The impact of servant leadership dimensions on leader–member exchange among health care professionals

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Aim The aim of the current study was to investigate the impact of servant leadership dimensions on leader–member exchange (LMX) among health-care professionals.

Background Leadership support and the quality of the dyadic relationship between the leader and the employee are essential regarding the work environment and turnover intentions in health care.

Method A questionnaire-based cross-sectional study was undertaken at four hospital units in Sweden. The study sample included 240 employees.

Results Significant bivariate correlations were found between all servant leadership dimensions and LMX. The strongest correlations were found between ‘humility’ and LMX ($r = 0.69$, $P < 0.001$), and ‘empowerment’ and LMX ($r = 0.67$, $P < 0.001$). The hierarchical regression analyses indicated that ‘empowerment’, ‘humility’ and ‘stewardship’ explained about 55% of the variance in LMX.

Conclusion In our study servant leadership dimensions were strongly related to LMX.

Implications for nursing management The results identify specific servant leadership dimensions that are likely to be useful for developing a stronger exchange relationship between the leader (e.g. nursing manager) and individual subordinates in health care.

Keywords: health care, leader–member exchange, leadership, servant leadership, social exchange

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Introduction

One of the leadership concepts that have been in focus in the past decade(s) is servant leadership. Greenleaf (1977) proposed the concept of servant leadership and the term ‘servant’ indicates an idea based on the motivation to serve. Servant leaders want to develop a sustainable organisation, bring out the best among
employees and to serve the community (including to serve patients) and to act as a steward of the environment (Liden et al. 2008, van Dierendonck & Nuijten 2011, Trastek et al. 2014). Servant leaders prioritise the well-being and growth of followers, but also focus on enabling employees to work more effectively, be successful and to feel responsible for their work (Greenleaf 1977, van Dierendonck 2011, van Dierendonck & Nuijten 2011). Additionally, servant leadership seems well suited to providing employees with the empowerment related to both employee and patient satisfaction, and has the potential to transform culture within long-term care. Brownell (2010) points out that servant leadership is directly aligned with the mission of health-care organisations. Trastek et al. (2014) lists three reasons why servant leadership is especially applicable for health-care organisations: focus on the strength of the team, developing trust, and serving the needs of patients.

The servant leadership literature offers a varying set of characteristics or dimensions. We are inspired by van Dierendonck (2011) discussion and suggestion of key characteristics of servant leadership that includes accountability, empowerment, humility, stewardship and standing back (Konczak et al. 2000, Morris et al. 2005, Hernandez 2008, van Dierendonck 2011, van Dierendonck & Nuijten 2011). See Liden et al. (2008) and van Dierendonck (2011) for a review of dimensions and leadership models.

A leadership concept strongly coupled to social exchange theory is leader–member exchange (LMX) (Wayne et al. 1997, Cropanzano & Mitchell 2005). LMX focuses on the relationship between the leader and individual subordinates. LMX is about the quality of the dyadic relationship between a worker and his/her leader (supervisor). Empirical support can be found for a four-dimensional LMX-model that includes ‘loyalty’, ‘affect’, ‘contribution’ and ‘professional respect’ (Liden & Maslyn 1998). High-quality LMX can be exemplified by high levels of mutual trust, good communication, respect and reciprocal influence (Liden & Graen 1980, Graen & Uhl-Bien 1995). High-quality LMX has been found to be positively linked to several employee-related outcomes, including high performance, increased organisational commitment, role clarity, recognition, satisfaction with supervision, job satisfaction, low turnover intention and organisational citizenship behaviours (Gerstner & Day 1997, Wayne et al. 1997, Schriesheim et al. 1999, Ilies et al. 2007). In recent years, there has been an increasing amount of literature focusing on LMX for the health professions. For example, Laschinger et al. (2007) investigated the quality relationships with nurse managers’ immediate supervisor and found that high-quality LMX was related to more empowerment and job satisfaction. In a study at medical centres and regional hospitals it was found that high-quality LMX between the nurse and nurse supervisor could increase nurses’ commitment, lessen turnover, and promote their organisational citizenship behaviour (Chen et al. 2008). In a US hospital study, Han and Jekel (2011) showed that job satisfaction mediates the association between LMX and turnover intentions. Also, in a study among nurses and nursing assistants in Belgium the results showed that LMX explained significant variance in retention-related outcomes such as turnover intentions (Trybou et al. 2014). Thus, previous research emphasises the importance of the interaction between the supervisor and employee.

Since servant leaders focus on building the leadership potential in followers (employees) and growing their followers into more capable members of the organisation, it is plausible to develop high quality LMX relationships in work groups (Greenleaf 1977, Liden et al. 2008, 2014). Previous studies support the conclusion that servant leadership is associated with, but separate from, LMX (Anand et al. 2011, Wu et al. 2013). Additionally, in a model of servant leadership Liden et al. (2014) identified several intermediate processes such as mutual trust between leader and follower, and commitment to supervisor. Therefore, it may be argued that servant leadership facilitates the development of high-quality LMX (Bauer & Green 1996, Liden et al. 2008, Anand et al. 2011, van Dierendonck 2011, Wu et al. 2013).

The aim of the current study was to investigate the impact of servant leadership dimensions on leader–member exchange (LMX) among health-care professionals. The study reports findings from the Swedish part of a Nordic Multicenter Study regarding performance and well-being in lean rationalisation processes at hospitals (Winkel et al. 2012).

**Methods**

**Procedure, ethical considerations and participants**

A questionnaire-based cross-sectional study was undertaken at four units in two not-for-profit hospitals in southwestern Sweden. The selection of hospital units was based on a two-step sample strategy: (1) the units should represent typical hospital care and (2) the units were easily accessible and willing to participate in the
study. Oral and written information was given regarding the main aims of the study along with assurances that the study would follow research guidelines of confidentiality. Following the organisational codes, the department manager at the hospital gave permission to conduct the study. The study was based on questionnaires carried out at the hospital units during working time. The participation was voluntary and subjects answered the questionnaire anonymously. The study sample included 240 employees and the response rate was approximately 80%. The data were collected between 2011 and 2013.

Measures

**Demographic and employee-related variables**
This part included items concerning sex, age (6-point response scale; younger than 20 years, 20–29 years, 30–39 years, 40–49 years, 50–59 years, 60 years or older), years of employment at the hospital unit (4-point response scale; less than 3 months, 3–12 months, 1–3 years, more than 3 years) and job title/profession (5-point response scale; registered nurse, enrolled nurse, secretary, physician, another position).

**Servant leadership**
Leadership was measured by the Servant Leadership Survey (van Dierendonck & Nuijten 2011). A previous validation study suggests that there are five primary dimensions of servant leader behaviour (van Dierendonck & Nuijten 2011). In the present study, these five primary dimensions were used (with Cronbach’s alpha coefficients in brackets): ‘Empowerment’ (seven items, alpha = 0.88), ‘Accountability’ (three items, alpha = 0.74), ‘Standing back’ (or Servitude) (three items, alpha = 0.64), ‘Humility’ (five items, alpha = 0.92), ‘Stewardship’ (three items, alpha = 0.71). Each item was rated using a six-point Likert-type scale where high scores represent employees who perceived high servant leadership behaviour in their leaders (1 = strongly disagree to 6 = strongly agree).

**Leader–member exchange**
The quality of the supervisor–employee (‘follower’) relationship was measured according to the Leader–member exchange (LMX) concept (Graen & Scandura 1987). In the present study, employee-rated LMX was measured with four items from Liden and Maslyn (1998) LMX-scale: ‘affect’, ‘loyalty’, ‘contribution’ and ‘professional respect’. These four items represent four sub-dimensions to measure the employees’ perception of the quality of relationship with their superiors. In the present study we used a short version of the employee-rated LMX (Liden & Maslyn 1998) with one item for each dimension. Each item was rated using a seven-point Likert-type scale where higher scores represent higher quality exchanges, i.e. high-quality LMX (1 = strongly disagree to 7 = strongly agree). In the present study, Cronbach’s alpha reliability for the LMX global scale was 0.87.

**Data analyses**
Descriptive data were analysed and reliabilities (Cronbach’s alpha coefficients) were computed for all servant leadership dimensions and the LMX global scale. The data were scrutinised using Pearson correlation (Pearson’s r) and hierarchical linear regression analysis to assess the association between servant leadership dimensions and LMX. In the hierarchical linear regression analysis the variables were entered in two (or more) steps in the model in a preconceived order of entry: demographic variables (method enter), servant leadership dimensions (method stepwise). Multicollinearity among the variables in the regression models was assessed by examining the variance inflation factor (VIF). Values of VIF that exceed 10 are often regarded as indicating high degree of multicollinearity, but even VIF values of 3–5 may signify collinearity problems (Hair et al. 2010). The significance level was set at 5%. Effect-sizes were based on Cohen’s conventions (1988). Cohen defined effect sizes for bivariate (zero-order) correlations of around 0.10 as ‘small’, around 0.30 as ‘medium’ and around 0.50 as ‘large’. In multiple regression analysis ($R^2$) the effect sizes are around 0.02 for ‘small’, around 0.13 for ‘medium’ and around 0.26 for ‘large’. Data management and analysis was performed using SPSS version 21.0 for Windows (IBM Svenska AB, Stockholm, Sweden).

**Results**
**Demographic and employee-related variables among health-care professionals**
The sample ($n = 240$, 82% females and 18% males) consisted of 59% registered nurses, 24% enrolled nurses, 10% secretaries and 6% physicians. Twenty-three per cent were younger than 30 years, 62% were between 30 and 49 years, and 15% were 50 years or older. Twenty-three per cent had less than 1 year of employment at the hospital, 17% between 1 and 3 years, and 60% had more than 3 years of employment.
Bivariate correlations between servant leadership dimensions and LMX

Results of the Pearson’s $r$ analysis yielded that there were significant, positive correlations between all five primary dimensions of servant leadership and LMX. The correlations in descending order of strength were with humility and LMX ($r = 0.69$, $P < 0.001$), empowerment and LMX ($r = 0.67$, $P < 0.001$), stewardship and LMX ($r = 0.63$, $P < 0.001$), standing back and LMX ($r = 0.54$, $P < 0.001$), and accountability and LMX ($r = 0.33$, $P < 0.001$). The effect sizes are large as regards four out of five correlations between servant leadership dimensions and LMX, and medium for the accountability dimension.

Regression analysis between servant leadership dimensions and LMX

Next, we examined the relationship between five servant leadership dimensions and LMX, after adjusting for demographic variables in step 1 (see Table 1). Multicollinearity was not a concern (VIF was between 1.01 and 2.81 in the regression models). The results of hierarchical regression analyses indicated that, after adjusting for demographic items, the servant leadership dimension ‘empowerment’ had the strongest impact on the employees’ ratings of LMX (see model 2 in Table 1). Three out of five servant leadership dimensions had a significant positive relation with LMX (see model 4 in Table 1). The final model in the hierarchical regression analyses showed that ‘empowerment’, ‘humility’ and ‘stewardship’ explained about 55% of the variance in LMX. The effect sizes are large in model 2–4 in the regression analysis (see adjusted $R^2$). Moreover, the servant leadership dimensions ‘accountability’ and ‘standing back’ were not significantly associated with LMX, when entered with other variables (demographics and servant leadership dimensions).

Discussion

The present study shows that a servant leadership style positively influences high-quality LMX among health-care professionals. It is interesting to note that all five primary dimensions of servant leadership had statistical significant bivariate (zero-order) correlations to LMX. In the regression analysis, the strongest independent variable on the dependent variable LMX was the ‘empowerment’ dimension of servant leadership (after controlling for age, sex and years of employment). The results suggest that servant leadership promotes high-quality LMX.

A strong positive association between servant leadership dimensions and LMX has been reported in the literature. In a cross-sectional US study among elected public officials, Barbuto and Hayden (2011) found significant, positive correlations between all servant leadership dimensions and LMX ($r 0.55–0.73$). In a study among hotel employees in China the correlation between the servant leadership global scale and LMX global scale was 0.41 (Wu et al. 2013). Thus, the results in the current study are similar to those of Barbuto and Hayden (2011) and Wu et al. (2013). The results of the current study demonstrate that the bivariate correlations were between 0.63 and 0.69 with regard to four out of five servant leadership dimensions.

The present findings in the hierarchical regression analysis seem to be consistent with research which found that four of five dimensions of servant leadership, entered into a stepwise hierarchical regression model, explained approximately 63% of the variance in LMX (Barbuto & Hayden 2011). By comparison, in the present study, the hierarchical regression model explained about 55% of the variance in LMX. These
two studies demonstrate large effect sizes when using multiple regression analysis (Cohen 1988).

A servant leader culture involves interpersonal interaction and promotes strong relationships and trust between leaders and employees, rather than relying only on the economic incentives in the employment contract. Servant-leadership moves the concept of leadership to one that incorporates behaviours that are effective, but also contribute to strong trust and empowerment in both the health-care provider team relationships and the patient relationship (Trastek et al. 2014). Brownell (2010) suggests that servant leadership may be the new path forward for health-care leadership. Previous studies suggest that servant leadership is related to improved employee outcomes in health-care organisations, for example job satisfaction, empowering nurses to play a leadership role, professional growth and ethical behaviour (Neill & Saunders 2008, Sturm 2009). Trastek et al. (2014) suggest a number of reasons why servant leadership is especially applicable for health-care organisations, including development of trust. As noted above, high-quality LMX includes a high degree of mutual trust. This study provides empirical support for the argument that servant leadership fosters high-quality LMX. Servant leadership is linked to LMX in that servant leadership behaviours have an impact on the development of good interpersonal relationships between supervisors and employees (Liden & Maslyn 1998, Liden et al. 2008).

According to social exchange theory, employee behaviour is influenced by the supportiveness of leaders. LMX focuses on the interactions that may develop between supervisors and individual employees within an organisation. It seems reasonable to conclude that a good relationship with the supervisor (i.e. high-quality LMX) relates to the meaningfulness of work, as employees receive more support, could get more interesting work and more understanding of their role within the hospital organisation. Previous studies have shown significant positive associations between high-quality LMX and role clarity, organisational citizenship behaviours and job satisfaction, and inverse associations with turnover intention (Gerstner & Day 1997, Wayne et al. 1997, Schriesheim et al. 1999, Ilies et al. 2007, Trybou et al. 2014).

Leadership forms and transmits to employees the mission and vision for the organisation. A key aim is to increase the understanding of the characteristics of good and effective health care leaders (e.g. nursing managers). Leadership has been proposed as a significant factor for professional growth, motivation and engagement of employees, building trust, and developing innovative organisations (Luthans 2002, Trybou et al. 2014). One practical implication from the present study is that specific servant leadership dimensions are probably useful for developing a stronger exchange relationship between the leader and health-care professionals.

Limitations and future research

The cross-sectional design of the study calls into question any inferences one makes concerning the directionality of relationships. This implies that it is difficult to draw conclusions about the causal relationships observed in the regression analysis. A disadvantage of cross-sectional studies is the inability to establish temporal relationship and therefore the evidence for causality can only be suggested (Rothman & Greenland 1998). On the other hand, the regression models presented in this study are based on previous conceptual models and empirical research (Barbuto & Hayden 2011, Wu et al. 2013, Liden et al. 2014), which suggest that the regression models presented in this study are accurate. A future longitudinal study would be valuable to clarify the link between servant leadership and LMX. In order to explain the quantitative findings a mixed method research is recommended. We think that an embedded design with concurrent timing is appropriate. With in-depth interviews and case studies of exemplary servant-leaders we can seek to understand the individuals’ perceptions about making extra efforts to meet their manager’s work goals (contribution), and how and in what way individuals respect their manager’s knowledge and competence (professional respect).

Second, the current study may have some degree of common method bias. However, by using multiple items of each dimension it reduces the effect of measurement error (Kline 1998) and the dimensions used in this study are based on previous research (Liden & Maslyn 1998, van Dierendonck & Nuijten 2011). Also, construct validity tests in previous studies indicate that common method bias is not expected to be a significant problem when dealing with servant leadership and LMX dimensions (Wu et al. 2013).

Third, in the present as well as in previous studies, LMX have mostly been measured by taking only the employee (follower) perspective. LMX was measured by employees’ overall perceptions of the quality of their relationship with a given leader (supervisor). This may be a weakness, but previous studies show that LMX agreement (i.e. the extent to which leader and employee ratings of LMX are intercorrelated) are rather low (Gerstner & Day 1997). It seems that
employee and leader perspectives measure different aspects of the relationship. In the present study, focus was upon employees’ overall perceptions as regards social exchange relationships.

Fourth, although this study was conducted in four health-care units it should be acknowledged that the generalisability of the current study may be limited. The results may be culture specific. Therefore, it is suggested that future studies should investigate the importance of servant leadership dimensions on LMX across a broad range of health-care organisations in other cultures and countries and among a broad range of employee groups.

Implications for nursing management

The results support the significance of a management encouraging health-care professionals to use their talents, come up with new ideas, and to solve problems. The results also deliver support for a management offering health-care professionals sufficient opportunities to learn new skills (empowerment) and a management learning from criticism and admitting mistakes (humility). Moreover, the results support a long-term management vision emphasising the societal responsibility within their organisation (stewardship).

Additionally, in health-care professional organisations research activities are highly valued and nurses are actively encouraged to participate. However, participating in research activities is difficult to justify for many nurses. A number of organisational barriers impede participation, including limited resources, lack of skills and research knowledge, and a culture of individualism. Servant leadership is a service-oriented approach that focuses on valuing, supporting and developing people. Servant leaders want to bring out the best among the employees (e.g. nurses) and the community, and therefore servant leaders ordinarily have a good understanding about the importance of nurses participating in research and quality improvement activities.

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Ethical approval

A research application was submitted to AFA Insurance in Sweden (registration number 100063). The review board at AFA Insurance has approved the project without any further ethical examination. We have followed The Swedish Research Council (2012) guidelines, ethics codes (e.g. informed consent) and laws that regulate ethical demands on the research process. No sensitive individual data were included in the present study (there were no data collected regarding individuals’ ethnicity, race, sexual life/orientation, or political opinions, religious or similar beliefs). Oral and written information was given regarding the main aim of the study and that the study would follow research guidelines of confidentiality. The participation was voluntary and the subjects answered the questionnaire anonymously.

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