performance					DV = Subjective Performance				
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.52**	9.05**	Step 1:			.52**	9.05**
Empowerment	.87**	.24			Empowerment	.87**	.24		
Cooperation	-.03	.18			Cooperation	-.03	.18		
Helping	.28	.17			Helping	.28	.17		
Clim for Init	-.61**	.17			Clim for Init	-.61**	.17		
Step 2:			.04*	2.99*	Step 2:			.06*	4.91*
Crew Coach STL	.32*	.13			Crew Gen Lea STL	.35*	.10		

DV = Subjective Performance				
	β	SE	ΔR^2	ΔF
Step 1:			.05	.48
Empowerment	-.20	.38		
Cooperation	.23	.28		
Helping	-.05	.24		
Clim for Init	.16	.20		
Step 2:			.06	2.30
Pers Coach STL	.27	.17		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Analyses use split sample data (the IVs and DV come from different sources).

Table 12

Hierarchical Regressions for Shared Team Leadership Predicting Sales Over and Above Vertical Leadership and the Potential Correlates

	DV = Sales			
	β	SE	ΔR^2	ΔF
Step 1:			.04	1.39
Mgr Gen Lea VTL	.20	2876		
Step 2:			.22**	9.98**
Percent STL	.48**	6416		

	DV = Sales			
	β	SE	ΔR^2	ΔF
Step 1:			.10	.92
Empowerment	-.06	7345		
Cooperation	.10	6199		
Helping	.38	5043		
Clim for Init	-.38*	3895		
Step 2:			.17**	7.19**
Percent STL	.47**	7372		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Relationship use full sample data.

Table 13

Hierarchical Regressions for Shared Team Leadership Predicting Inspection Reports Over and Above Vertical Leadership and the Potential Correlates

DV = Inspection Reports					DV = Inspection Reports				
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.08*	3.00*	Step 1:			.10*	3.99*
Mgr Consid VTL	.27*	1.58			Mgr Coach VTL	.31*	1.60		
Step 2:			.05	2.07	Step 2:			.01	.42
Crew Consid STL	.31	2.15			Crew Coach STL	.15	2.04		

DV = Inspection Reports				
	β	SE	ΔR^2	ΔF
Step 1:			.09*	3.79*
Mgr Coach VTL	.31*	1.30		
Step 2:			.03	1.30
Pers Coach STL	.20	1.77		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Relationships use full sample data.

Table 13 Continued

Hierarchical Regressions for Shared Team Leadership Predicting Inspection Reports Over and Above Vertical Leadership and the Potential Correlates

DV = Inspection Reports					DV = Inspection Reports				
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.26*	2.95*	Step 1:			.26*	2.95*
Empowerment	.98**	3.87			Empowerment	.98**	3.87		
Cooperation	-.44*	2.89			Cooperation	-.44*	2.89		
Helping	-.01	2.87			Helping	-.01	2.87		
Clim for Init	-.35	2.83			Clim for Init	-.35	2.83		
Step 2:			.02	.86	Step 2:			.02	.95
Crew Consid STL	.25	2.76			Crew Coach STL	.23	2.13		

DV = Inspection Reports				
	β	SE	ΔR^2	ΔF
Step 1:			.09	.82
Empowerment	-.14	3.97		
Cooperation	.19	2.95		
Helping	.13	2.57		
Clim for Init	.15	2.06		
Step 2:			.04	1.59
Pers Coach STL	.23	1.78		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Relationships use full sample data.

Table 14

Hierarchical Regressions for Shared Team Leadership Predicting Satisfaction Over and Above Vertical Leadership and the Potential Correlates

DV = Satisfaction					DV = Satisfaction			
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.04	1.60	Step 1:			.10*	4.12*
Mgr Init Stru VTL	.21	.13			Mgr Coach VTL	.32*	.11		
Step 2:			.04	1.60	Step 2:			.02	.86
Crew Init Stru STL	.27	.14			Pers Coach STL	.17	.16		

DV = Satisfaction					DV = Satisfaction			
	β	SE	ΔR^2	ΔF		β	SE	ΔR^2	ΔF
Step 1:			.17	1.70	Step 1:			.10	.96
Empowerment	.32	.32			Empowerment	-.46	.35		
Cooperation	.22	.24			Cooperation	.10	.26		
Helping	-.47*	.24			Helping	.47*	.22		
Clim for Init	.19	.23			Clim for Init	-.06	.18		
Step 2:			.02	.92	Step 2:			.08*	3.20*
Crew Init Stru STL	.24	.17			Pers Coach STL	.31*	.15		

Note. * $p < .05$ (one-tailed), ** $p < .01$ (one-tailed). Analyses use split sample data (the IVs and DV come from different sources).

Table 15

Summary of Results

Hypotheses	Crew Member STL	Personal STL	Percentage STL
H1A: The dimensions of vertical team leadership will be positively related to the corresponding dimensions of shared team leadership.	1 out of 4 (Cons)	1 out of 4 (Init Str)	NA
H1B: The vertical and shared team leadership dimensions of consideration, coaching, contingent reward, and monitoring will be more strongly related.	NS	NS	NA
H2: The measures of shared team leadership will be moderately positively related to several potential correlates:			
Empowerment	NS	NS	NS
Cooperation	4 out of 4	NS	NS
Helping	3 out of 4 (Cons, Init Str, Gen Lead)	NS	NS
Climate for Initiative	4 out of 4	NS	NS
H3: The measures of shared team leadership will be related to several antecedents:			
H3A: Size (curvilinear relationship)	NS	NS	NS
H3B: Experience	NS	NS	NS
H3C: Ability	4 out of 4	NS	NS
H3F: Task Complexity	NS	NS	NS

Note. I report the number of dimensions that were significant for each of the measures of shared team leadership (e.g., 3 out of 4 means that 3 out of the 4 dimensions of the given measure of shared team leadership were significantly related to the dependent variable). I also report which specific dimensions were significant (if it was more than zero or less than 4). NS = Non-significant (i.e., 0 out of 4 were significant).

Table 15 Continued

Summary of Results

Hypotheses	Crew Member STL	Personal STL	Percentage STL
H4: The measures of shared team leadership will be positively related to several consequences:			
H4A: Potency	NS	2 out of 4 (Init Str, Coach)	NS
H4B: Cohesion	4 out of 4	1 out of 4 (Coach)	NS
H4D: Climate for Service	4 out of 4	1 out of 4 (Coach)	NS
H4E: Subjective Performance	4 out of 4	1 out of 4 (Coach)	NS
H4F1: Objective Weekly Sales	NS	NS	1 out of 1
H4F2: Objective Sales per Employee	NS	NS	NS
H4F3: Objective Sales Index	NS	NS	NS
H4F4: Objective Inspection Reports	2 out of 4 (Cons, Coach)	1 out of 4 (Coach)	NS
H4G: Satisfaction	1 out of 4 (Init Str)	1 out of 4 (Coach)	NS
H5A: Shared team leadership will be related to the predicted consequences over and above vertical team leadership.	4 out of 15 still significant	4 out of 7 still significant	1 out of 1 still significant
H5B: Shared team leadership will be related to the predicted consequences over and above the potential correlates.	6 out of 15 still significant	2 out of 7 still significant	1 out of 1 still significant

Note. I report the number of dimensions that were significant for each of the measures of shared team leadership (e.g., 3 out of 4 means that 3 out of the 4 dimensions of the given measure of shared team leadership were significantly related to the dependent variable). I also report which specific dimensions were significant (if it was more than zero or less than 4). NS = Non-significant (i.e., 0 out of 4 were significant).

Appendix

I used the following measures in this study. All survey measures were based on a five-point Likert scale.

Leadership Dimensions

These leadership dimensions were assessed for managers VTL, crew members STL, and personal STL using the referents of "managers", "crew members", and "you" respectively. For illustrative purposes, I only list the wording for the managerial VTL items as the referents can be substituted (with "crew members" or "you") for the STL wordings.

Consideration (Halpin, 1957).
1. To what extent do managers do little things to make it pleasant to be an employee in the restaurant?
2. To what extent do managers look out for the personal welfare of employees?
3. To what extent do managers treat all employees as their equals?
4. To what extent are managers friendly and approachable?

Initiating Structure (Halpin, 1957).
1. To what extent do managers schedule the work to be done by employees here?
2. To what extent do managers emphasize the meeting of deadlines?
3. To what extent do managers encourage the use of standard procedures?
4. To what extent do managers let employees know what is expected of them?

Rewards (Pearce & Sims, 2002).
1. To what extent do managers urge employees here to reward themselves with something they like when they have successfully completed a major task?
2. To what extent do managers encourage employees here to treat themselves to something they enjoy when they do a task especially well?
3. To what extent do managers give employees special recognition when their performance is especially good?
4. To what extent do managers encourage employees to give themselves a pat on the back when they meet a new challenge?

Coaching (Morgeson, 2005).
1. To what extent do managers act as resources to the restaurant?
2. To what extent do managers help employees develop solutions to problems?
3. To what extent do managers serve as coaches to employees here?
4. To what extent do managers provide assistance to the restaurant?

Inspiration (Avolio et al., 1995; Pearce & Sims, 2002).
1. To what extent do managers state a compelling vision for the future of this restaurant?
2. To what extent do managers express confidence that the restaurant will achieve its goals?
3. To what extent do managers provide a clear vision of where the restaurant is going?
4. To what extent do managers provide a clear vision of who and what the restaurant is?

Monitoring (Klein et al., 2004; Yukl, 1991).
1. To what extent do managers monitor employees' actions to be sure that tasks are completed appropriately?
2. To what extent do managers oversee the restaurant's performance?
3. To what extent do managers check on the quality of employees work?
4. To what extent do managers monitor the work of employees?

General Leadership (Developed for study).
1. To what extent do managers here display leadership behaviors?
2. To what extent do managers here perform many leadership functions?
3. To what extent do managers here influence the restaurant in achieving its goals?
4. To what extent are managers here good leaders?

Percent Shared Team Leadership (Developed for study).
1. Does this person play a leadership role in the restaurant?
   (After generating a list of names of people that the respondent worked with on a regular basis, s/he rated each of them based on the above question of playing a leadership role or not. Percent shared team leadership was calculated as the number of people who were rated "yes" on this question divided by the total number of people listed.)

Potential Correlates of Shared Team Leadership

Cooperation (Chatman & Flynn, 2001).
1. It is important for us to maintain harmony within the restaurant.
2. There is a high level of cooperation between employees here.
3. Employees here are willing to sacrifice their self-interest for the benefit of the restaurant.
4. There is a high level of information sharing between employees here.

Helping (Podsakoff et al., 1990).
1. Employees here help out others who have been absent and return to work.
2. Employees here help others who have heavy workloads.
3. Employees here help orient new employees to the restaurant.
4. Employees here willingly help others who have work-related problems.
5. Employees here are always ready to lend a helping hand to other employees around them.

Empowerment (Kirkman et al., 2004).
1. Employees here feel that their work is meaningful.
2. Employees here feel that their tasks are worthwhile.
3. Employees here believe that their projects are significant.
4. Employees here can select different ways to do their work.
5. Together, employees here determine how things are done in the restaurant.
6. Employees here make their own choices without being told by management.
7. Employees here have a positive impact on this restaurant's customers.
8. Employees here perform tasks that matter to this restaurant.
9. Employees here make a difference in this restaurant.

Self-Management (Campion et al., 1993).
1. Crew members are responsible for determining the methods, procedures, and schedules with which the work gets done.
2. Crew members rather than managers decide who does what tasks within the team.
3. Most work-related decisions are made by crew members rather than by managers.

Climate for Initiative (Baer & Frese, 2001)
1. Employees here actively attack problems.
2. Whenever something goes wrong, employees here search for a solution immediately.
3. Whenever there is a chance to get actively involved, employees here take it.
4. Employees here take initiative immediately – more often than in other restaurants.
5. Employees here use opportunities quickly in order to attain goals.
6. Employees here usually do more than they are asked to do.
7. Employees here are particularly good at realizing ideas.

Potential Antecedents of Shared Team Leadership

Size.
The number of individuals employed in the restaurant based on employee records.

Experience (Developed for Study).
1. How many months have you worked at this restaurant?

Ability (Edmondson, 1999; Faraj & Sproull, 2000)
1. Most employees here have the ability to solve the problems that come up in our work.
2. All employees here have more than enough training and experience for the kind of work we have to do.
3. Certain employees here lack the special skills needed for good teamwork.
4. Some employees here lack certain knowledge that is necessary to do their task.
5. Some employees here do not have the necessary knowledge and skill to perform well, regardless of how hard they try.
6. Some employees here do not have enough knowledge and skill to do their part of the task.

Interdependence (Van Der Vegt et al., 1999).
1. My own performance depends on receiving information and advice from other employees.
2. I depend on other employees' work for materials that I need to do my job.
3. I depend on other employees' work for help and support that I need to do my job.
4. I depend on other employees in order to be able to do my work well.
5. My job performance is strongly affected by other employees' job performance.

Complexity (Podsakoff & MacKenzie, 1994).
1. Most of the work I do in my job is somewhat repetitive in nature.
2. I perform the same types of activities every day in my job.
3. My job does not change much from one day to the next.
4. My job is rather simple and routine.
5. To perform most of my work, I follow the same series of steps.

Potential Consequences of Shared Team Leadership

Processes

Potency (Guzzo et al., 1993).
1. Employees here have confidence in themselves.
2. Employees here believe they can become unusually good at producing high-quality work.
3. Employees here expect to be known as a high-performing restaurant.
4. Employees here feel they can solve any problem they encounter.
5. Employees here believe they can be very productive.
6. Employees here can get a lot done when they work hard.
7. No task is too tough for employees here.
8. Employees here expect to have a lot of influence around here.

Cohesion (Dobbins & Zaccaro, 1986).
1. If given the chance, I would choose to leave my restaurant and join another.
2. I get along well with other employees in the restaurant.
3. I will defend employees here from criticism from outsiders.
4. I feel that I am really part of the restaurant.
5. I look forward to being with employees from the restaurant each day.
6. I find that I usually do not get along with other employees in the restaurant.

Conflict (Jehn, 1995).
1. There is a lot of friction among employees here.
2. There are a lot of personality conflicts in the restaurant.
3. There is a lot of tension among employees here.
4. There is a lot of emotional conflict among employees here.
5. There is a lot of disagreement among employees opinions regarding the work being done.

6. There are a lot of conflicts about ideas in the restaurant.
7. There are a lot of conflicts about the work we do in the restaurant.
8. There are a lot of differences of opinion in the restaurant.

Climate

Climate for Service (Schneider et al., 1998).
1. How would you rate efforts to measure and track the quality of the work and service in your restaurant?
2. How would you rate the leadership shown by managers in your restaurant in supporting the service quality effort?
3. How would you rate the overall quality of service provided by your restaurant?
4. How would you rate the job knowledge and skills of employees in your restaurant to deliver superior quality work and service?
5. How would you rate the tools, technology, and other resources provided to employees to support the delivery of superior quality work and service.
6. How would you rate the effectiveness of communication efforts to both employees and customers?
7. How would you rate the recognition and rewards employees receive for the delivery of superior work ad service?

Subjective Outcomes

Performance (Edmondson, 1999).
1. Recently, this restaurant seems to be "slipping" a bit in its level of performance and accomplishments.
2. Customers of this restaurant often have complaints about our work.
3. The quality of work provided by this restaurant is improving over time.
4. Critical quality errors occur frequently in this restaurant.
5. Others who interact with this restaurant often complain about how it functions.
6. This restaurant meets or beats its customers' expectations.
7. This restaurant does superb work.
8. Critical quality errors occur frequently in this restaurant.
9. This restaurant keeps getting better and better.
10. This restaurant does excellent work.

Satisfaction (Bishop & Scott, 2000).
1. I am very satisfied with how I get along with other employees here.
2. I am very satisfied with how other employees here and I work together.
3. I am very satisfied with the opportunity to make friends with other employees here.
4. I am very satisfied with the decisions made by the restaurant.

Objective Outcomes

Weekly Sales
The average weekly sales for the restaurant for the quarter following the survey administration.

Sales per Employee
The average weekly sales for the restaurant for the quarter following the survey administration divided by the number of employees in the restaurant.

Sales Index
A comparison of the quarterly sales for the quarter following the survey administration to the same time one year prior.

Inspection Report
The inspection report rating performance and service completed by the general managers in the quarter following the survey administration.

References

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