A Search for Missing Links: Specifying the Relationship between Leader-Member Exchange Differentiation and Service Climate

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Abstract

We search for "missing links" in how the different social exchange relationships employees have with supervisors (i.e., LMX differentiation) affect their unit service climate perceptions. Drawing on a social comparison perspective, we propose a model in which the different relationships service employees establish with supervisors negatively impact unit service climate through elevated unit relationship conflict. We further suggest that unit relationship conflict plays a mediating role as customer variability increases. Using data from head nurse–nurse relationships in 56 units of two major hospitals, our findings support the proposed linkages as well as reveal that employee perceptions of customer variability strengthen the troublesome positive link between LMX differentiation and unit relationship conflict. The results also indicate that unit relationship conflict mediates the relationship between LMX differentiation and unit service climate when customer variability is high but not low. Our results paint a more nuanced picture of the missing link in the leadership–climate interface by studying the dark side of leadership, a perspective that has yet to receive much scholarly attention. Findings reveal that managers who desire to keep relationship conflict in check need to keep LMX differentiation to a minimum, especially when customer variability is high compared to low.

Keywords: Service climate, leader member exchange differentiation, social comparison perspective, customer variability, relationship conflict

Service climate refers to employees' shared view of the service quality-oriented policies, practices, and procedures they experience and the service quality emphasis they observe in behaviors that are rewarded, expected, and supported (e.g., Schneider, White, and Paul 1998). In a unit with a positive service climate, employees go the extra mile to deliver high customer satisfaction and service quality, which ultimately leads to greater profitability (e.g., Bowen and Schneider 2014; Harter, Schmidt, and Hayes 2002; Hong et al. 2013).

Given the strategic importance of service climate, recent reviews have modeled the antecedents and consequences of service climate, as well as the related mediators and moderators (Bowen and Schneider 2014; Hong et al. 2013). The backend consequences of service climate, including mediator variables such as employee behaviors, have been detailed. Bowen and Schneider (2014) reviewed moderators of the service climate–customer experiences link, whereas Hong et al. (2013) summarized the research on the moderators of the service climate–customer outcomes link. As these reviews make clear, much is known about the links between service climate and customer experiences (e.g., quality, satisfaction, and loyalty), and ultimately financial performance.

HRM practices, leadership, and systems support from operations, marketing, IT, etc., have been considered antecedents of service climate (Bowen and Schneider 2014; Hong et al. 2013). Conspicuously absent, however, are linkage variables between the antecedents of service climate and service climate itself, which raise key questions as to what mediators and moderators come between leadership, for example, and service climate. Research has assumed that all antecedents are linked directly to service climate without an explicit unpacking of the underlying process of how and when the antecedents are linked to service climate. Rare exceptions to this from our reading are Drach-Zahavy and Somech (2013), who found that the relationship between

the antecedent goal interdependence and service climate was moderated by task interdependence. Also, de Jong, de Ruyter, and Lemmink (2004) found that the relationship between the antecedent, group-level flexibility of team members, which Hong et al. (2013) considered an HR practice, and what they termed "self-managing teams (SMT) service climate" was moderated by service type (routine vs. nonroutine). In short, the "missing links" in reviews of service climate research are those that may exist between antecedents and service climate. These links are essential to understanding how organizations can create and sustain a high positive[1] service climate and by which underlying mechanism(s) this occurs. To this end, we examine how unit service climate is affected when employees do not benefit from equally high quality relationships with their supervisors.

We draw upon social comparison theory (e.g., Festinger 1954) as the unifying theoretical framework for our study[2], which captures the level of service climate in units when supervisors develop different quality relationships with employees. Specifically, we examine how differentiation in the social exchange relationship between a supervisor and employees (LMX differentiation henceforth) impacts service climate. LMX differentiation posits that supervisors establish different social exchange relationships with employees, and this variability is a critical component of considerable leadership theory (Erdogan and Bauer 2010; Gerstner and Day 1997; Graen and Uhl-Bien 1995; Liao, Liu, and Loi 2010; Liden, Sparrow, and Wayne 1997).

Against the above backdrop, we address gaps in the literature on the integration of leadership and service climate research in three important ways. First, there is no research that examines the underlying process between LMX differentiation and service climate. We propose

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[1] In line with the service climate literature, we use the terms high service climate and positive service climate interchangeably to indicate the level of service climate and not the strength of service climate (Bowen and Schneider 2014).

[2] Hereafter, when we refer to the model's constructs (i.e., LMX differentiation, relationship conflict, and service climate), we consider them at the unit (group) level.

that the LMX differentiation–service climate relationship is mediated by relationship conflict. We introduce a social comparison perspective to elucidate the process by which service climate is influenced when supervisors fail to develop uniform relationships with service employees. Research has made it clear that employees are aware of the differentiated relationships their leaders form and that employees may interpret this variability as unfair treatment (e.g., Erdogan and Bauer 2010), which can lead to the formation of an in-group and out-group. LMX differentiation generates social disintegration including relational conflict and strain in collaboration and communication (e.g., Hooper and Martin 2008), and this relational fraction may adversely affect service climate. A provocative way of stating this is that we also are exploring a potential dark side of leadership's linkage to service climate. LMX differentiation, a typical leadership reality, may have a negative influence on service climate because of elevated relationship conflict, as opposed to the more widespread exclusively positive view taken by prior research (e.g., transformational or service-oriented leadership).

Although we acknowledge that LMX differentiation can lead to positive consequences such as role differentiation and efficiency (Stogdill 1959), this study focuses on the dark side of LMX differentiation for the following two reasons. First, the literature is rich with the perils of LMX differentiation and this provides ample sources on which to draw for theoretical and empirical evidence. Second, the negative mediating process that eventuates from LMX differentiation is theoretically more convincing (relationship conflict influencing service climate compared to role differentiation influencing service climate).

Second, our model considers customer variability, the diversity of customer demand and customers' disposition to participate in the service process, as a moderator between LMX differentiation and relationship conflict. The inclusion of customer variability captures the

complex work environment that service employees have to deal with when they experience not only variability in the social exchange relationships that they have with leaders (i.e., LMX differentiation), but also variability in customers' input uncertainty (i.e., diversity of demand and desire to co-produce). We examine how high customer variability may result in employees seeking support and guidance from their supervisors, which may provide employees more social comparison insight on how their supervisor is more willing to help some employees than others.

Third, little is known whether and when the mediating role of relationship conflict differs between LMX differentiation and service climate. We propose that the mediating effect of relationship conflict between LMX differentiation and service climate will vary depending on the level of customer variability. We show that customer variability moderates the indirect effect of LMX differentiation on service climate via relationship climate differently under high versus low levels of customer variability.

In the sections to follow, we explain the link between leadership and service climate followed by the theoretical background and hypotheses. We then report the results of hypotheses testing in the healthcare industry by examining head nurse–nurse relationships in 56 units of two major hospitals. We conclude with theoretical and managerial implications for the integration of leadership and service climate research.

Theoretical Background and Hypotheses

Social comparison theory (Festinger 1954), which has evolved over many years to include any social comparison process in which individuals relate their own characteristics to others (Buunk and Gibbons 2007), is the principal theoretical foundation for our hypotheses. As applied to the work setting, when an employee compares his/her standing relative to others, that comparison process influences how the employee views his/her work environment and

relationships with coworkers (Buunk and Gibbons 2007; Greenberg, Ashton-James, and Ashkanasy 2007; Wood 1996). In our hypothesized model (Figure 1), social comparison among employees is initiated by LMX differentiation. Vidyarthi et al. (2010) state that when leaders form different quality relationships with their employees, this is "…likely to trigger social comparison processes within focal individuals that are designed to obtain information about their own standing (Festinger, 1954)" (2010: p. 849). Furthermore, we suggest that these comparisons reveal unequal treatment that can create relationship conflict within a unit. Additionally, high customer variability may result in employees having to involve their supervisor more frequently, thereby affording employees even more opportunity for social comparison of how their relationship with the supervisor may differ from other employees, and thus exacerbating the relationship between LMX differentiation and relationship conflict.

The Link between Leadership and Service Climate

Service climate refers to employees' shared view of the service quality-oriented policies, practices, and procedures they experience and the service quality emphasis they see in behaviors that are rewarded, supported, and expected (de Jong et al. 2004; Schneider et al. 1998). A recent meta-analysis (Hong et al. 2013) and a synthesis (Bowen and Schneider 2014) of service climate research have presented numerous antecedents of service climate (e.g., leadership, HRM practices, and Systems Support from IT), but have not specified any intervening variables—mediators and/or moderators—between the antecedents and service climate. A "black box" exists inside that relationship, and thus we search for missing links between leadership and service climate.

Leadership has long been established as a key antecedent of service climate (Bowen and Schneider 2014; Hong et al. 2013). Leadership in previous studies of service climate has fallen

into two broad types, general effective leadership and service-oriented leadership (Hong et al. 2013). General effective leadership can include core dimensions such as task- and people-orientation, and can also include transformational leadership. Service-oriented leadership focuses on aspects including setting high standards for service quality, removing obstacles to service delivery, and rewarding high quality service delivery. Not surprisingly, Hong et al. (2013) found that service-oriented leadership was more strongly related to service climate than general leadership. Bowen and Schneider (2014) summarized the types of leadership in service climate research along three dimensions: management of the "basics" versus transformational; general versus service-oriented; and formal versus informal. They concluded that a key finding from their review was that attention to important basic management tasks can have the same impact as the motivating, inspirational aspects of transformational leadership. They cited research in which a measure of leadership that includes both the visionary and such basics as resolving differences within the team is linked empirically to customer satisfaction, and the authors theorized that this finding likely stems from the positive service climate such leaders create (Walker, Smither, and Waldman 2008).

Leader-member exchange (LMX) theory, however, has never been studied as an antecedent of service climate and is not mentioned at all in the recent reviews of service climate research (Bowen and Schneider 2014; Hong et al., 2013). The fact that LMX in general and LMX differentiation in particular have not been studied as antecedents of service climate is surprising for several reasons. First, Hong et al. (2013) highlighted Kozlowski and Doherty's (1989) assertion that an employee's immediate supervisor is the most salient and tangible evidence of the meaning of policies and procedures, and that the nature and quality of social exchange relationships that supervisors form with their employees may be a key filter that shapes

employees' climate perceptions (Kozlowski and Doherty 1989). Second, service climate is a group construct, as is LMX differentiation. Kozlowski and Ilgen (2006, p. 107) noted that "leadership research needs to focus on more compelling criteria that target team-level outcomes." Indeed, LMX differentiation is essentially a lens on the nature of team leadership and its consequences. Third, whereas some types of leadership studied as an antecedent to service climate, such as transformational leadership, may rarely be displayed by leaders/managers, LMX differentiation is more typical. In fact, in the work environment, it is unrealistic to expect supervisors to establish uniform relationships with each employee.

We also examine how employee perceptions of another key focus of their interpersonal interactions, customers, may affect the relationship between employee perceptions of LMX differentiation and service climate. Specifically, we propose that the link between LMX differentiation and relationship conflict is moderated by customer variability. We chose customer variability as a moderator because variability in customer demands and participation, along with LMX differentiation that captures the relationship between leaders (management) and employees, reflects one of the three corners (i.e., management, employees, and customers) of the services marketing triangle (Bitner 1995; Grönroos 1990; Kotler 1994). Through an exploration of customer variability, we extend the services marketing triangle concept by providing insights into how customers influence the dynamics amongst employees (i.e., relationship conflict) that result from variability in leader–employee relationships.

Drawing on the notion of customer-induced uncertainty (Larsson and Bowen 1989), we define customer variability as an organization's deficient information regarding what, where, when, and how customer input will be used to produce desirable outcomes. Customer variability imposes high uncertainty in terms of customers' needs and their willingness to participate in

service delivery, which creates more variability in what employees must do to satisfy customers (e.g., there are more exceptions to organizational policies and procedures, more situations not fully covered by actions taken in prior situations, more ambiguities not resolved by occupational and professional norms, etc.). We advance that under such heightened uncertainty, employees must more frequently turn to their supervisors for guidance, only to realize more fully that leaders do not form uniform relationships with employees (e.g., not treating employees equitably in terms of willingness to help solve their problems and to stand behind them in difficult moments). This leads to greater social comparison and strained relationships among employees.

In sum, our study applies a social comparison perspective to suggest that leaders in service organizations need to be aware that under conditions of greater diversity of customer demands and variability of customer participation, LMX differentiation can differentially affect service climate because relationship conflict can be amplified or attenuated.

Mediating Role of Relationship Conflict between LMX Differentiation and Service Climate

Although leadership and service climate are intertwined, as Kozlowski and Doherty (1989, p. 546, italics added) have stated, "[t]here has been little concerted effort to specify the theoretical mechanisms linking the organizational processes of these constructs [leadership and climate] and virtually no empirical research." LMX differentiation is a dispersion construct (Chan 1998) because it focuses on the degree of within group variation that is present when a supervisor establishes different quality relationships with different group members (Erdogan and Bauer 2010). The key advantage of examining LMX differentiation over LMX quality or any other type of leadership (e.g., transformational, servant, or empowering leadership) is that LMX differentiation considers the social comparison that takes place in relationships among employees. Research in LMX differentiation has shown that when supervisors develop different

relationships with employees, this variability hinders citizenship behavior (Henderson et al. 2008; Vidyarthi et al. 2010) and obstructs relationships with coworkers (Erdogan and Bauer 2010). Ford and Seers (2006) have shown that perceived variability in LMX relates to higher levels of within group disagreement. Hooper and Martin (2008) reported that LMX differentiation leads to more team relational conflict due to social disparity and social categorization among employees (in-group vs. out-group). They also demonstrated that team relational conflict fully mediates the relationship between LMX differentiation and job satisfaction and well-being. We define relationship conflict at the unit level as the unit's shared perception of interpersonal incompatibilities among service employees, which includes affective elements such as friction, irritation, frustration, annoyance, and tension (Jehn 1995). Finally, Sherony and Green (2002) revealed that when two coworkers have dissimilar exchange relationships with their supervisors, this differentiation impairs the two coworkers' relationship. In sum, Erdogan and Bauer (2010, p. 1104) concluded that "…understanding how differentiation affects employees beyond their own relationship is a critical gap in the literature."

The dark side of LMX differentiation is consistent with the principles of distributive and procedural justice. Distributive justice as formulated by Adams (1965) is grounded in social comparisons of one's own input/outcome ratio to relevant others. Whereas outcomes distributed to achieve higher levels of individual performance are best distributed based on equity, outcomes distributed to build group cohesion are better served by distribution based on equality (Cropanzano, Bowen, and Gilliland 2007). When employees' social comparison processes reveal unequal treatment from a supervisor, group cohesion may be strained. Additionally, the psychology of procedural justice suggests that supervisor neutrality (impartiality) is a critical element that affects justice perceptions and group dynamics (Tyler 1989). Additionally, when

people engage in social comparisons that lead to an in-group versus out-group, this division

deters communication and collaboration, and raises tension and conflict (Turner et al. 1987).

Finally, when group members vary in their interpretation and perception of the work

environment, this variability leads to lower cohesion (Harrison, Price, and Bell 1998) and more

conflict among group members (Pelled 1996). Based on the above arguments, we propose the

following:

H1: LMX differentiation, after controlling for LMX quality, is related positively to relationship conflict.

The literature on relationship conflict widely reflects the belief that relationship conflict

results in various detrimental outcomes (De Dreu and Weingart 2003; de Wit, Greer, and Jehn

2012). When a unit is stifled by relationship conflict, social interaction and learning among

employees suffer; this results in limited communication and collaboration (De Dreu and

Weingart 2003). Research suggests that relationship conflict has a negative impact on shared

affective experiences in a work team by increasing team tension climate and reducing team

enthusiasm climate (Gamero, González-Romá, and Peiró 2008). Because a unit's service climate

involves the shared interpretation of the importance of service climate attributes, relationship

conflict is expected to impair the positive perception that service excellence and delivery is

important. Some employees will hold a positive perception of service climate, while others will

not, which leads to a lower overall mean level of service climate.

In a work environment where employees need to collaborate with one another for

effective service delivery, de Jong et al. (2004) found that intrateam support bolsters self-

managing team (SMT) service climate. Further, relationship conflict is dysfunctional to healthy

employee–coworker relationships, impairing the support and cooperation necessary for

delivering excellent service (Wallace, Popp, and Mondore 2006). Relationship conflict curtails

the exchange and sharing of the pertinent customer information needed to provide customer-oriented solutions. When a unit is struggling to work in tandem to deliver service-focused care, employees as a whole will not have a positive perception of service climate. Based on the above discussions, we put forth the following:

H2: Relationship conflict is related negatively to service climate.

Combining H1 and H2, we argue that LMX differentiation has an indirect effect on service climate that is mediated by relationship conflict. Hooper and Martin (2008) have shown that team relationship conflict mediates the relationship between LMX differentiation and feelings of individual well-being such as job satisfaction. We extend the mediating role of relationship conflict that links LMX differentiation to individual employee reactions (e.g., job satisfaction) to collective perceptions of the work environment (e.g., service climate). We submit that relationship conflict mediates the relationship between LMX differentiation and service climate because LMX differentiation leads to more disharmony and tension among employees within a unit, which, in turn, prevents employees from seeing eye-to-eye on what service attributes are considered important (i.e., less positive service climate). As stated at the outset of this paper, our study takes the first step towards disentangling the relationship between variability in leader–member relationships and service climate by adopting a social comparison view transmitted through relationship conflict. Consequently, we advance the following:

H3: Relationship conflict mediates the relationship between LMX differentiation and service climate.

Moderating Role of Customer Variability

Argote (1982) introduced the concept of input uncertainty to move away from a general focus on task or environment to a focus on the particular elements of an organization's task environment. Her research site was hospital emergency units, so she presented customer inputs

as the principle source of uncertainty. Larsson and Bowen (1989) built upon these prior treatments to conceptualize input uncertainty at the customer–organization interface. Input uncertainty stems from customer variability in terms of the diversity of (1) customer demand and (2) customer disposition to participate. We define diversity of customer demand as the uniqueness of a customer's self or possessions that need to be serviced. Argote (1982) viewed diversity of demand in terms of how wide a range of customer conditions/inputs the hospital emergency units faced. We define customer disposition to participate as the extent to which customers intend to play an active role in supplying their own "labor" and information inputs to the service process. As Larsson and Bowen (1989) explain, building on Thompson (1962), the more a customer desires to participate, the higher the input uncertainty because employees and the organization have incomplete information about what the customer is willing, able, and likely to do prior to the service creation process actually getting underway (Chan, Yim, and Lam 2010).

In a high contact service environment such as healthcare, customers are likely to bring a host of divergent demands and requests along with varying levels of participation (Yang, Cheng, and Lin 2015). Drawing on the concept of input variability, customer variability captures the heterogeneous demands and participation that customers introduce as they interact with service employees. Recent research suggests that customer variability is a significant challenge that service organizations will have to address in order to deliver high service quality (Yang et al. 2015). To this effect, using the role of customer variability as a moderator in addition to the direct effect of LMX differentiation makes it possible to test the combined effect of variability not only from leaders and but also from customers.

When customers' desires to participate vary, as do their conditions requiring care, service providers face increasing uncertainty about what is expected of them in serving these customers.

In addition, this uncertainty results in service providers becoming more dependent on their supervisors to provide a satisfactory solution; there is a heightened likelihood that situations will arise that only the supervisor, not peers, can help resolve. This suggests that with greater customer variability comes an elevated need for a closer collaborative relationship with supervisors to cope with that variability. That is, employees need to turn to their supervisors for assistance in times of increased customer input uncertainty brought about by customer variability. However, employees understand that the leader does not form equal relationships with employees, and employees make social comparisons with other employees as a result of being aware of differential supervisor treatment; this amplifies the positive impact of LMX differentiation on relationship conflict. Based on the preceding arguments, we propose:

H4: The positive effect of LMX differentiation on relationship conflict will be stronger as customer variability increases.

Conditional Indirect Effect

We integrate H3 and H4 to arrive at a moderated mediation effect wherein the extent to which relationship conflict mediates the relationship between LMX differentiation and service climate varies at different levels of customer variability. As Edwards and Lambert (2007, p. 6) maintain, moderated mediation refers to "a mediated effect that varies across levels of a moderator variable." Since relationship conflict increases as a result of greater LMX differentiation under more customer variability, we submit that relationship conflict will be a stronger mediator linking LMX differentiation to service climate when customer variability is high (compared to low). When customer variability is low, LMX differentiation results in little relationship conflict, thereby weakening the mediating role of relationship conflict. Formally stated, we propose:

H5: Customer variability moderates the indirect effect of LMX differentiation on service climate through relationship conflict such that relationship conflict is a stronger mediator when customer variability is high (vs. low).

Research Method

Research Context, Sample, and Data Collection

The research context we chose for this study is hospitals. In health care services, patient care requires iterative coordination and interaction among medical professionals and, more importantly, medical care can be very time sensitive, especially for patients who demand urgent attention. A positive service climate in a health care unit may not only be helpful in overcoming coordination difficulties but may also be instrumental in healthcare professionals' responses to patients with diverse needs. As previously stated, despite an abundance of research that has shown what contributes to health care professionals' positive views of service climate, there is very limited evidence regarding the factors that impair health care professionals' interpretation of service climate in a positive light.

The data employed in this study come from a larger project conducted in two hospitals located in Istanbul, Turkey. We tested our hypothesized model with data collected from nurses employed in these two hospitals. We contacted hospital management and head nursing managers for permission to survey nurses across 56 units (Hospital A: 35 units; Hospital B: 21 units). A contact person at each hospital distributed the survey packets (Hospital A: 347 nurses; Hospital B: 190 nurses), which included an introductory letter, the survey, and a return envelope. Each survey and return envelope had a special code to identify the unit membership of the respondents. The introductory letter explained the purpose of the study, assuring respondents of the complete anonymity and confidentiality of their responses. The nurses responded to the survey during their office hours and returned the completed survey in the envelope to the contact

person. After two follow-ups, we received usable surveys from 276 nurses (Hospital A: 159; Hospital B: 117) across 56 units. We received at least three nurse surveys from each unit (responses ranged from 3 to 10 nurses), with an average of 4.9 nurses per unit. The overall response rate was 54 percent (Hospital A: 46%; Hospital B: 62%). The final sample included nurses who work in a variety of specialized units including cardiology, psychiatry, surgery, pediatrics, radiology, neurology, and emergency medicine.

Ninety-five percent of the nurses were female. The average age was 32 years, and eighty-four percent had college degrees. On average, the nurses had 10 years of career tenure, 8 years of hospital tenure, and 6 years of unit tenure. Except for nurses' unit tenure ($t = 1.99$, $p < .05$), hospital membership did not result in statistically significant differences in terms of the nurses' demographics; therefore, we controlled for nurses' unit experience in further analyses.

Survey Preparation and Measures

We conducted the survey in Turkish. Since a Turkish version of the scales used to measure the constructs was not readily available, we prepared the survey first in English. We then employed Brislin, Lonner, and Thorndike's (1973) three-stage back translation procedure. First, all the scale items were translated into Turkish by a marketing professor. Second, the Turkish version of the scale items was translated back into English by another marketing professor. Finally, a third bilingual marketing professor compared the Turkish and English versions of the scale items for consistency and accuracy. The survey was ready after certain modifications were made.

In designing the survey, we paid particular attention to the following (Podsakoff et al. 2003). First, in order to reduce evaluation apprehension, the survey began with an opening statement that there were no right or wrong responses to any of the survey statements. Second,

we assured the respondents that they would remain anonymous and that their responses would be kept strictly confidential and be used only for academic research purposes. Third, the measures in the survey did not follow the same order as they appeared in the proposed model so that we could control for priming effects and item-context-induced mood states (Podsakoff et al. 2003).

The measures of the constructs and their respective scale items are reported in Appendix 1. All scales were measured with a five-point Likert scale (1-strongly disagree; 5-strongly agree).

Focal Constructs. We measured the nurses' perceived quality of their relationships with their units' head nurse (i.e., LMX Quality) with a seven-item scale borrowed from Liden, Wayne, and Stilwell (1993). This scale, also known as LMX-7, was originally developed by Scandura and Graen (1984) and has been widely used by researchers in a variety of country contexts such as the US, Turkey, and China (e.g., Erdogan and Bauer 2010; Liao et al. 2010). The original scale has been adapted and reworded by researchers (Bauer and Green 1996; Liden et al. 1993) to make it suitable for Likert-type anchoring. Since Liden et al.'s (1993) scale items use the word 'supervisor,' we changed the term 'supervisor' to 'head nurse' to fit the scale items to our research context. LMX Differentiation is a group-level construct which is derived from LMX quality. In line with previous studies (e.g., Erdogan and Bauer 2010), we computed within-unit variance to operationalize LMX differentiation.

Relationship conflict was measured with a five-item scale (1- none; 5-a lot) borrowed from Jehn's (1995) study of intragroup conflict. We measured service climate with four items borrowed from Salanova, Agut, and Peiró (2005). We replaced the word 'customer' with the word 'patient' so that the wording of the scale items would be relevant to the context of our study. We measured customer (patient) variability with a five-item scale borrowed from

Chowdhury and Endres (2010). They developed and used this scale specifically to measure patient variability.

Control Variables. We included control variables at the unit level. Estimating the hypothesized relationships by taking into account the influence of other variables is an established way of ruling out alternative explanations (Carlson and Wu 2012; Spector and Brannick 2011). Keeping in mind that an excessive number of control variables may reduce statistical power and, in fact, generate a suppression effect, we chose control variables based on their theoretical relevance and significant zero-order correlations with the core variables in the model (Carlson and Wu 2012; Spector and Brannick 2011). The Input-Process-Output (IPO) framework of group effectiveness identifies that group-level processes and/or emergent states such as relationship conflict and service climate are influenced either positively or negatively by group input variables such as job design, interdependence (i.e., task interdependence, outcome interdependence), group composition (i.e., size, tenure), and group social context (i.e., supervisory behavior, social exchange relationships between supervisor and coworkers) (Marks, Mathieu, and Zaccaro 2001). In estimating relationship conflict and service climate, we controlled for unit size, unit level mean of tenure (in years), unit level mean of LMX quality, task interdependence, and outcome interdependence.

First, it may be difficult to maintain task coordination among service employees in larger groups, which increases the likelihood of relationship conflict (Pelled 1996). As large groups are potentially more diverse in terms of employees' skills, knowledge, and abilities, group-level agreement on service climate may not be reached. Second, longer group tenure may decrease social comparison and categorization across employees and, in turn, reduce relationship conflict (Pelled 1996). In addition, when average group tenure increases, it is likely that employees'

views, beliefs, and perceptions in relation to service climate will converge. In groups with task and outcome interdependence among employees, relationship conflict may arise due to likely problems associated with the allocation of responsibilities, coordination, and cooperation among employees (Pelled 1996). Yet, in groups where employees are interdependent in their tasks and outcomes, group-level agreement on the extent of service climate is likely to be higher. Task interdependence was measured with three items adopted from Campion, Medsker, and Higgs (1993) and Sethi (2000). Outcome interdependence was measured with a four-item scale adapted from Sethi (2000). Because we collected data from two hospitals, we created a dummy variable for hospitals (Hospital A = 1; Hospital B = 0) to include in our analyses.

Measurement Model

We performed confirmatory factor analysis (CFA) to assess the validity and reliability of the model's multi-item constructs. CFA revealed a good fit to the data (χ^2 = 628.7, df = 335, GFI = .900, TLI = .924, CFI = .933, RMSEA = .056). All factor loadings were equal to or greater than .70 and statistically significant. The composite reliability values were greater than .70, and the AVE values were greater than .50. Accordingly, these findings provide evidence for the convergent validity of the constructs (Bagozzi and Yi 1988). In addition, the square root of a construct's AVE score was higher than the construct correlations (Fornell and Larcker 1981). We found a significant chi-square difference between the constrained and unconstrained model for each pair of constructs (i.e., $\Delta\chi^2$ > 3.84) (Anderson and Gerbing 1988), which lends statistical support to the discriminant validity of the constructs.

Common Method Bias

Common method bias (CMB) in survey-based research with cross-sectional, single respondent data is likely to generate bias in the estimation of the hypothesized relationships.

CMB is prevalent in direct effect relationships in particular. Following Podsakoff et al. (2003), we tested the presence and the magnitude of common method bias by including an unmeasured latent method factor in the measurement model (i.e., traits and method model), which loads on all the items of the focal constructs.

The measurement model with the method factor indicates good fit to the data (χ^2 = 512.58, df = 307, GFI = .918, TLI = .941, CFI = .954, RMSEA = .049). The chi-square difference between the measurement model with and without a method factor is statistically significant ($\Delta\chi^2$ = 78.7, Δdf = 28, p < .001). Decomposition of the variance into trait, method, and unique sources reveals that 81 percent of the variance was due to the trait factors (i.e., the constructs), 4 percent of the variance was accounted for by the method factor, and 15 percent of the variance was due to unique sources (cf. Carson 2007). These findings indicate that the method factor is relatively small in magnitude and does not impose a major threat to the measures of this study. Nevertheless, the variance explained by the method factor is much less than the median of method variance (approximately 25%) reported by meta-analytic studies (Cote and Buckley 1987; Williams, Cote, and Buckley 1989) and comparable with those studies published in the marketing literature (e.g., Carson 2007; Kim, Cavusgil, and Calantone 2006). Researchers have demonstrated that "interaction effects cannot be artifacts of common method variance" (Siemsen, Roth, and Oliveira 2010, p. 456) and method bias is likely to suppress otherwise significant interaction effects. As we report in the results section, the interaction effect of LMX differentiation with patient variability on relationship conflict is statistically significant, thereby further eliminating concerns regarding common method bias in our data.

Data Aggregation and Level of Analysis

As we operationalized the model's constructs at the unit level, we aggregated nurses' responses on these scales to compute a single score for each unit. We computed the within-unit agreement (i.e., median r_{wg}), the between-unit variability (i.e., ICC(1), F-test), and the reliability of unit-level means (i.e., ICC(2)) to justify data aggregation. As we report in Table 1, the ICC(1) values and F-test results indicate sufficient between-unit variability (LeBreton and Senter 2008). The within-unit agreement values were well above the threshold of .70 (LeBreton and Senter 2008). Although the ICC(2) values for task interdependence and patient variability were less than desirable, the high within-unit agreement scores and F-test results suggest that data aggregation was statistically justifiable (LeBreton and Senter 2008). Table 2 reports the descriptive statistics and intercorrelations among the constructs at the unit level.

[Insert Tables 1 and 2 here]

Analytical Approach

We have compared our base model with an alternative model (LMX Differentiation → Unit Service Climate → Unit Relationship Conflict) to check whether the relationship between relationship conflict and service climate is consistent with our proposed model. Our base model has higher fit indices and lower AIC (Akaike information criterion) and BIC (Bayes information criterion) values than the alternative model, suggesting that our model provides a better fit to the data than the alternative model (Our model: $\chi^2 = .312$, p-value = .577, df = 1, GFI = .996, TLI = 1.0, CFI = 1.0, RMSEA = .000, AIC = 10.312, BIC = 20.438; Alternative Model: $\chi^2 = 5.649$, p-value = .017, df = 1, GFI = .939, TLI = -.418, CFI = .506, RMSEA = .291, AIC = 15.649, BIC = 25.776). These findings suggest that the causality is from unit relationship conflict to unit service climate rather than from service climate to relationship conflict.

Our model proposes three sets of relationships: (1) direct effects (LMX differentiation→ relationship conflict→ service climate) (Hypotheses 1 and 2); (2) the moderating role of patient variability in the relationship between LMX differentiation and relationship conflict (Hypotheses 4 and 5); and (3) the mediating role of relationship conflict in the LMX differentiation–service climate relationship (Hypothesis 3).

We test the hypotheses that posit direct and moderated effects by using a hierarchical regression technique. We first estimate the relationship conflict model, through which we test the direct (Hypothesis 1) and moderated effects (Hypothesis 4) of LMX differentiation on relationship conflict. We used the mean-centered values of LMX differentiation and patient variability to create the interaction term (i.e., LMX differentiation x patient variability). Mean-centering enables easier interpretation of the direct (main) and interaction effects (Aiken and West 1991). Second, we estimate the service climate model, which tests the relationship between relationship conflict and service climate (Hypothesis 2).

We used the PROCESS macro in SPSS (Hayes 2013) to test Hypothesis 3. Zhao, Lynch, and Chen (2010) have recommended that researchers test mediation effects by using the indirect effect approach. The PROCESS macro is preferable to Sobel's test because the PROCESS macro estimates indirect effects by bootstrapping, which mitigates the problem of a non-normality violation of the indirect effect (Preacher, Rucker, and Hayes 2007). We tested Hypothesis 5 according to a first-stage moderation model (or moderated mediation model in Preacher, Rucker, and Hayes's (2007) terminology) as the moderating effect applies to the first-stage of the indirect effect of LMX differentiation on service climate (cf. Edwards and Lambert 2007). Thus, we further examine the conditional indirect effect of LMX differentiation on service climate by using the PROCESS procedure.

Results

Table 3 reports the results. The estimated final models explain 39 percent of the variance in relationship conflict and 51 percent of the variance in service climate. The effect size (Cohen's f^2) for the relationship conflict and service climate models is 14 and 10, respectively. The VIF values are well below the threshold of 10 (Neter, Wasserman, and Kutner 1985), which indicates that multicollinearity is not an issue (highest = 1.741, lowest = 1.048). We now present the results of our hypothesized model in detail.

[Insert Table 3 about here]

Direct and Mediated Effects. We found that LMX differentiation is related positively and significantly to relationship conflict (b = .303, p <.05) and relationship conflict is related negatively and significantly to service climate (b = -.155, p < .05). Hence, Hypotheses 1 and 2 are supported.

The indirect effect of LMX differentiation on service climate through relationship conflict is -.060 (SE = .030), and the confidence interval (CI) for the indirect effect did not include zero (95% bootstrap CI [-.146, -.004], p < .05), supporting a statistically significant indirect effect. The direct effect of LMX differentiation on service climate was not significant (b = .146, ns). These findings together provide statistical evidence for an indirect-only (i.e., full) mediation (Zhao et al. 2010). Overall, relationship conflict mediates the (indirect) relationship between LMX differentiation and service climate, which supports Hypothesis 3.

Interaction Effects. Hypothesis 4 posits that the positive effect of LMX differentiation on relationship conflict will be stronger as patient variability increases. The interaction effect of LMX differentiation and patient variability is related positively and significantly to relationship conflict (b = .964, p < .05). Simple slope tests reveal that at low levels of patient variability,

LMX differentiation is not related to relationship conflict (b = -.053, t = -.270, ns), whereas

LMX differentiation is related positively and significantly to relationship conflict at high levels

of patient variability (b = .795, t = 2.498, p < .05). These findings support Hypothesis 4. Figure 2

shows the interaction effect of LMX differentiation and patient variability on relationship

conflict.

[Insert Figure 2 about here]

Moderated Mediation Effect. Hypothesis 5 was tested by analyzing the indirect effect of

LMX differentiation on service climate through relationship conflict at low (-1 SD from the

mean) and high (+1 SD from the mean) patient variability. Table 3 shows that at high levels of

patient variability, the indirect effect of LMX differentiation on service climate through

relationship conflict is -.129 (SE = .061) and that the confidence interval (CI) for the indirect

effect excludes zero (95% bootstrap CI [-.307, -.023], p< .05). This supports a statistically

significant indirect effect. At low levels of patient variability, however, the indirect effect of

LMX differentiation on service climate through relationship conflict is .008 (SE = .046) and the

confidence interval (CI) for the indirect effect includes zero (95% bootstrap CI [-.092, .092], ns).

This indicates a nonsignificant indirect effect. Collectively, these results suggest that relationship

conflict mediates the relationship between LMX differentiation and service climate when patient

variability is high but not when it is low, which supports Hypothesis 5.

Control Variables. Table 3 (Models 3 and 6) indicates that outcome interdependence is

related negatively to relationship conflict (b = -.552, p < .01) but not related to service climate (b

= .012, ns). Task interdependence is not related to relationship conflict (b = .078, ns) and service

climate (b = -.126, ns). Unit-level LMX is not related to relationship conflict (b = .035, ns) but is

related positively to service climate (b = .370, p < .01). Unit tenure is not related to relationship

conflict (b = .004, ns) but is related positively to service climate (b = .005, p < .01). Unit size is

related positively to both relationship conflict (b = -.057, p < .05) and service climate (b = -.041,

p < .01). Finally, Hospital B is more associated with relationship conflict (b = .320, p < .05) and

service climate (b = .162, p < .05) than Hospital A.

Discussion

This study explores possible missing links in climate formation. Reviews of the service

climate literature (Bowen and Schneider 2014; Hong et al. 2013) revealed no linkage variables

between the antecedents of service climate and service climate formation. Specifically, we

explored the relationship between LMX differentiation, a typical leadership practice

characterized by variability in the social exchange relationships service employees develop with

their supervisors, and the service climate perceptions that employees form. We now turn our

attention to the theoretical implications of our findings, followed by managerial insights, and

discuss how results from this study contribute to the service climate and LMX differentiation

literatures.

Contributions to theory

We derive five important theoretical implications from our study. First, the present study

answers the call for further research on the intersection between leadership theory and climate

theory, which can then inform the process of climate formation. The present study is the first to

take initial steps towards expanding the current state of knowledge on the outcome of LMX

differentiation, taking it beyond its effect on job performance and OCB (Vidyarthi et al. 2010),

work attitude, coworker relationships, and withdrawal behavior (Erdogan and Bauer 2010) to

service climate. Service climate and LMX differentiation both entail a social dimension, and

when service employees sense that supervisors form different social exchange relationships with

employees, a less positive perception emerges regarding what is important, expected, and rewarded in terms of service climate attributes. In short, this study contributes to building a theoretical framework for service climate research from a leadership perspective.

Second, our study was able to explicate why LMX differentiation leads to a lower level of service climate. Our findings show that relationship conflict is the mediator, a heretofore "missing link" in the relationship between LMX differentiation and service climate. While the literature has focused on the bright side of leadership as a positive influence on climate, our study reveals a previously under-explored dark side. When service employees sense that supervisors develop different quality relationships with subordinates, this often results in the formation of in-groups and out-groups. The mediating role of relationship conflict is consistent with findings that underscore the potential deleterious impact of social comparison that can occur amongst employees, thereby leading to heightened relationship conflict. Our results contribute to the growing body of research (e.g., Erdogen and Bauer 2010; Henderson et al. 2008; Vidyarthi et al. 2010) on the problems associated with LMX differentiation from a social integration perspective.

Further, we extend the work of Hooper and Martin (2008) by confirming that relationship conflict plays a pivotal intervening role in that it broadens the scope of the outcome of LMX differentiation from individual well-being to a collective perception of the work environment (i.e., service climate). However, there are two important differences between our study and theirs that allow our research to make a unique contribution to the literature. First, the dependent variable is different. Hooper and Martin (2008) examined the negative effect of LMX differentiation on employee job satisfaction and well-being while our study shows how unequal relationships with employees can affect employees' collective perception of service climate.

Second, our model and findings extend the consequences that result from the LMX

differentiation-relationship conflict linkage from the individual level to the group (i.e., unit)

level. This is important because it shows that LMX differentiation channeled through

relationship conflict impairs not only individuals' attitudes but also group perceptions towards

the workplace.

Third, we identify customer variability as a moderator between LMX differentiation and

relationship conflict. Customer variability, a hybrid external-internal environmental source of

input uncertainty, exacerbates the positive effect of LMX differentiation on relationship conflict.

Research on customer participation shows that an increase in customer participation puts an

emotional and cognitive strain on service employees because customers introduce and bring

variability in terms of capability and effort (Yim, Chan, and Lam 2012). In such situations,

service employees look for support and direction from their supervisors, only to realize that

leaders have formed different quality relationships with employees. Greater patient variability

evokes social comparison, which results in more relationship conflict from LMX differentiation.

Furthermore, most studies of service climate examine how it impacts customers (e.g.,

Bowen and Schneider 2014; Hong et al. 2013). In contrast, our study takes a reverse approach by

exploring how customers, as sources of input uncertainty, affect service climate by increasing the

negative effects of LMX differentiation. Indeed, it has been recently proposed that more research

be done on how customers co-create service climates as the social contexts in which they

participate while simultaneously co-creating their experience (Bowen and Schneider 2014). This

perspective integrates the inward and outward views of customer–organization interactions as the

ongoing, mutually interactive processes of a naturally occurring system.

Fourth, our model integrates mediation and moderation to show a moderated mediation

effect where relationship conflict as a mediator plays a different role contingent on the level of customer variability. More specifically, relationship conflict emerged as a mediator between LMX differentiation and service climate when customer variability was high but not low. This suggests that customer variability exacerbates the negative effect of LMX differentiation on relationship conflict and, accordingly, shows that when leaders have different social exchange relationships with employees under heightened customer variability, service climate suffers due to more pronounced relationship conflict.

Fifth, our results shed light on how leader–member exchange variability and customer variability contribute to theories concerning how the "consistency" of signals that employees receive affects the formation of their perceptions of service climate. For example, Hong et al. (2013), drawing upon Bowen and Ostroff's (2004) work on the concept of the strength of HR systems, have noted that a mix of service-oriented HR practices sends a more "consistent" message about service emphasis than general HR practices. In turn, "consistency" helps shape a stronger climate (Bowen and Ostroff 2004). Our results demonstrate how variability (i.e., inconsistency of leaders' relationships with members and high levels of customer input uncertainty) can have a negative influence upon service climate. An interesting theoretical extension is to consider how much variability a strong climate can actually take?

Managerial Implications

It is imperative that managers fully understand how their own leadership affects service climate and puts in motion, or hampers, the positive consequences that follow. Leadership is not just a matter of consciously sharing a vision or highlighting service goals, although it is vital to know how positively such leadership affects service climate. It is also important for leaders to understand that their nearly universal, and often unconscious, practice of forming different levels

of relationship quality with subordinates can create relationship conflict that has negative

consequences on service climate, and that this is worsened in conditions of high customer

variability, which is typical in services of even modest complexity. To avoid and/or manage

relationship conflict in a unit, it is useful to employ upward and 360-degree feedback among

team members and managers (Walker et al. 2008). Using multi source feedback such as 360-

degree appraisals can identify points of conflict among employees and managers. HR staff could

then help parties resolve their differences and help design training programs to reduce the issues

and behaviors that give rise to conflict.

Relationship conflict within a unit's link to service climate is increasingly relevant given

that service organizations are increasingly reliant upon teams in today's business world (Benlian

2014; Emery and Fredendall 2002). For example, the trend towards using teams in the healthcare

industry to deliver higher quality patient care and satisfaction is evident (McColl-Kennedy et al.

2012; Nembhard and Edmondson 2006; Shortell et al. 2004). Overall, services high in customer

variability (i.e., customer's needs and demands are diverse and customers desire to voice their

opinion in service delivery and do things to serve themselves) tend to involve high

interdependencies among team members and with customers (Larsson and Bowen 1989); thus,

teams are a useful coordination mechanism. As a result, avoiding and managing conflict within a

team may be a necessity and, given our results, is important for creating a positive service

climate.

The services marketing triangle (Bitner 1995; Grönroos 1990; Kotler 1994), in which

Managers, Employees, and Customers anchor the three sides, can help frame the implications of

our results. Our focus is on employees' perceptions of managers, in terms of the unequal

relationships mangers form with them, and employee perceptions of customers, in terms of the

variability of their inputs. Though not tested here, we accept the logic of the triangle that all three sides must be in alignment. Thus, challenges arising from employee–manager relationships and employee–customer interactions can compromise what management and/or the organization can accomplish in "keeping the promise" to customers (company–management–customers). Indeed, it is the service climate that ideally helps align the three sides.

Limitations and Future Research Directions

Although our hypotheses received support, our model has limitations that provide a springboard for future research possibilities. The mediating mechanism in our conceptual model was relationship conflict; however, there could be other important mediators that our model did not capture. One example is justice climate.

As previously discussed, one of the mechanisms that explains why LMX differentiation impairs service climate may be the unfair treatment service employees perceive from their supervisors. Therefore, it would be of theoretical interest to examine whether LMX differentiation's adverse effect on service climate is channeled via justice climate. Bowen and Schneider (2014) noted that organizations are comprised of multiple climates such as content climate (e.g., innovation and service) and process climate (e.g., justice, ethics). They cite Kuenzi and Schminke (2009, p.6) who argued: "Exploring single climates in isolation is unlikely to be the most productive path to creating a full and accurate understanding of how work climates will affect individual and collective outcomes within organizations."

Our results also suggest possible extensions to the substitutes for leadership model (Kerr and Jermier 1978). For example, building group cohesion, an organizational substitute, can help buffer the negative effects of the leader forming unequal relationship with the members of his/her group. In addition, when service employees cannot rely on supervisors for support, they

may turn to customers. This line of thought can be interpreted as "customers as substitutes for leadership in service organizations" (Bowen 1983), a substitute that goes beyond task, group, and organization.

In the healthcare context, healthcare providers typically differentiate between providing superior treatment (i.e., technical service quality) and patient-oriented service that is friendly and empathetic (i.e., functional service quality) (Grönroos 1983). In service industries where there is significant information asymmetry between the service provider and customers (e.g., healthcare, financial investment), it is important that service climate captures both technical and functional service quality. Unfortunately, our study's service climate construct was not able to tease out the two and differentiate whether management's focus was on quality treatment or superior service.

From a methodological perspective, although our study demonstrated little evidence of common method bias, it relied on a single source for data collection. Our study would have benefited from the inclusion of multiple respondents, particularly customers. However, in the health care industry, obtaining responses from patients is becoming increasingly difficult due to health care institutions' efforts to protect patient privacy. Finally, a cross-sectional design does not provide us with concrete evidence about causality between relationship conflict and service climate. Future researchers should conduct longitudinal research to investigate the reciprocal relationships between relationship conflict and service climate.

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Table 1- Data Aggregation Statistics

Variables	ICC(1)	ICC(2)	r_{wg}	F-test
LMX Quality	.22	.58	.96	2.35**
Relationship Conflict	.39	.77	.86	4.12**
Service Climate	.21	.57	.94	2.33**
Task Interdependence	.11	.38	.88	1.54**
Outcome Interdependence	.17	.50	.95	2.01**
Patient Variability	.13	.37	.92	1.49*

*p <.05; **p < .001

Table 2- Descriptive Statistics and Intercorrelations

Variables	1	2	3	4	5	6	7	8	9
1. Unit Size									
2. Unit Tenure	.576**								
3. Unit Level LMX	.159**	.068							
4. Relationship Conflict	-.071	.038	-.268**						
5. LMX Differentiation	.136*	.142*	-.419**	.379**					
6. Task Interdependence	.205**	.102	.227**	-.031	.122*				
7. Outcome Interdependence	-.114	-.045	.258	-.346**	-.225	.426**			
8. Customer Variability	-.111	-.344**	.167**	.061	-.170**	.387**	.284*		
9. Service Climate	-.049	.301**	.495**	-.287**	-.138*	.171**	.276*	.243**.	
Mean	10.36	6.15	3.89	2.25	.90	3.70	3.13	3.64	3.09
SD	4.21	3.76	.54	.60	.61	.50	.53	.46	.37

N = 56
*p <.05; **p < .01 (two-tailed test)

Table 3-Results

	Unit Relationship Conflict			Unit Service Climate		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	4.395**	4.119**	3.834**	1.801**	2.484**	2.539**
Hospital[a]	.346*	.334*	.320*	.172*	.164*	.162*
Unit Size	-.049*	-.057*	-.057*	-.028*	-.035**	-.041**
Unit Tenure	.004	.004	.004	.004**	.005**	.005**
Unit Level LMX	-.231	-.074	.035	.341**	.305**	.370**
Patient Variability	.196	.279	.480*	.228*	.258*	.304*
Task Interdependence	.133	.006	.078	-.089	-.069	-.126
Outcome Interdependence	-.503**	-.433*	-.552**	.076	-.002	.012
LMX Differentiation		.303*	.371**			.146
LMX Diff * Patient Variability			.964*			-.013
Unit Relationship Conflict					-.155*	-.198**
R^2	.242	.310	.393	.460	.513	.556
R^2 change	-	.068	.082	-	.053	.044
F-model	2.188*	2.641*	3.303**	5.842**	6.200**	5.643**
F-change	-	4.648*	6.242*	-	5.159*	2.174
Effect size[b] (Cohen's f^2)	-	.10	.14	-	.11	.10
Power[c]	-	.63	.77	-	.68	.52

Conditional indirect effect(s) of LMX Differentiation on Unit Service Climate at
Low and High Levels of Patient Variability

Mediator	Patient Variability	Effect	Boot SE	Lower Limit of CI	Upper Limit of CI
Unit Relationship Conflict	-1SD	.008	.046	-.092	.092
Unit Relationship Conflict	0	-.060	.030	-.146	-.004
Unit Relationship Conflict	+1SD	-.129	.061	-.307	-.023

N = 56
[a]Dummy variable (1-Hospital A; 0-Hospital B)
[b] Effect size is calculated using the formula (Cohen et al. 2003): $f^2 = (R^2_{Model\ B} - R^2_{Model\ A}) / (1-R^2_{Model\ B})$. Cohen et al. (2003) identify $f^2 = .02$ as a small effect, .15 as a medium effect, and .35 as a large effect.
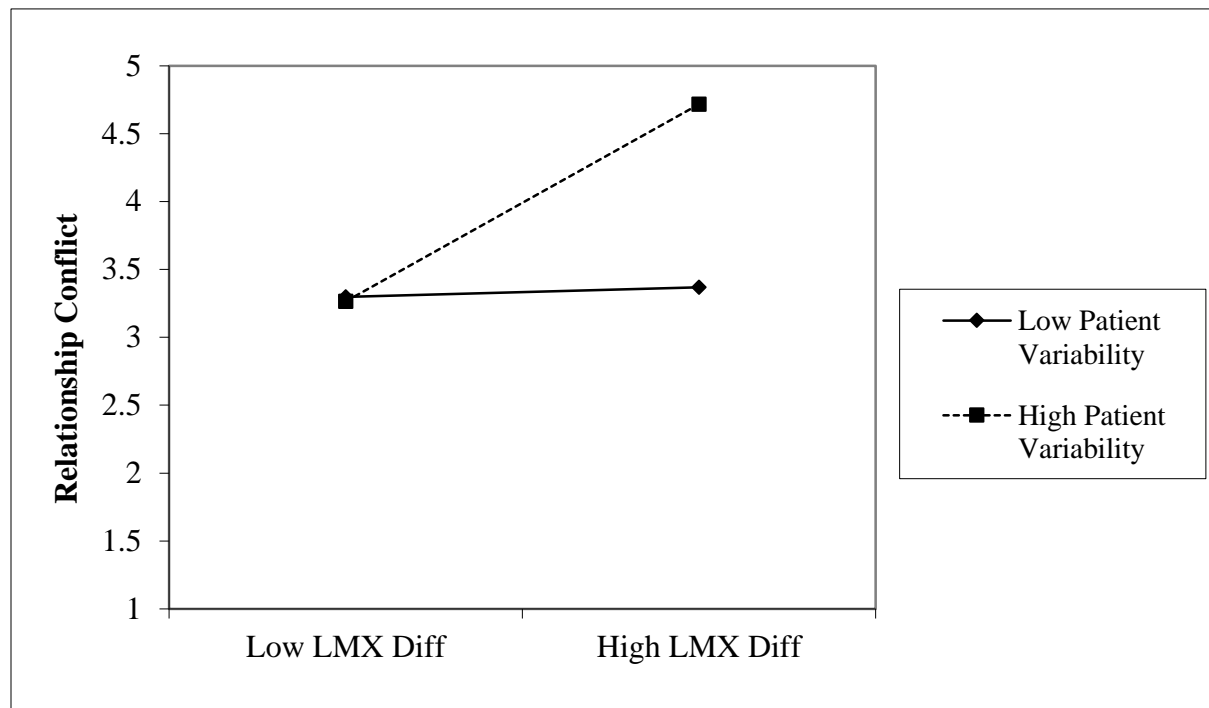[c]Power (1-β err prob) was computed by using G*Power 3.1 Software (Faul et al. 2007)
Boot SE = Bootstrapped standard error; CI = Confidence interval
*p <.05; **p < .01 (two-tailed test)

Figure 1
Hypothesized Model
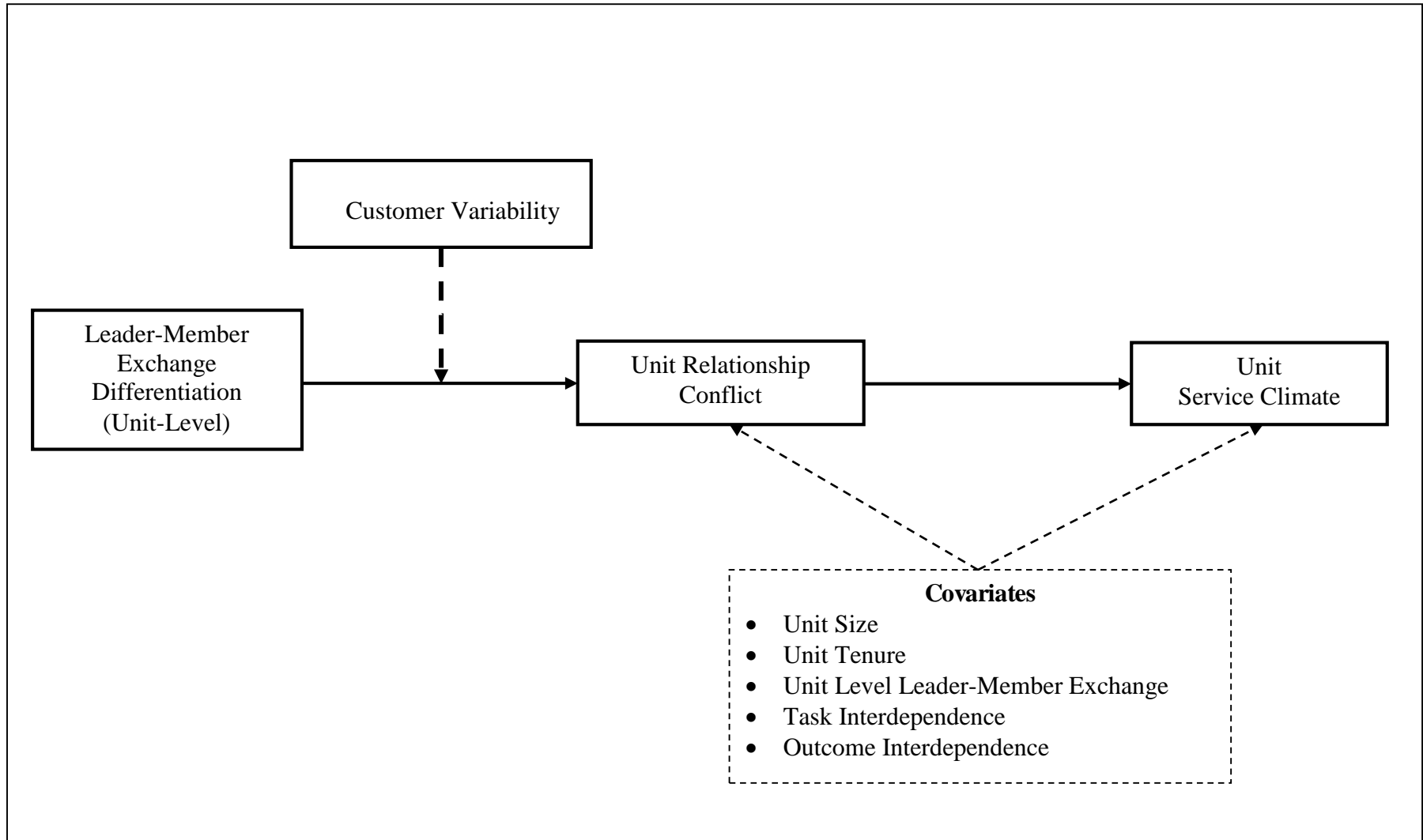
Figure 2
The Moderating Role of Patient Variability in the LMX Differentiation-Unit Relationship
Conflict Relationship

Appendix

Measures	Factor Loadings
Leader-Member Exchange (Source: Liden, Wayne, and Stilwell 1993)	
(α = .94; CR = .94; AVE = .69)	
I know where I stand with the head nurse	.560
Head nurse understands my work problems and needs	.913
Head nurse recognizes my potential	.848
Head nurse would use his/her power to solve my work problems	.879
I can count on the head nurse to "bail me out" when I really need it	.862
I defend head nurse's decisions, even when (s)he is not around	.817
My working relationship with the head nurse is effective	.892
Relationship Conflict (Source: Jehn 1995) (α = .93; CR = .93; AVE = .73)	
How much friction is there among nurses in your unit?	.862
How much are personality conflicts evident in your unit?	.873
How much tension is there among nurses in your unit?	.915
How much emotional conflict is there among nurses in your unit?	.854
How much jealousy or competition is there among nurses in your unit?	.775
Task Interdependence (Source: Campion, Medsker, and Higgs 1993; Sethi 2000)	
(α = .78; CR = .79; AVE = .55)	
In this unit…	
Nurses cannot accomplish their tasks without knowledge and expertise from other nurses	.740
Nurses are dependent on the cooperation of other nurses to successfully do their jobs	.779
Tasks nurses perform are related to tasks performed by other nurses	.711
Outcome Interdependence (Source: Sethi 2000) (α = .81; CR = .82; AVE = .53)	
In this unit…	
Nurses' performance evaluation depends on how well the unit performs	.699
Nurses' rewards and gains are determined largely by their contributions to unit performance	.817
Nurses are accountable for their contributions to unit performance	.701
Nurses are responsible for their contributions to unit performance	.709
Service Climate (Source: Salanova, Agut, and Peiró 2005) (α = 82; CR = .82; AVE = .53)	
In this unit…	
We have knowledge of the job and the skills to deliver superior quality care and service	.632
We receive recognition and rewards for the delivery of superior care and service	.721
The overall quality of service provided by our unit to patients is excellent	.761
We are provided with necessary resources to support the delivery of quality care and service	.786
Patient Variability (Source: Chowdhury and Endres 2010) (α = .83; CR = .84; AVE = .52)	
Patient participation varies extensively in my work to provide patient care	.855
Needs of the patients I serve vary extensively	.718
I usually serve patients with diverse socio-demographic backgrounds	.595
I usually serve patients with diverse physical conditions	.563
I usually serve patients with diverse psychological conditions	.834

α = Cronbach's alpha; CR = Composite reliability; AVE = Average variance extracted