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2. Testing Relationships Between Servant Leadership and Leader Member Exchange (LMX)
3. Track: Research Paper
4. Servant leadership dimensions were tested for relationship to leader member exchange (LMX) quality. Strong correlations were found, tested for collinearity, and the best predictive model identified via regression analysis. Limitations and suggested areas of future research are discussed
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6. Yes, please print this proposal in the conference proceedings, if accepted
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Testing Relationships Between Servant Leadership Dimensions and Leader Member Exchange (LMX)

Introduction

Leader member exchange (LMX) describes the strength of relationships between leaders and members in organizational settings. Research testing the antecedents of LMX has been extensive (Graen & Uhl-Bien, 1995), with variables including gender (Tsui & O'Reilly, 1989; Wayne, Liden, & Sparrowe, 1994), similarities of attitude and personality (Dienesch & Liden, 1986; Wayne & Ferris 1990; Liden, Wayne, & Stilwell, 1993; Phillips & Bedeian, 1994), work values (Steiner & Dobbins, 1989), liking (Dockery & Steiner, 1990; Liden et al., 1993), personality (Burns, 1995), and locus of control (Kinicki & Vecchio, 1994; Martin, Thomas, Charles, Epitropaki, & McNamara, 2005). These studies have contributed to broader understanding of the antecedents of LMX quality.

As evidenced from prior studies of its antecedents, LMX results from a variety of factors. The role that leadership plays in predicting the quality of LMX has been understudied. Testing the relationships between leadership style and the resulting LMX is an important piece for identifying the style best suited for improved relationships. If certain leadership styles are found to be solid predictors of LMX, then leadership practices may be strategically chosen and leadership development initiatives will be better informed. Therefore, studying leadership style as an antecedent of LMX is both a timely and necessary effort.

Recently the field has seen an resurgence of servant leadership research prompted primarily from a clarified construct and measure (Barbuto & Wheeler, 2006). This was followed by other efforts to study the construct and its organizational impacts (Liden, Wayne, Zhao, & Henderson, 2008; Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008). Now that the construct is measurable and testable – the impact of servant leadership can be more fully realized. This study tests the relationship between servant leadership and LMX.

Leader Member Exchange (LMX)

Leader member exchange (LMX) refers to a unique relationship quality that leaders develop with each subordinate. LMX was originally termed Vertical Dyad Linkage (Dansereau, Cashman & Graen, 1973), but was later renamed leader member exchange (Graen, Novak & Somerkamp, 1982). Strong LMX measures the extent to which leaders and followers have developed a trusting, autonomous, and mutually beneficial relationship (Graen & Uhl-Bien, 1995). As shown by the variety of studies above, many different factors may affect the development and quality of LMX. It is important to research the unique qualities each member of the dyad may bring to the relationship, for these qualities of the individuals in the dyad may be antecedents of the relationship. In this study the followers' view of the leader's servant leadership is tested as a predictor of the resulting LMX. Further analyses (via stepwise regression) determine which dimension(s) of servant leadership best predict LMX.

Servant Leadership

Servant leadership, first theorized four decades ago (Greenleaf, 1970), was originally described as a leadership philosophy that values service to others over self-interests. This work

carried with its intuitive appeal and subsequent popular press publications glorified the construct (e.g. Spears, 1995). Spears identified ten dimensions of servant leadership, but no empirical tests of these dimensions were conducted. Consequently, servant leadership was viewed primarily as a conceptual albeit rather elusive construct, lacking any consensus framework or empirical rigor (Bass, 2000). The construct was rejuvenated by a clarification and scale development procedure that operationalized a testable theory of servant leadership (Barbuto & Wheeler, 2006). This clarification and measure has stimulated subsequent empirical works on servant leadership (Liden et al., 2008; Neubert et al. 2008; Sendjaya, Sarros, & Santora, 2008). Barbuto and Wheeler (2006) identified and confirmed five dimensions of servant leadership, which are used in this study- *altruistic calling, emotional healing wisdom, persuasive mapping, organizational stewardship*.

Altruistic Calling

Altruistic calling was defined as the fundamental conscious choice to serve others (Greenleaf, 1977). This desire to positively influence others through service was deemed central to servant leadership ideology (Barbuto & Wheeler, 2006). Servant leaders embraced service to followers, and sacrificed self-interest for their followers' development (Bass, 2000; Graham, 1991). Servant leaders desired positive development in individuals, organizations, communities, and societies (Liden et al., 2008). The necessity for altruism in leadership has been recognized by many scholars (Avolio & Locke, 2002; Block, 1996) as has the altruistic nature of servant leadership (Greenleaf, 1977; Sendjaya, Sarros, & Santora, 2008). Leaders demonstrating a willingness to put followers' interests ahead of their own will likely garner great trust and dedication from followers, leading to higher quality of exchanges.

H₁: Leaders' Altruistic Calling will be positively related to LMX

Emotional Healing

Emotional healing described an ability to recognize when and how to facilitate the healing process. This included a leader's ability to foster spiritual recovery from hardship and trauma (Barbuto & Wheeler, 2006). Servant leaders were viewed as highly empathetic and were able to show sensitivity to others (Liden et al., 2008). They created an environment with their followers that enabled them to voice personal and professional concerns (Barbuto & Wheeler, 2006). Scholars have recognized the need for leaders able to help followers recover hope, and overcome broken dreams and severed relationships (Dacher, 1999; Sturnick, 1998). Leaders capable of producing emotional healing in followers will be more likely to have strong relationships with them.

H₂: Leaders' Emotional Healing will be positively related to LMX

Wisdom

Wisdom described an ability to pick up cues from the environment and to recognize possible consequences and implications of their observations (Barbuto & Wheeler, 2006). Servant leaders are observant and anticipatory across multiple contexts enabling them to translate their knowledge into forward action (Bierly et al., 2000). Scholars have recognized the need for leaders with a strong sense of awareness (Sosik & Megerian, 1999) coupled with an ability to apply the knowledge gained through observation (Kant, 1978; Plato, 1945). Leaders that are

keenly aware and insightful will garner followers' respect and trust, which is necessary to develop strong dyadic relationships.

H₃: Leaders' Wisdom will be positively related to LMX

Persuasive Mapping

Persuasive mapping described an ability to use mental models and sound reasoning to encourage lateral thinking in others (Barbuto & Wheeler, 2006). Servant leaders high in persuasive mapping were skilled at articulating issues and conceptualizing possibilities by sharing their train of thought (Barbuto & Wheeler, 2006). They possessed the necessary knowledge to assist and support their followers effectively (Liden et al., 2008). Researchers have reported persuasiveness-based models to be more productive than authority-based models on positive outcomes (Druskat & Pescosolido, 2002). Leaders capable of consistently using persuasive mapping rather than legitimization will develop stronger relationships with followers.

H₄: Leaders' Persuasive Mapping will be positively related to LMX

Organizational Stewardship

Organizational stewardship described the extent that leaders prepared their organization to make a positive contribution in the community and society (Barbuto & Wheeler, 2006). A servant leader demonstrates a strong sense of social responsible and encourages organizations to implement moral and ethical actions that benefit all stakeholders (Liden et al., 2008; Sendjaya, Sarros, & Santora, 2008). This emphasis was accomplished by reaching out to the community through community development programs, outreach activities, and facilitating company policies that benefited the surrounding community, society and environment. Servant leaders' ideology advocated that their organization create value for the community (Liden et al., 2008). Those leaders capable of uniting an organization for greater purpose and community citizenship will garner the trust and respect that fosters strong dyadic relations.

H₅: Leaders' Organizational Stewardship will be positively related to LMX.

Methods

This paper's goal was to assess whether a measure of servant leadership can predict a strong (positive) LMX, and if so, which of the servant leadership measure's subscales is the best predictor of LMX. Data was collected from elected public officials in Midwestern counties and their raters.

Subjects

The participants were 80 community leaders (treasurers) and 368 raters. All were from the Midwestern U.S. The leaders attended a leadership development workshop for elected officials and were members of a statewide professional organization which sponsored the event. Their average age was 51. Fifty percent had earned bachelor's degree while 20% had earned master's degree or higher. Sixty-five percent of the leaders were women. Raters were colleagues or employees of the leaders and reported an average age of 46. Forty-two percent of

the raters had earned bachelor's degree while less than 10% had earned a master's degree or higher. Fifty-three percent of raters were women.

In this study the follower (rater) servant leadership data was used with the follower (rater) LMX data. The rationale was that raters may be more objective in the assessment of true servant leadership qualities of their leader than the leader (participant) might be in assessing him/herself. It may be that a leader views being a servant leader as socially desirable, thus potentially injecting bias. In addition, there was a much larger *n* for raters than participants (388 versus 80), enhancing the reliability of any findings.

Tests

Data included rater versions of the SLQ and the LMX-7. The servant leadership questionnaire (SLQ) consisted of 23 items on a Likert-type 1-4 scale (1=strongly disagree, 2=somewhat disagree, 3 somewhat agree, 4=strongly agree) - measuring five dimensions – *altruistic calling* (“This person puts my best interests ahead of his/her own”); *emotional healing* (“This person is one I would turn to if I had a personal trauma”); *wisdom* (“This person is good at anticipating the consequences of decisions”); *persuasive mapping* (“This person offers compelling reasons to get me to do things”); *organizations stewardship* (“This person believes that the organization needs to play a moral role in society”). Reliability analysis revealed acceptable subscales ranging from .82 to .92. The LMX-7 was used to assess the strength of LMX. This measure is a 7-item Likert-type scale with anchors at 1 (strongly disagree) and 5 (strongly agree). The LMX has been used extensively in research and seems to be regarded as the gold standard measure for LMX (Gerstner & Day, 1997).

Procedures

Data were collected from the intact group of elected officials as part of a full-day leadership-training seminar. Each participant was asked to distribute the raters' version of the LMX-7 to all of their colleagues. Instrument forms were coded in advance to protect the confidentiality of raters. Procedures were conducted in accordance with University Compliance oversight. Instruments were returned by U.S. Post Office.

Participants and their raters were provided letters detailing their participation and rights, which included the right to withdraw at any time during the research. None of the participants withdrew from the study. Because of preregistration the response rate was high; 80 of the eligible 92 elected officials participated.

Results

Means, standard deviations, and zero-order correlations were calculated for all variables examined in this study (see Table 1). Significant correlations were found between all five dimensions of SLQ and LMX (see Table 1).

Table 1. Correlation Matrix Simple Statistics and Inter-correlations (N=368)

	M	SD	1	2	3	4	5	6
1. Altruistic Calling	2.76	0.79	.82					
2. Emotional Healing	2.71	0.97	.71	.91				
3. Wisdom	3.24	0.71	.51	.49	.92			
4. Persuasive Mapping	2.58	0.80	.62	.69	.49	.87		
5. Organizational Stewardship	3.12	0.73	.68	.62	.58	.47	.89	
6. LMX	3.15	0.69	.70	.73	.55	.61	.67	.89

Scale reliability estimates (α) along the diagonal.

All correlations significant at $p < .01$

Because all five dimensions of servant leadership showed such strong correlations, the researchers opted to test for collinearity among the independent variables. Table 2 shows the results. These results do not indicate a collinearity problem, particularly with the first three models. The last variable (included in model 4), which accounts for less than one percent of the variance change, may be somewhat collinear. However, overall, the Variable Inflation Factors (VIF) are low, and Condition indexes are below 15 (a general rule of thumb indicating the potential for collinearity) except for the last variable.

Table 2. Collinearity diagnostics

Dimensions	Eigenvalue	CI	Tolerance	VIF	Sig .
Model 1					
Constant	1.940	1			
Emotional healing	0.060	5.697	1.000	-	.000
Model 2					
Constant	2.919	1			
Emotional healing	.060	6.957	.595	1.680	.000
Organizational stewardship	.021	11.761	.595	1.680	.000
Model 3					
Constant	3.895	1			
Emotional healing	.062	7.950	.449	2.226	.000
Organizational stewardship	.025	12.480	.478	2.093	.000
Altruistic calling	.018	14.647	.390	2.563	.000
Model 4					
Constant	4.869	1			
Emotional healing	.067	8.527	.441	2.265	.000
Organizational stewardship	.025	13.861	.407	2.456	.000
Altruistic calling	.023	14.682	.389	2.574	.000
Wisdom	.016	17.407	.594	1.683	.005

To determine the best predictive model using these significant findings, the five SLQ variables were entered into a step-wise hierarchical regression model. The test included followers' assessment of leader's servant leadership dimensions as independent variables and

LMX as the dependent variable (see Table 3). The best predictive model included all dimensions of servant leadership except *persuasive mapping*. The dimension *wisdom* added less than 1% to the predictive model, and another variable (altruistic calling) less than 3%. However, the model containing four of the five dimensions of servant leadership explained more than 62% of the common variance in the data ($r = .795$; $r^2 = .632$; Adj. $r^2 = .628$; $SE = 2.96$; $\text{sig}F_{\text{change}} = .005$).

Table 3. Hierarchical Regression Analysis for Servant Leadership Dimensions Predicting Leader Member Exchange (N=368)

Dimensions	R	R ²	Adj R ²	R ² change	SE	Sig. F Change
Step 1						
Emotional healing	.727	.528	.527	.528	3.344	.000
Step 2						
Emotional healing						
Organizational stewardship	.774	.599	.597	.071	3.087	.000
Step 3						
Emotional healing						
Organizational stewardship						
Altruistic calling	.790	.624	.621	.025	2.994	.000
Step 4						
Emotional healing						
Organizational stewardship						
Altruistic calling						
Wisdom	.795	.632	.628	.008	2.966	.005

Model explains approximately 63% of the variance in Leader Member Exchange.

Excluded dimension: Persuasive Mapping.

Discussion

Summary of Findings

The findings of this study include strong positive relations between followers' assessments of leader's servant leadership and the quality of LMX. All five dimensions of servant leadership had significant relationship to LMX. The strongest predictor of LMX was the emotional healing component of servant leadership. This means that leaders who are perceived as able, and willing, to connect to colleagues at an emotional level (specifically in a healing context) build stronger relationships with these colleagues. This infers that followers who view their leaders as possessing servant leadership qualities and using servant leadership skills develop strong, positive exchanges with them.

Limitations

The interpretations of the results of this study are limited by the sampling procedures used in the study – creating a snow ball sampling effect. However, all followers were asked to participate in the study – as opposed to more typical sampling procedures that may have given

leaders the latitude to select 4-6 raters to participate. Inviting participation from all dyadic relationships, versus selected dyads, reduced some of the sampling bias that would have resulted. Future studies should also sample from as wide a target population as possible and continue to eliminate leaders' discretion in the process of member/rater selection.

The results of this study explained approximately 63% of the total variance in the data. Single method variance seems likely to have inflated these relations. However, test of collinearity confirmed a multi-dimensional model with unique individually contributing subscales of servant leadership. This was also evident in the stepwise regression, which identified incremental increases in variance accounted for cumulatively with four servant leadership subscales contributing significantly to the predictive model. The results of this study provide powerful and useful information about the antecedents of LMX.

Future Research

Future research should study other impacts of servant leadership to better quantify its value to leadership practices. Testing such outcomes as followers' autonomy, wisdom development, emotional health, and propensity to exhibit servant leadership attributes themselves - will all be salient research objectives.

Future research should continue to evaluate antecedents of LMX – especially in longitudinal research designs- to evaluate the timing, intensity, and endurance of LMX. These may include person-centered variables as well as contextual influences. Researchers may consider other dispositional variables of both leaders and followers when testing the predictors of LMX.

Summary

This work tested relationships between servant leadership and LMX, resulting in strong relationships across the dimensions of servant leadership. The variance accounted for should not be taken lightly as most studies rarely exceed $r^2 > .3$, even with single method sampling procedures. It is our hope that others will continue to study servant leadership and LMX, collectively, and in separate research designs – to test the antecedents and impacts of each construct.

References

- Avolio, B. J., & Locke, E. E. (2002). Philosophies of leader motivation: Altruism versus egoism. *Leadership Quarterly, 13*, 169-191.
- Barbuto, J. E., Jr., & Wheeler, D. W. (2006). Scale development and construct clarification of servant leadership. *Group & Organization Management, 31*(3), 300-326.
- Bass, B. M. (2000). The future of leadership in learning organizations. *The Journal of Leadership Studies, 7*(3), 18-40.
- Bierly, P. E., Kessler, E. H., & Christensen, E. W. (2000). Organizational learning, knowledge and wisdom. *Journal of Organizational Change Management, 13*, 595-618.
- Block, P. (1996). *Stewardship: Choosing service over self-interest*. San Francisco: Berrett-Koehler.
- Burns, J. Z. (1995). Prediction of leader member exchange quality by Jungian personality type. *Dissertation Abstracts international, 56*, 1729.
- Dacher, E. S. (1999). Loving openness and the healing relationship. *Advances in Mind-Body Medicine, 15*(1), 32-43.
- Dansereau, F., Cashman, J., & Graen, G. (1973). Instrumentality theory and equity theory as complementary approaches in predicting the relations of leadership and turnover among managers. *Organizational Behavior & Human Performance, 10*, 184-200.
- Dienesch, R. M., & Liden, R. C. (1986). Leader member exchange model of leadership: A critique and further development. *Academy of Management Review, 11*, 618-634.
- Dockery, T. M., & Steiner, D. D. (1990). The role of the initial interaction in leader-member exchange. *Group & Organization Studies, 15*, 395-413.
- Druskat, V. U., & Pescosolido, A. T. (2002). The content of effective teamwork mental models in self-managing teams: Ownership, learning, and heedful interrelating. *Human Relations, 55*, 283-314.
- Gerstner, C. R., & Day, D. V. (1997). Meta-analytic review of leader member exchange theory: Correlates and construct issues. *Journal of Applied Psychology, 82*, 827-844.
- Graen, G. B., Novak, M. A., & Sommerkamp, P. (1982). The effects of leader member exchange and job design on productivity and satisfaction: testing an attachment model. *Organizational Behavior & Human Performance, 30*, 109-131.

- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, 6, 219-247.
- Graham, J. W. (1991). Servant-leadership in organizations: Inspirational and moral. *Leadership Quarterly*, 2 (2), 105-119.
- Greenleaf, R. K. (1970). *The Servant as Leader*. Indianapolis, IN: Greenleaf Center.
- Greenleaf, R. K. (1977). *Servant leadership: A journey into the nature of legitimate power and greatness*. New York: Paulist Press.
- Kant, E. (1978). *Anthropology from a pragmatic point of view* (V. L. Dowdell, Trans.). Carbondale: Southern Illinois University Press. (Original work published 1795)
- Kinicki, A. J., & Vecchio, R. P. (1994). Influences on the quality of supervisor subordinate relations: The role of time-pressure, organizational commitment, and locus of control. *Journal of Organizational Behavior*, 15, 75-82.
- Liden, R. C., Wayne, S. J., & Stilwell, D. (1993). A longitudinal study on the early development of leader member exchanges. *Journal of Applied Psychology* 78, 662-674.
- Liden, R. C., Wayne, S. J., Zhao, H., & Henderson, D. (2008). Servant leadership: Development of a multidimensional measure and multi-level assessment. *Leadership Quarterly*, 19, 161-177.
- Martin, R., Thomas, G., Charles, K., Epitropaki, O., & McNamara, R. (2005). The role of leader member exchanges in mediating the relationship between locus of control and work reactions. *Journal of Occupational and Organizational Psychology* 78, 141-147.
- Mayer, D. M., Bardes, M., & Piccolo, R. (2008). Do servant-leaders help satisfy follower needs? An organizational justice perspective. *European Journal of Work and Organizational Psychology*, 17(2), 180-197.
- Neubert, M. J., Kacmar, K. M., Carlson, D. S., Chonko, L. B., & Roberts, J. A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology*, 93(6), pp. 1220-1233.
- Phillips, A. S., & Bedeian, A. G. (1994). Leader-follower exchange quality: the role of personal and interpersonal attributes. *Academy of Management Journal*, 37, 990-1001.
- Plato. (1945). *The Republic of Plato* (F. M. Cornford, Trans.). New York: Oxford University Press.

- Pollard, C. W. (1996). The leader who serves. In F. Hesselbein, M. Goldsmith, & R. Beckhard (Eds.), *The Leader of the future: New visions, strategies, and practices for the next era* (pp. 241-248). San Francisco, CA: Jossey-Bass.
- Sendjaya, S., Sarros, J. C., & Santora, J. C. (2008). Defining and measuring servant leadership behavior in organizations. *Journal of Management Studies*, 45 (2), 401-424.
- Smith, B. N., Montagno, R. V., & Kuzmenko, T. N. (2004). Transformational and servant leadership: Content and contextual comparisons. *Journal of Leadership and Organizational Studies*, 10 (4), 80-91.
- Sosik, J. J., & Megerian, L. E. (1999). Understanding leader emotional intelligence and performance: The role of self-other agreement on transformational leadership perceptions. *Group & Organization Management*, 24, 367-390.
- Spears, L. C. (1995). *Reflections on leadership: How Robert K. Greenleaf's theory of servant leadership influenced today's top management thinkers*. New York: John Wiley.
- Steiner, D. D., & Dobbins, G. H. (1989). The role of work values in leaders' attributions and the development of leader member exchanges. *International Journal of Management* 6, 81-90.
- Sturnick, J. A., (1998). Healing leadership. In L. C. Spears (Ed.), *Insights on Leadership* (pp. 185-193). New York: John Wiley.
- Tsui, A. S., & O'Reily, C. A. (1989). Beyond simple demographic effects: the importance of relational demography in superior-subordinate dyads. *Academy of Management Journal* 32, 402-423.
- Wayne, S. J., & Ferris, G. R. (1990). Influence tactics, affect, and exchange quality in supervisor subordinate interactions: A laboratory experiment and field study. *Journal of Applied Psychology* 75, 487-499.
- Wayne, S. J., Liden, R. C., & Sparrowe, R. T. (1994). Developing leader member exchanges: The influence of gender and ingratiation. *American Behavioral Scientist*, 37, 697-714.