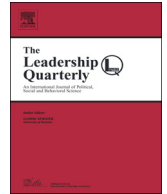


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A servant leader and their stakeholders: When does organizational structure enhance a leader's influence? ☆

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ABSTRACT

Accumulating evidence finds servant leadership is related to critical employee and organizational criteria, but only a limited amount of studies link servant leaders to both internal and external stakeholder outcomes. Moreover, there remains a great deal to learn regarding the conditions under which this influence is enhanced or diminished. We address these limitations in the literature by testing a multilevel model that hypothesizes servant leadership is related to nurse behavior and satisfaction as well as patient satisfaction. Further, drawing upon contingency theory, we test a contextual moderator, organizational structure, as a potential enhancer of the relationships between servant leadership and these outcomes. Using a sample of 1485 staff nurses and 105 nurse managers at nine hospitals, we demonstrated that servant leadership is directly related to more nurse helping and creative behavior, and it is related to patient satisfaction through nurse job satisfaction. Also, organizational structure acted as a moderator to enhance the influence of servant leadership on creative behavior as well as patient satisfaction through nurse job satisfaction. Limitations and future research directions are discussed.

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1. Introduction

Leadership does not occur in a vacuum. It is exercised in a particular context in relation to the people in that context. Contingency and person-situation theories of leadership purport that the effectiveness of a leader's influence on others depends on the interaction of a leader's behavior with characteristics of the context (Avolio, 2007; Yukl, 2013). Hackman and Wageman (2007, p. 43–44) argue that central questions for leadership research are as follows: "Under what conditions does leadership matter?" and "How do leaders' personal attributes interact with situational properties to shape outcomes?" Although there is a movement in leadership research and practice to explore and emphasize prosocial and other-oriented leadership in comparison to egoistic alternatives (Rynes, Bartunek, Dutton, & Margolis, 2012), the boundary conditions of the positive influence of such leadership are relatively unknown. Servant leadership is a pro-social form of leadership that is receiving promising support for its positive associations with important follower attitudes and behaviors as well as unit and organizational outcomes (e.g. Hunter et al., 2013; Liden, Wayne, Liao, & Meuser, 2014; Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008). Yet, additional research is necessary to understand servant leadership's associations with additional outcomes and the conditions in which it has its greatest positive influence.

The defining feature of servant leadership is its focus on benevolent service to others (Graham, 1991; Parris & Peachey, 2013; Sun, 2013; van Dierendonck, 2011). The servant leader, in contrast to the self-interested leader, puts employees first and promotes their well-being and growth (Fehr & Gelfand, 2012; Greenleaf, 1970, 1991; Sendjaya, 2015). The servant leader also

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looks beyond himself or herself and those employed by the organization to consider the interests of customers and the community (Ehrhart, 2004; Greenleaf, 1970, 1991; Liden, Wayne, Zhao, & Henderson, 2008). However, despite the aim of servant leaders to make an impact beyond the organization or its members, there is limited research supporting this assertion. Two notable exceptions demonstrate that servant leadership influences hair salon (Chen, Zhu, & Zhou, 2015) and restaurant customers (Liden et al., 2014), but to our knowledge no research exists exploring patients; patients differ from patrons of hair salons and restaurants in representing stakeholders who generally provide larger per person revenues to the organization and whose dissatisfaction may provide a greater risk in lawsuits or regulatory inquiries.

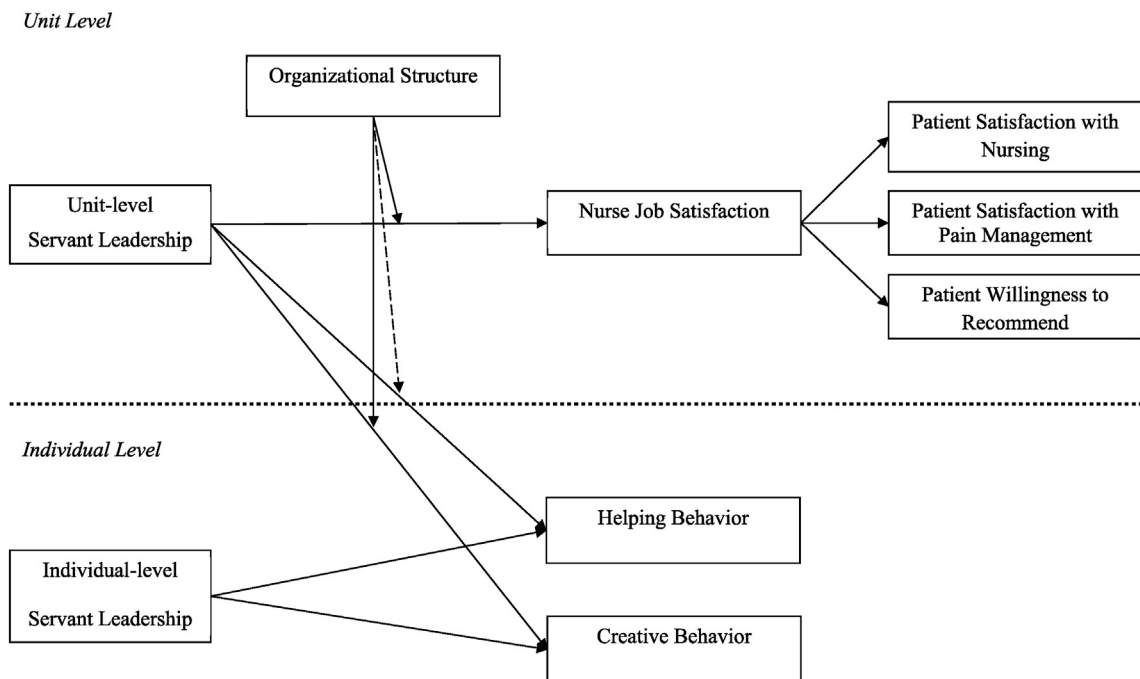
To address these deficiencies in the servant leadership literature, our first goal is to explore the associations of servant leadership with outcomes of followers and those who are served by followers. We use social learning (Bandura, 1977, 1986) and self-determination theory (Ryan & Deci, 2000) to explain how learning and need satisfaction are means by which servant leadership is likely to be associated with nurse behavior and satisfaction as well as patient satisfaction in units of a multi-hospital system. Thus, we contribute to research on servant leadership by developing and testing a model of servant leadership that involves multiple levels of analysis and multiple stakeholders.

Our second goal, and perhaps most substantial contribution, is to explore a boundary condition for the influence of servant leadership. In leadership research, and servant leadership studies in particular, there has been only limited investigation of contextual factors that moderate the influence of leadership (Avolio, 2007; Chen et al., 2015; Cole, Bruch, & Shamir, 2009; Hackman & Wageman, 2007; Mayer, Bards, & Piccolo, 2008; Van Dierendonck, Stam, Boersma, de Windt, & Alkema, 2014). Drawing upon the logic of substitutes for leadership theory (Kerr & Jermier, 1978), we test a contextual moderator, organizational structure, as a potential enhancer of the relationships between servant leadership and follower outcomes and patient satisfaction.

Finally, notably absent from servant leadership research are “empirical studies that explore servant leadership theory in a given organizational setting” (Parris & Peachey, 2013, p. 380). This allows for the investigation to occur in a context with a similar culture and goals while controlling for other factors such as differences across industries or geographic locations that may have influenced previous findings. As such, we examine the extent of the associations between servant leadership and stakeholder outcomes and a boundary condition for these relationships within units of a multi-facility regional hospital system. The sum of our intended explorations is illustrated in Fig. 1.

2. The influence of servant leadership

Interest in servant leadership continues to expand due to the necessity in many organizations for leadership that engages employees (Hunter et al., 2013; Van Dierendonck et al., 2014), stimulates collaboration and creativity (Neubert et al., 2008; Yoshida, Sendjaya, Hirst, & Cooper, 2014), and promotes service to the organization and its customers or clients (Hunter et al., 2013; Liden et al., 2014). Accumulating evidence indicates that servant leadership is associated with these desired attitudes and behaviors as



Note. Dashed lines indicate non-significant findings.

Fig. 1. Hypothesized model and result summary.

well as a range of positive outcomes for organizations and their members (Van Dierendonck, 2011). Although servant leadership shares some similarities with other positive forms of leadership, it also has unique associations with particular outcomes due to its distinctive nature (Neubert et al., 2008; Van Dierendonck et al., 2014).

Ehrhart (2004) described the behavior of servant leaders as relational, empowering, inclusive, ethical, balanced, focused on the growth and success of others, and attentive to society as well as the organization. Others have identified additional dimensions of servant leadership such as authenticity (Sendjaya, Sarros, & Santora, 2008; van Dierendonck & Nuijten, 2011), humility (Dennis & Bocarnea, 2005; van Dierendonck & Nuijten, 2011), emotional healing (Barbuto & Wheeler, 2006; Ehrhart, 2004; Liden et al., 2008), and spirituality (Sendjaya et al., 2008), but at its essence what makes servant leadership distinctive from other forms of leadership is its unique focus on other-centered service. According to Robert Greenleaf, who brought the servant leadership concept into the workplace, “the servant-leader is servant first” (Greenleaf, 1970, 1991, p. 13). Sun (2013) describes the identity of a servant leader as being known as a servant, exercising humility, and expressing empathy and love in interactions with others. This servant orientation extends beyond self-interest and the interests of the organization to stakeholders such as employees and society (Parris & Peachey, 2013; Van Dierendonck, 2011).

Whereas a substantial amount of initial servant leadership research focused on construct development (Barbuto & Wheeler, 2006; Dennis & Bocarnea, 2005; Ehrhart, 2004; Liden et al., 2008; Sendjaya et al., 2008; van Dierendonck & Nuijten, 2011), recent research continues to grow in scope and in demonstration of its practical utility to organizations (e.g. Hunter et al., 2013; Liden et al., 2014; Peterson, Galvin, & Lange, 2012; Walumbwa, Hartnell, & Oke, 2010). Servant leadership contributes positively to others' satisfaction, creativity, and engagement (Hunter et al., 2013; Mayer et al., 2008; Neubert et al., 2008), employee performance and commitment (Liden et al., 2008), citizenship behavior that benefits employees (Hunter et al., 2013; Neubert et al., 2008; Walumbwa et al., 2010), citizenship that benefits the community (Liden et al., 2008), team innovation and performance (Hu & Liden, 2011; Schaubroeck, Lam, & Peng, 2011; Yoshida et al., 2014), organizational performance (Liden et al., 2014; Peterson et al., 2012), and customer satisfaction (Chen et al., 2015; Liden et al., 2014).

2.1. Servant leadership and follower behavior

Social learning theory posits that employees learn how to respond to their environment by observing leaders and emulating their leader's behavior in their own work (Bandura, 1977, 1986). Servant leaders are role models of considerate treatment of others, including helping others by assisting in their development and growth. This orientation toward helping and serving others is the distinctive focus of servant leaders (Stone, Russell, & Patterson, 2004). Servant leaders model striving to help others flourish (Stone et al., 2004). Having learned how to treat others in the workplace setting through a servant leader's example and having benefitted from this behavior, helping becomes the accepted model for workplace behavior. The behavior of a servant leader is henceforth mirrored in how employees treat others (Neubert et al., 2008).

In the context of a hospital care unit, nurses often need to work together to complete their work, solve problems, and address the needs of patients (Anderson & Williams, 1996). Nursing leadership plays a significant role in creating a work environment for nurses that provides support, adequate resources, and positive relationships (Laschinger & Leiter, 2006). Servant leaders, in particular, with their distinctive focus on the interests of employees and willingness to help others, provide a model followers learn from and can emulate to meet the challenges of their workplace. Thus, the first behavior we expect will be evident among nurses working in a unit with a servant leader as a nurse manager is that nurses will engage in more helping behavior aimed at assisting one another.

Hypothesis 1. The greater the servant leadership behavior of the nurse manager the more likely nurses will help one another with their work.

Nursing can be stressful and, in addition to requiring collaboration, often demands creativity to meet the needs of patients and to address the needs and concerns of patient's families and other nurses or staff (Berg, Hansson, & Hallberg, 1994; Fasnacht, 2003; Mäkinen, Kivimäki, Elovainio, & Virtanen, 2003). Accordingly, “to provide the best possible care each nurse must use imagination and creativity, and put herself in the patient's shoes to find the best possible solution to each patient's problem” (Berg et al., 1994, p. 743). These solutions may be long-term process improvements or temporary solutions that meet a specific need such as when in response to a patient not being able to hold a drink cup, a nurse rigs surgical tubing to act as a straw to enable the patient “to drink water without assistance” (Fasnacht, 2003, p. 200). Creative behavior, in the form of producing novel and useful ideas that are implemented to solve problems (Amabile, 1988; Scott & Bruce, 1994), can be influenced by an employee's leader (Shalley & Gilson, 2004; Zhou, 2003). Leaders with a mindset of exploring improvements, considering a wide range of approaches to solve work problems, and promoting others' learning and growth provide an example for others that can be learned and mirrored by employees in their own creative behavior (Ehrhart, 2004; Neubert et al., 2008; Wu, McMullen, Neubert, & Yi, 2008).

Among the many ways servant leaders may increase creativity are by enhancing the intrinsic motivation and psychological safety of observers. As possible examples of how servant leaders may influence creativity, each is briefly discussed in turn.

An intrinsically motivated employee is likely to be creative because they are willing to be flexible, take risks, and persist in the face of obstacles (Deci & Ryan, 1985). A leader can undermine intrinsic motivation by being too controlling or directive. In contrast, a servant leader that models curiosity, encourages employee development, and invites participation is likely to nurture intrinsic motivation that can stimulate creativity in followers (Oldham & Cummings, 1996).

An additional precursor to creativity is the sense of psychological safety in which employees feel the freedom to take risks and explore new solutions to problems without the threat of punishment or blame (Shalley & Gilson, 2004). The orientation and

actions of a leader toward followers can either engender or stifle creative behavior. Leaders who are inclusive and show a concern for employees' interests contribute to the self-efficacy employees have for acting creatively and create a supportive work environment where employees feel safe to explore new ways to do their work, learn from failures, and share their ideas with leaders (Hirak, Peng, Carmeli, & Schaubroeck, 2012; Liao, Liu, & Loi, 2010; Shalley & Gilson, 2004). In a nursing context, psychological safety initially was thought to contribute to errors due to deviations from proper procedures; further examination revealed that although more errors were reported, actually fewer errors occurred because mistakes were admitted, learned from, and then reduced among the nurses (Edmondson, 1996, 1999). In contrast, fears about retribution contributed to a lack of reporting and reoccurring errors that led to more actual errors. In nursing, engaging in creative behavior that benefits patients may result from servant leaders creating a safe environment that encourages innovation and improvements.

Servant leaders are particularly well-suited to enhance the intrinsic motivation and psychological safety by their demonstration of an interest in new ways of solving problems, a commitment to followers' growth, an openness to the input of others, and a concern for employees' well-being (Ehrhart, 2004; Greenleaf, 1970, 1991; Sendjaya, 2015; Stone et al., 2004). For example, servant leadership within a team has been linked to team members' psychological safety and team performance (Schaubroeck et al., 2011). However, while intrinsic motivation and psychological safety are possible pathways to enhancing creative behavior, here they simply are offered as support for the overall relationship of servant leadership to creative behavior.

Thus, the second behavior we expect to be evident in units with servant leaders as nurse managers is creative behavior.

Hypothesis 2. The greater the servant leadership behavior of the nurse manager the more likely nurses will engage in creative behavior in their work.

2.2. *Servant leadership, follower attitudes and external stakeholders*

Servant leaders may evoke specific behaviors in followers through social learning, but they also contribute to positive attitudes among followers due to meeting employee needs through acts of service and support (Van Dierendonck et al., 2014). Ryan and Deci (2000) describe competence, autonomy, and relatedness as three basic needs of most people in the workplace. These needs are determinants of health, well-being, and satisfaction (Ryan & Deci, 2000). In contrast to other forms of leadership, servant leadership distinctively addresses these needs (Van Dierendonck et al., 2014). A servant leader meets needs for competence by focusing on growth and development, promotes autonomy by empowering followers, and fulfills relatedness needs by being inclusive and listening. In the workplace, the fulfillment of these needs is associated with a recipient's job satisfaction (Gagné & Deci, 2005; House, 1971, 1996). Job satisfaction is an attitude shaped by an evaluation of a person's job experiences and situation (Brief, 1998; Weiss, 2002). In research among nurses, the fulfillment of these basic psychological needs are components of evaluating one's job satisfaction (Lu, While, & Barriball, 2005). Thus, we expect that servant leadership will be associated with nurse job satisfaction, which will in turn have other positive associations with how nurses treat others.

Servant leadership also is distinct from other leadership styles in having a focus on the interests of others outside of the organization; however, there is little research affirming this assertion (Parris & Peachey, 2013; van Dierendonck, 2011). While some evidence suggests servant leaders encourage employees to act with consideration toward community members (Liden et al., 2008) and influence a climate or culture of service (Hunter et al., 2013; Liden et al., 2014; Walumbwa et al., 2010), new research is shedding light on actual influence on outside stakeholders. In the context of a restaurant chain, store manager servant leadership was related to servant culture, which was associated with a multifaceted measure of store performance that included customer ratings of carryout accuracy, delivery accuracy, and customer satisfaction along with two other organizational assessments (Liden et al., 2014). Among Chinese hairdressers, salon manager servant leadership was directly associated with customer service ratings (Chen et al., 2015). Although these studies provide promising support, there is still a need to explore the impact of servant leadership on other external stakeholders, such as patients.

We propose that nurse job satisfaction is a critical mediating mechanism linking servant leadership to patient satisfaction. We previously described how a servant leader engenders follower job satisfaction by meeting the needs of those followers. The experience of being satisfied with a job is associated with both higher levels of in-role (Judge, Thoresen, Bono, & Patton, 2001) and extra-role performance that benefits others (Williams & Anderson, 1991). As employees perform to their role expectations and beyond, customers are served well and are satisfied (Podsakoff, Whiting, Podsakoff, & Blume, 2009). For nurses, their core responsibilities are associated with giving care to patients. Together, the model of servant leadership and the subsequent satisfaction it elicits perpetuates a cycle of service that benefits patients. In a hospital context, evidence of this service and concern is likely manifest in subjective judgments of a patient's satisfaction. Patient satisfaction is not determined exclusively by nursing behavior, but it can be influenced to a large degree through nurse attentiveness, initiative, and care (Kane, Shamliyan, Mueller, Duvai, & Wilt, 2007; Laschinger, Gilbert, & Smith, 2010). Thus, we expect that by meeting the basic needs of nurses, servant leadership will be associated with nurse job satisfaction, which in turn is reflected in higher patient satisfaction.

Hypothesis 3. Nurse job satisfaction will mediate the relationship between the servant leadership behavior of nurse managers and patient satisfaction.

2.3. *Organizational structure as a moderator*

Contingency theories stipulate that leadership and other contextual influences play a role in addressing the psychological and practical needs of employees, and that meeting those needs contributes to their well-being, satisfaction, and productivity (House,

1971, 1996; Howell, Dorfman, & Kerr, 1986; Kerr & Jermier, 1978; Vroom & Jago, 2007). The previously discussed associations between servant leadership and outcomes were proposed without regard for contextual moderators. One contingency theory, substitutes for leadership, provides a logic for considering specific factors that may moderate the influence of leadership (Kerr & Jermier, 1978). A leader substitutes perspective has guided research on moderators of the influence of transformational leadership (Grant, 2012; Keller, 2006; Muchiri & Cooksey, 2011; Podsakoff, MacKenzie, & Bommer, 1996) and ethical leadership (Kalshoven, Den Hartog, & De Hoogh, 2013). According to theory, certain conditions reduce the need for leadership or neutralize leadership by making it unnecessary while other conditions enhance the influence of leadership (Cole et al., 2009; Howell et al., 1986; Yukl, 2013). For example, relational job design that increased contact with beneficiaries enhanced the influence of transformational leadership on call center employees' performance (Grant, 2012). Other conditions, such as the number of hierarchical levels between leader and follower, have the potential to be either a neutralizer or enhancer based on the leadership behaviors examined (Cole et al., 2009).

Our interest is in moderators or boundary conditions explaining the influence of servant leadership. Organizational structure is one condition set out in substitutes for leadership theory that may attenuate or alter the influence of leadership behavior (Kerr & Jermier, 1978). Organizational structure may have a direct effect on individual and organizational outcomes, but our interest is in the role it plays in moderating the degree to which leadership has an influence on individuals (Ambrose & Schminke, 2003; Walter & Bruch, 2010) and team members (Keller, 2006). Organizational structure represents a set of expectations regarding who reports to whom, what rules and procedures must be followed, how decisions are made, and what control systems must be utilized (Donaldson, 1996). Structure provides formalized prescriptions for how members relate to one another and complete their work. Altogether, differences in organizational structure can range on a continuum from flexible, informal, loose, and decentralized operations to rigid, formal, constricted, and centralized operations (Burns & Stalker, 1961; Slevin & Covin, 1997).

Past research demonstrates that high levels of structure enhance the influence of transformational leadership (Walter & Bruch, 2010) and justice (Ambrose & Schminke, 2003) on outcomes such as productive organizational energy, organizational support and supervisory trust. A context with extensive structure has clear and prescribed guidelines for behavior and treatment of others (Donaldson, 1996). In contrast, lower levels of organizational structure require greater self-determination and the exercise of personal judgment to fulfill job responsibilities.

Although low levels of structure may allow latitude for behavior, the ambiguity of the context necessitates that nurses use their available time and energy structuring their environment instead of attending to a servant leader's example and encouragement to be creative, explore opportunities to grow, and listen to and address the concerns of others (Dennis & Bocarnea, 2005; Ehrhart, 2004; Liden et al., 2008; Van Dierendonck & Nuijten, 2011). When expectations and roles are unclear, employees typically expend extra energy and attention to structure their own work to reduce the stress that ambiguity creates (Bedeian & Armenakis, 1981). This depletion of energy and distraction of attention helps explain why employees with greater role ambiguity have decreased job satisfaction and performance (Gilboa, Shirom, Fried, & Cooper, 2008; Jackson & Schuler, 1985; Keller, 1975) and refrain from a range of organizational citizenship behaviors, including helping and creativity (Eatough, Chang, Miloslavic, & Johnson, 2011).

High levels of structure may reduce the need to expend time or energy to navigate the ambiguity of a loosely structured work environment, thus translating into a more satisfying job experience and preserving resources for creativity and helping others. In this sense, structure may complement servant leadership by addressing the need for clarity and guidance in the routine requirements of the work context and allowing followers to devote resources toward helping one another and finding creative solutions to work problems to better serve patients. In a hospital unit with clear expectations, nurses perceive themselves as having high levels of both clarity and autonomy, which increase job satisfaction and organizational commitment (Brunetto, Farr-Wharton, & Shacklock, 2011).

The enhancing influence of organizational structure may be unique to servant leadership. On the one hand, organizational structure may neutralize forms of leadership that are primarily directive by making leadership redundant at best or even detrimental to followers if it contributes to burdening followers with excessive bureaucracy or reinforces the power of abusive supervisors (Aryee, Li-Yun, Chen, & Debrah, 2008). On the other hand, servant leadership is conceptualized predominantly as a relationship-oriented leadership style that followers perceive as being considerate and supportive but not necessarily directive or determinative in how work should be done (Dennis & Bocarnea, 2005; Ehrhart, 2004; Liden et al., 2008; Reed, Vidaver-Cohen, & Colwell, 2011; Sendjaya et al., 2008). Research contrasting servant leadership with the more directive style of initiating structure finds these two styles of leadership have distinct outcomes and are not highly correlated (Neubert et al., 2008). Instead of neutralizing servant leadership, structure may enhance the influence of servant leaders by addressing needs for clarity regarding responsibilities and behaviors that are not central to servant leadership and reducing stress associated with resource expenditure that accompanies a lack of structure. This allows the supportive, caring behavior of the servant leader to satisfy other needs of employees that are associated with being engaged in their work (van Dierendonck et al., 2014). This may be particularly evident in contexts where employees engage in tedious and routine tasks but the stakes are high and, thus, the environment can be stressful; in such contexts supportive leadership, in the form of servant leadership, is likely to contribute to employee confidence, motivation, and satisfaction (House, 1996; Yukl, 2013). In a healthcare context, Sawyer (1992) found that knowing what was expected and how to perform tasks worked together to explain staff job satisfaction.

Therefore, we expect organizational structure to moderate the relationship of servant leadership to nurse behaviors, such that the influence of servant leadership is greater when an organization is more structured. We also expect structure to moderate the mediated influence of servant leadership through job satisfaction on patient satisfaction. In other words, the indirect effect of

servant leadership on patient satisfaction is conditional on organizational structure, with high structure enhancing the indirect effect.

Hypothesis 4. Organizational structure will moderate the relationship between servant leadership and nurse helping behavior, such that more structure enhances the positive relationship between servant leadership and helping behavior.

Hypothesis 5. Organizational structure will moderate the relationship between servant leadership and nurse creative behavior, such that more structure enhances the positive relationship between servant leadership and creative behavior.

Hypothesis 6. Organizational structure will moderate the indirect effect of servant leadership on patient satisfaction through nurse job satisfaction, such that more structure enhances the indirect effects.

3. Method

3.1. Sample

We recruited participants from a network of hospitals in the southern United States. The network allowed us to recruit among staff nurses and nurse managers at nine hospitals they selected out of their 26 hospitals (mean = 165 staff nurses per hospital, minimum = 20, maximum = 429). A total of 1485 staff nurses completed the survey (38% response rate; 91% female). The majority of staff nurses were in their 30s or 40s and had 1–5 years tenure with the hospital system; 63% were White/Caucasian, 18% were Asian, 8% were African American, 4% were Hispanic, and 7% selected Other.

We also collected responses from 105 nurse managers. To ensure participant anonymity, the only demographic collected for nurse managers was tenure with the hospital system, of which 20% had less than 1 year tenure, 32% had 1–5 years tenure, 21% had 6–10 years tenure, 19% had 11–20 years tenure, and 8% had 20 or more years tenure. We were able to match 1005 of the staff nurses to a nurse manager in the same unit.

3.2. Procedure

An invitation to participate in the online survey was emailed to all staff nurses and nurse managers at the nine hospitals. The survey asked participants to indicate the name of their unit in order to match nurses with their respective nurse manager. The staff nurse survey included measures of their nurse manager's servant leadership and their own helping and creative behavior. The nurse manager survey included a measure of organizational structure.

Nurse job satisfaction was collected by a third party, National Database of Nursing Quality Indicators (NDNQI). This survey is conducted annually and the timing of the survey corresponded to three months after our survey for all hospitals but one (for this one hospital the NDNQI survey was conducted three months prior to our survey). Patient satisfaction measures were collected by another third party, Press-Ganey, a commercial vendor of hospital care surveys (Press-Ganey, <http://www.pressganey.com>). Patient satisfaction data were available by quarter and were collected for the quarter (3 months) overlapping with the date of our survey.

3.3. Nurse-reported measures

All nurse-reported measures used a response scale of strongly disagree (1) to strongly agree (5).

3.3.1. Servant leadership

We used Ehrhart's (2004) 14-item measure of servant leadership, which includes seven dimensions averaged together to form one unitary servant leadership scale. Example items included "My nurse manager makes the personal development of employees a priority," "My nurse manager tries to reach consensus among department employees on important decisions," and "My nurse manager holds employees to high ethical standards." The reliability for this scale was $\alpha = .96$.

3.3.2. Helping behavior

To assess helping behavior we used four items from a measure developed and validated by Van Dyne and LePine (1998). Items were "I help others in this group with their work responsibilities," "I get involved to benefit this work group," "I volunteer to do things for this work group," and "I help others in this group learn about their work." The reliability for this scale was $\alpha = .77$.

3.3.3. Creative behavior

Three items were used to measure creative behavior from a scale developed and validated by Scott and Bruce (1994). Items were "I generate creative ideas at work," "I promote and champion ideas to others," and "I am innovative at work." The reliability for this scale was $\alpha = .82$.

3.4. Manager-reported measure

3.4.1. Organizational structure

Following [Covin and Slevin \(1989\)](#), we used a seven-item scale which measures the degree a work environment is more or less structured. Nurse managers assessed their units on a 7-point scale indicating the degree to which paired statements described the structure of their unit. Examples of item pairs include the following: “Loose, informal control; heavy dependence on informal relationships and the norm of cooperation for getting things done” vs. “Tight formal control of most operations by means of sophisticated control and information systems” and “A strong emphasis on getting things done even if it means disregarding formal procedures” vs. “A strong emphasis on always getting personnel to follow the formally laid down procedures.” Higher values on the scale represented more structure. The reliability for this scale was $\alpha = .63$.

3.5. External measures

3.5.1. Nurse job satisfaction

Nurse job satisfaction was measured by a single item on the NDNQJ assessment. The item, related to the overall assessment of a nurse's experience during a shift, is drawn from a work satisfaction index by [Stamps \(1997\)](#). This item is used as an indicator of nurse job satisfaction by hospitals like those in our sample and similar measures are commonly used in healthcare research (e.g., [Aiken, Clarke, & Sloane, 2002](#)).

3.5.2. Patient satisfaction

Patient satisfaction was collected by Press-Ganey, an external vendor of health services satisfaction surveys that measure patient perceptions of quality of care ([Press-Ganey, <http://www.pressganey.com/>](#)). Press-Ganey survey results are recognized as reliable and valid in nursing and hospital research ([Bender, Connelly, Glaser, & Brown, 2012](#); [Pines et al., 2008](#)). Press-Ganey's survey is sent to patients via mail following a visit to the hospital. The average patient response rate across the hospitals in our sample was 20%. Patient satisfaction was measured with three separate assessments: Patient satisfaction with nursing care, satisfaction with pain management, and willingness to recommend the hospital. Patient satisfaction with nursing is an average of seven questions related to satisfaction with nurses and nurse communication. Example items include “friendliness/courtesy of the nurses,” “nurses' attitude toward your requests,” and “how well the nurses kept you informed.” The organization provided us with average scores across the seven items, but we were granted access to item-level data for a few units to calculate reliability ($\alpha = .91$). Patient satisfaction with pain management was measured with one item “how well was your pain controlled?” Willingness to recommend was assessed with the item “likelihood recommending the hospital.” All items used a scale of very poor (1) to very good (5).

3.6. Controls

For the multilevel analyses we controlled for gender, age, tenure in their unit, and number of employees in unit. For the unit-level regression analyses we controlled for the only demographic variable available at the unit-level, number of employees in unit.

3.7. Analysis strategy

For our multilevel model, we selected an analysis strategy appropriate to the levels involved in each specific hypothesis. [Hypotheses 1, 2, 4, and 5](#) included an individual-level predictor (i.e., servant leadership) and outcomes (i.e., helping behavior and creative behavior). For these hypotheses, we controlled for servant leadership at the unit-level of analysis as suggested by [Hofmann and Gavin \(1998\)](#). Specifically, we used SAS Proc Mixed to regress the outcomes on group-mean-centered servant leadership, a pure individual-level variable created by subtracting the unit mean from each individual's score, while controlling for group-mean servant leadership, a pure unit-level variable created by taking the mean of all nurse responses within each unit. Hofmann and Gavin demonstrated that this centering strategy provides results similar to grand-mean-centering but also allows a test of separate level effects. [Hypotheses 3 and 6](#) concerning patient satisfaction included predictors and outcomes at the unit-level; thus, we employed Ordinary Least Squares (OLS) regression with servant leadership aggregated to the unit-level. We tested these two hypotheses using the PROCESS macro developed for SAS ([Hayes, 2012](#)) to test moderated mediation ([Preacher, Rucker, & Hayes, 2007](#)).

4. Results

The descriptive statistics, intercorrelations, and scale reliabilities of study variables are presented in [Table 1](#). Hypothesis tests are described below.

Prior to testing our hypotheses, we first ran aggregation statistics to ensure appropriate aggregation of our multilevel variable servant leadership and to determine if multilevel modeling was appropriate for our individual-level outcomes. First, we calculated $r_{wg(j)}$ using a uniform distribution. Helping ($r_{wg(j)} = .74$) and creative behavior ($r_{wg(j)} = .76$) exceeded the strong interrater agreement threshold of .70, and servant leadership's interrater agreement ($r_{wg(j)} = .54$) is considered moderate agreement ([LeBreton & Senter, 2008](#)). This evidence supports aggregating servant leadership to the unit-level. Second, we calculated the intraclass

Table 1
Multilevel descriptive statistics and correlations.

Scale	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	–	.02	–.03	–	–.02	.03	.06	–	–	–	–	–
2. Age	–	–	.48**	–	–.02	.10**	.04	–	–	–	–	–
3. Tenure	–	–	–	–	–.01	.06*	.02	–	–	–	–	–
4. Number of employees	–	–	–	–	–	–	–	–	–	–	–	–
5. Servant leadership	–	–	–	–.07	(.96)	.35**	.28**	–	–	–	–	–
6. Helping behavior	–	–	–	–.05	.58**	(.77)	.63**	–	–	–	–	–
7. Creative behavior	–	–	–	–.09	.59**	.78**	(.82)	–	–	–	–	–
8. Job satisfaction	–	–	–	–.28**	.20*	.16	.24**	–	–	–	–	–
9. Organizational structure	–	–	–	.04	.03	.03	.07	.11	(.63)	–	–	–
10. Patient satisfaction with nursing	–	–	–	–.18	.07	.10	.04	.37**	.02	(.91)	–	–
11. Patient satisfaction with pain management	–	–	–	–.22*	.05	.15	.12	.31**	.17	.81**	–	–
12. Patient willingness to recommend	–	–	–	–.17	.09	.09	.02	.34**	.07	.76**	.81**	–
Grand mean	.09	2.80	2.58	27.11	3.73	4.06	3.83	3.47	3.37	4.65	4.57	4.67
Between-hospital SD	.00	.32	.15	.06	.20	.00	.06	.09	.35	.06	.08	.07
Between-unit SD	.11	.45	.37	22.40	.40	.11	.11	.27	.82	.16	.22	.19
Within-unit SD	.26	1.14	1.05		.73	.53	.61					
Proportion within variance	84%	86%	89%		77%	96%	97%					

Note. *N* = 1245. Individual-level correlations are given above the diagonal, and unit-level correlations are given below the diagonal. Scale reliabilities are shown in parentheses along the diagonal. Proportion within variance computed by dividing within-unit variance by total variance (within- and between-unit variance).

* *p* < .05.
** *p* < .01.

correlation coefficient (ICC) as an empirical test of whether there is sufficient variance at the unit-level to employ multilevel analyses (Klein & Kozlowski, 2000). Our results indicated that the ICC for servant leadership was sufficiently high (.23), but the ICCs for helping (.04) and creative behavior (.03) were low. However, ICCs as low as .05 have been shown to provide evidence of group level effects (LeBreton & Senter, 2008), and we found a substantial within-unit portion of the total variance for helping and creative behavior (96%–97%). Therefore, because interrater agreement was high and there was both within and between unit variance to explain, we determined multilevel modeling was appropriate.

We further ran a confirmatory factor analysis (CFA) of the nurse-reported scales and a test for the influence of common method variance (CMV; Podsakoff, MacKenzie, & Podsakoff, 2012; Williams, Cote, & Buckley, 1989). We conducted a CFA in Mplus 7.3 with these nurse-reported items, allowing each item to load on its proposed construct. The proposed CFA model demonstrated acceptable fit ($\chi^2(186, N = 1480) = 1830.12, p < .01; CFI = .93, TLI = .92, RMSEA = .08, SRMR = .04$). Then we conducted a CMV test by running the same CFA but allowing all items to load onto an uncorrelated latent variable representing method.

Table 2
Multilevel modeling results for helping behavior.

Level and variable	Null (Step 1)	Random intercept and fixed slope (Step 2)	Random intercept and random slope (Step 3)	Random intercept and random slope Cross-level interaction (Step 4)
Level 1				
Intercept	4.07**	4.02**	3.09**	3.10**
Gender		–.07	–.07	–.07
Age		.04*	.04*	.04*
Tenure		–.00	–.00	–.00
Individual-level servant leadership		.26**	.28**	.28**
Level 2				
Number of employees		.00	.00	.00
Unit-level servant leadership		.22**	.25**	.25**
Organizational structure		–.01	–.01	–.20
Individual-level servant leadership × structure				–.04
Unit-level servant leadership × structure				.05
<i>n</i> (individual-level)	1380	923	923	923
<i>n</i> (unit-level)	180	84	84	84
Variance components				
Within-unit (L1) variance (σ^2)	.28**	.23**	.22**	.22**
Intercept (L2) variance (τ_{00})	.01*	.00	.01	.01
Slope (L2) variance (τ_{11})			.02*	.02*
Intercept-slope (L2) covariance (τ_{01})			–.01	–.01*

Note. Unstandardized regression coefficients are presented. L1 = level 1; L2 = level 2.

* *p* < .05.
** *p* < .01.

Table 3
Multilevel modeling results for creative behavior.

Level and variable	Null (Step 1)	Random intercept and fixed slope (Step 2)	Random intercept and random slope (Step 3)	Random intercept cross-level interaction (Step 4)
Level 1				
Intercept	3.84**	3.42**	3.33**	3.45**
Gender		-.17*	-.17*	-.19*
Age		.03	.03	.03
Tenure		.00	.00	.00
Individual-level servant leadership		.25**	.26**	.25**
Level 2				
Number of employees		-.00	-.00	-.00
Unit-level servant leadership		.14**	.16**	.13**
Organizational structure		-.01	-.01	-.43*
Individual-level servant leadership × structure				.00
Unit-level servant leadership × structure				.11*
<i>n</i> (Individual-level)	1379	922	922	922
<i>n</i> (Unit-level)	180	84	84	84
Variance components				
Within-unit (L1) variance (σ^2)	.37**	.33**	.32**	.32**
Intercept (L2) variance (τ_{00})	.01	.00	.00	.00
Slope (L2) variance (τ_{11})			.02	
Intercept-slope (L2) covariance (τ_{01})			-.01	

Note. Unstandardized regression coefficients are presented. L1 = level 1; L2 = level 2.

* $p < .05$.

** $p < .01$.

The average variance explained by the method factor was 19%, which is less than the 25% average in the literature (Williams et al., 1989), suggesting CMV was not a major threat in this sample.

4.1. Hypothesis tests

First, we tested the direct relationships between servant leadership and outcomes. Hypotheses 1–2 predicted servant leadership would be positively associated with helping and creative behavior. As shown in Tables 2 and 3, both individual-level and unit-level servant leadership were significantly associated with both helping and creative behavior in the predicted direction. This supports Hypotheses 1 and 2.

Hypothesis 3 predicted that job satisfaction would mediate the relationship between servant leadership and patient satisfaction. Results to support this hypothesis can be found in the moderated mediation results from Table 4 steps one (effect of servant leadership on the mediator job satisfaction) and three (effect of servant leadership and job satisfaction on patient satisfaction). Our results indicated that unit-level servant leadership was positively associated with job satisfaction, and job satisfaction was positively associated with all three indicators of patient satisfaction. Therefore, Hypothesis 3 was supported.

Then we tested organizational structure as a moderator. Hypotheses 4–5 predicted that organizational structure would moderate the relationships between servant leadership and nurse helping and creative behavior. For these individual-level outcomes, we followed steps for testing cross-level interactions outlined by Aguinis, Gottfredson, and Culpepper (2013). As shown in Tables 2 and 3, we found the interaction term of unit-level servant leadership and structure was significant only for creative behavior¹ (see Table 3). We followed recommendations by Aiken and West (1991) to graph the form of the significant interaction. Results in Fig. 2 suggest unit-level servant leadership has a stronger positive relationship with creative behavior when structure is high as opposed to when structure is low. A simple slopes test supported this interpretation, as the slope was non-significant for low organizational structure, but the slope was significantly positive for moderate structure (.13, $p < .01$), high structure (.23, $p < .01$) and very high structure (.32, $p < .01$). However, overall levels of creative behavior were higher for low structure regardless of servant leadership. Thus, Hypothesis 5 was supported for unit-level servant leadership, but Hypothesis 4 was not supported.

Finally, we tested Hypothesis 6 using moderated mediation. We analyzed structure as a moderator of the path from servant leadership to job satisfaction analogous to what Edwards and Lambert (2007) call “first stage moderation” (p. 8). Because this model tests the effect of servant leadership on job satisfaction as contingent upon structure, naturally then the indirect effect of servant leadership on patient satisfaction is conditional on structure; hence the mediation effect is moderated by structure (Hayes, 2012). We found support for this hypothesis as the conditional indirect effect of servant leadership on patient satisfaction

¹ As recommended by Aguinis et al. (2013), we tested a model with random intercept and random slope to determine if the random slope was significantly different from zero (indicating that there are significant differences across units in the relationship between servant leadership and follower behavior). The random slope was significant for helping behavior (see Table 2) but non-significant for creative behavior (see Table 3). Thus, our final step testing the cross-level interaction for helping behavior included a random slope, whereas our final step testing the cross-level interaction for creative behavior did not include a random slope.

Table 4
Moderated mediation results.

Variable	Patient satisfaction with nursing			Patient satisfaction with pain management			Patient willingness to recommend		
	DV = Job satisfaction Step 1	DV = Job satisfaction Step 2	DV = Patient satisfaction Step 3	DV = Job satisfaction Step 1	DV = Job satisfaction Step 2	DV = Patient satisfaction Step 3	DV = Job satisfaction Step 1	DV = Job satisfaction Step 2	DV = Patient willingness Step 3
Intercept	3.48**	3.54**	3.75**	3.52**	3.55**	3.06**	3.48**	3.54**	3.41**
Number of employees	-.00	-.00*	-.00	-.00*	-.00*	-.00	-.00	-.00*	-.00
Unit-level servant leadership	.20**	.12	-.06	.12*	.09	-.08	.20**	.12	-.08
Organizational structure		.02			.02			.02	
Unit-level servant leadership × structure		.16*			.18*			.16*	
Nurse job satisfaction			.27**			.44**			.37**
F	7.57**	3.93**	4.52**	5.18**	3.73**	7.85**	7.57**	3.93**	5.00**
Adjusted R ²	.16	.24	.21	.11	.22	.31	.16	.24	.22

Note. N = 56. Unstandardized regression coefficients are presented. DV = dependent variable.

* p ≤ .05.
** p < .01.

through job satisfaction was significant only for high levels of structure (see Table 5). As shown in Fig. 3, servant leadership was more strongly positively related to job satisfaction under conditions of high structure. Simple slopes were only significant for high structure (.19, p < .05) and very high structure (.31, p < .01), suggesting that servant leadership was unrelated to job satisfaction at moderate or low structure in support of our enhancement hypothesis.

5. Discussion

Katz and Kahn (1978) defined leadership as “an influential increment over and above compliance with routine directives of the organization” (p. 528). Implied in this definition is that leadership is context bound but offers unique explanatory power beyond characteristics of the context. Avolio (2007), Hackman and Wageman (2007), Vroom and Jago (2007), and Yukl (2013) are among leadership researchers who are more direct in asserting that context and particular conditions are essential elements to understanding the influence of leadership. In this study, we measured servant leadership in the particular context of a multi-hospital system and under varying conditions of organizational structure. The results indicate that direct relationships exist between servant leadership and nurse collaboration, creativity, and job satisfaction. In turn, nurse job satisfaction is associated with patient satisfaction in the form of patient satisfaction with nursing, satisfaction with pain management, and in a willingness to recommend the caregiving facility.

Moreover, the relationships of servant leadership with creativity and with patient satisfaction mediated through job satisfaction were moderated by organizational structure such that the associations were enhanced under conditions of high levels of organizational structure. However, an examination of Figs. 2 and 3 indicates that although high levels of structure enhance the relationships of servant leadership with both nurse job satisfaction and creativity, the effects differ by outcome. High levels of structure combined with high levels of servant leadership yield the highest level of satisfaction, while the lowest levels of satisfaction result from combining high levels of structure with low levels of servant leadership or low levels of structure with high levels of servant leadership. Alternatively, high levels of structure uniformly relate to lower levels of creative behavior, an overall effect that is buffered slightly with high levels of servant leadership. Together, the findings support the hypothesized effect of

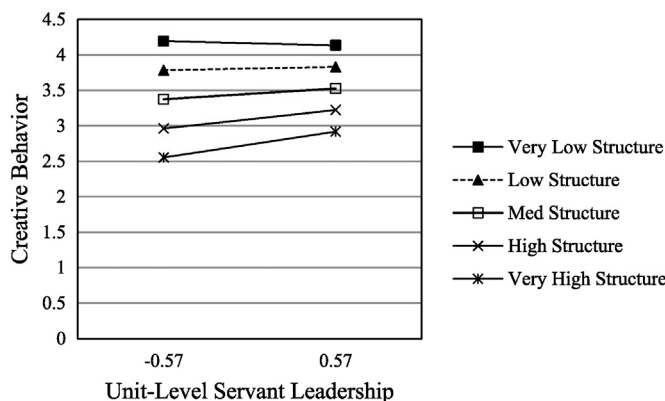


Fig. 2. Results for organizational structure moderating the relationship between unit-level servant leadership and creative behavior.

Table 5
Conditional indirect effects on patient satisfaction.

Variable	Indirect effect	SE	95% CI	
			LL	UL
<i>Conditional indirect effects: patient satisfaction with nursing</i>				
Structure – 1 SD	–.01	.04	–.10	.07
Structure + 1 SD	.07	.03	.02	.15
<i>Conditional indirect effects: patient satisfaction with pain management</i>				
Structure – 1 SD	–.03	.06	–.16	.09
Structure + 1 SD	.11	.04	.04	.21
<i>Conditional indirect effects: patient willingness to recommend</i>				
Structure – 1 SD	–.01	.06	–.12	.10
Structure + 1 SD	.10	.04	.04	.20

Note. *N* = 56. Unstandardized regression coefficients are presented. Bootstrap sample size = 5000. CI = confidence interval; LL = lower limit; UL = upper limit.

structure enhancing the associations of servant leadership with nurse job satisfaction and creativity, while also indicating that high levels of organizational structure suppress both outcomes in the absence of servant leadership.

With these research findings, we contribute to servant leadership theory and practice in several notable ways. First, finding an association of servant leadership with nurse job satisfaction and, in turn, patient satisfaction, is a notable result. Servant leadership, as hypothesized broadly in the literature, is associated with a concern for those outside of the organization (van Dierendonck, 2011). Our research extends recent research that links servant leadership within an organization to the satisfaction of patrons of restaurants (Liden et al., 2014) and hair salons (Chen et al., 2015) by finding that servant leadership has an association through nurse job satisfaction on the satisfaction of patients during their hospital stay. Understanding factors influencing patient satisfaction is increasingly important given the financial implications and public expectations associated with patient care (Rozenblum et al., 2013). Even so, there is a chasm between the recognition of the importance of patient care and clear plans to improve it (Rozenblum et al., 2013). An additional advantage of assessing patient satisfaction is that patients, perhaps more so than customers measured in previous research (Chen et al., 2015; Liden et al., 2014), may more closely mirror the weak and marginalized outsiders Greenleaf (1970, 1991) originally proposed were of interest to servant leaders.

Theoretically, by leveraging substitutes for leadership theory to propose and test the moderating influence of organizational structure on the associations of servant leadership with follower behaviors and job satisfaction, we have demonstrated how an underutilized theory can suggest boundary conditions for the influence of leadership (Dinh et al., 2014; Yukl, 2013). With the exception of research by Van Dierendonck et al. (2014) and Chen et al. (2015), there has been little attention given to studying the conditions under which servant leadership may have its greatest effect. In contingency theories, a situational or contextual factor is an enhancer if it increases the effects of leader behavior on the focal variable (Howell et al., 1986; Podsakoff et al., 1996). We demonstrated that organizational structure acted as an enhancer of the association of servant leadership with nurse job satisfaction and creativity. In particular, the existence of high levels of structure worked in conjunction with a relationally-focused leadership style, servant leadership, to result in the highest levels of nurse satisfaction. Additionally, while high structure generally suppressed nurse creativity, the relationship of servant leadership to nurse creativity was strongest under the high structure condition. These counterintuitive findings suggest that servant leadership theory may benefit from exploring additional moderators.

Our findings also may serve to spur additional research drawing on substitutes for leadership theory. Critiques of substitutes for leadership theory have concluded that the theory has been narrowly applied and past research is limited by testing the theory in cross-sectional, single-source studies and a small percentage of significant findings (Dionne, Yammarino, Howell, & Villa, 2005; Podsakoff et al., 1996). By utilizing three separate sources for our variables and assessing a key outcome variable with three

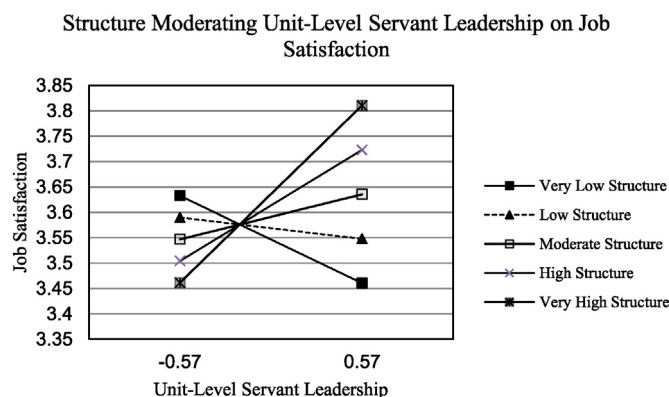


Fig. 3. Results for organizational structure moderating the relationship between unit-level servant leadership and job satisfaction.

separate measures, our research avoids some of the pitfalls of previous research (Dionne et al., 2005). Although we are not directly testing substitutes for leadership theory propositions, our finding that organizational structure has the moderating effect of enhancing the influence of servant leaders on creative behavior and patient satisfaction fits with the general propositions in the theory about possible moderator effects. Instead of substituting for or neutralizing the influence of servant leadership, knowing who reports to whom, what rules and procedures must be followed, how decisions are made, and what control systems must be utilized (Donaldson, 1996) increases the associations of servant leadership with follower creative behavior and patient satisfaction through nurse job satisfaction. Finding a complementary relationship between servant leadership and structure points to the value of continuing to employ the logic of contingency theories such as substitutes of leadership theory in developing and testing extensions of servant leadership theory.

5.1. Implications for practice

This research addresses a call for investigating servant leadership in a particular context by exploring servant leadership in a large multi-facility healthcare system (Parris & Peachey, 2013). In this context, our findings point to the benefits of servant leadership for nurses and the patients they serve. Given the purpose of hospitals is to provide quality healthcare, our findings are encouraging in providing evidence of how servant leadership from nurse managers is associated with patients' perceptions of care. Furthermore, in healthcare contexts requiring high levels of structure, servant leadership behavior also has its strongest relationships with nurse satisfaction and creativity.

For these reasons, promoting servant leadership in hospitals has great potential for contributing to hospitals fulfilling their purpose and reaching their goals related to patient care and employee satisfaction. Practically, servant leadership may be improved through training for current and future nurse managers. Anecdotal evidence points to the successful use of training to promote servant leadership within a range of for-profit and not-for-profit organizations (Spears & Lawrence, 2004). Training can be followed-up with surveys given to nurses and staff to assess perceptions of how well nurse managers are exemplifying servant leadership behaviors to help continue coaching these managers in their leadership development. Although training and coaching are likely to have utility in promoting behaviors consistent with a servant leader, it may be that selection of potential leaders should be based in part on their proven disposition to serve others. A true servant leader has this heart for service and concern for others' interests as the essence of their identity (Sun, 2013). The potential of a person to exhibit particular leadership attitudes or behaviors may be identified through the use of behavioral interview questions designed to elicit past evidence of these characteristics (Dries & Pepermans, 2012). Selection or promotion decisions also may be informed by personality assessments, as agreeableness and introversion are traits that have been linked to servant leaders (Hunter et al., 2013; Washington, Sutton, & Field, 2006).

This research also confirms previous research findings on the positive associations of servant leadership with constructive behavior and positive attitudes of followers. The significant direct relationships between servant leadership and follower helping and creative behavior and job satisfaction alone point to the utility of promoting servant leadership in this and other work contexts. Yet, the finding that organizational structure enhances the relationship of servant leadership with follower creativity and patient satisfaction through job satisfaction also points to a practical implication. Servant leadership and organizational structure can work together in a complementary manner to create a positive work environment; structure provides instrumental value in clarifying the "what" of current job expectations while servant leadership provides motivational value in challenging followers to think of the "why" of work and the "what's next." Work contexts that provide adequate structure reduce ambiguity and enhance the job satisfaction of employees (Jackson & Schuler, 1985; Keller, 1975; Sawyer, 1992). Servant leaders can further enhance the positive attitudes of employees by treating employees with consideration, demonstrating a commitment to their growth and development, and challenging them to think proactively (Ehrhart, 2004).

5.2. Limitations and additional suggestions for research

The healthcare context of this research is both a strength and a potential limitation. The testing of our model in nine hospitals with multiple units provided us with a large sample of both leaders (nurse managers) and followers (nurses) in a service-oriented industry. As in other service-oriented industries (Hunter et al., 2013), servant leadership makes a difference in promoting service within such organizations. Although some research has examined servant leadership in samples including a diversity of organizations (e.g., Neubert et al., 2008), future research should examine servant leadership and its utility in industries such as manufacturing or technology organizations to extend the external validity of the current findings. We expect given support from previous research in diverse samples (e.g. Neubert et al., 2008; Van Dierendonck et al., 2014) that the positive relationships between servant leadership and many follower outcomes may persist but the influence of organizational structure and other moderators will change based on the context. For example, healthcare units are generally highly structured due to regulatory influences, which results in range restriction analytically and practically; servant leadership in other contexts where structure is not mandated may have less positive effects. This requires further research.

Another limitation lies in our design and choice of measures. Several of our measures were self-reported by nurses which suggests these hypothesis tests are vulnerable to the influence of self-report bias and common method variance. Our CFA results on the influence of common method variance alleviates some of this concern, but outcomes from the perspective of the manager would be ideal to extend our findings. Also, although our measures were separated in time to reduce the influence of common method variance, our design was not longitudinal. This limits our ability to make causal inferences or refute the possibility of

reverse relationships in which our outcomes influence our predictors. Servant leadership research would benefit from more use of longitudinal designs, particularly those testing the effectiveness of training programs or interventions. Our choice of organizational structure as a moderator and the use of a particular measure also has limitations. Organizational structure is but one of a variety of contextual moderators that could be explored as boundary conditions for the influence of servant leadership, and the measure we chose is only one of several that have been used in recent research (Ambrose & Schminke, 2003; Keller, 2006; Walter & Bruch, 2010). We chose a measure that broadly assesses several elements of structure. A broad measure provides an overall assessment of structure in the work environment, but in being broad the measure may disguise specific relationships and our measure was lower in reliability than a more focused measure. We also used a single-item measure of overall assessment of a nurse's job satisfaction at a single point in time. Although single-item measures have proven reliable in assessing job satisfaction (Nagy, 2002; Wanous, Reichers, & Hudy, 1997), our research findings may be attenuated by relatively lower reliability and limited by variance that might be accounted for by alternative scales that are longer or are multi-faceted.

Our findings support the association of servant leadership with collaborative and creative behaviors among the nurses, yet in post-hoc analyses these behaviors were not significantly associated with patient satisfaction. Future research should explore additional follower behaviors that may explain patient satisfaction, or, in other contexts, customer satisfaction. For example, does the other-centered concern shown by servant leaders for followers contribute to nurses behaving more empathetically toward patients? Furthermore, research on the associations of servant leadership with follower behavior and external stakeholders should be longitudinal. The influence of leadership may accumulate over time or change (Avolio, 2007), such that in the case of our findings the association of servant leadership with follower helping and creative behavior also may accrue over time to affect patient satisfaction.

5.3. Conclusion

In conclusion, this study extends research on servant leadership by demonstrating the association of servant leaders with nurse behavior and satisfaction and, ultimately, patient satisfaction. We also identified a contextual moderator, organizational structure, that enhanced some of these associations and is worthy of consideration in future servant leadership research. In doing so, this study adds to the accumulating evidence that servant leaders who serve and promote the interests of others positively influence followers as well as those they serve.

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