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The impact of characteristics of nurses' relationships with their supervisor, engagement and trust, on performance behaviors and intent to quit

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Abstract

Aims. To investigate the influence of characteristics of nurses' relationship quality with their manager on engagement and trust, onto in-role or discretionary behaviors and intent to quit.

Background. Nurses having a good relationship with their manager is seen as important, yet the mechanisms of how such relationships are beneficial, or which aspects of the relationship

are important, is less clear. Two possible mechanisms are through the nurse being more engaged in work, or through building their trust in their employer. In turn, engagement and trust may impact in-role and discretionary behaviors as well as staff retention.

Design. Cross-sectional.

Method. An online survey in 2013 of 459 nurses across Australia.

Results. Structural analyses indicated that the affect dimension of relationship quality was negatively related to engagement whereas contribution and respect were positively related to engagement. The affect and respect aspects were positively related to trust. Engagement positively related to discretionary and in-role behaviors. Engagement and trust were negatively related to quit intention, as was the loyalty dimension of the nurses' relationship with their supervisor. However, perceptions of variability in their team's relationship quality with their leader was negatively related to trust and positively related to intent to quit.

Conclusions. Nurse managers with a nuanced understanding of social exchange at work are likely to maintain more engaged, well-performing and stable nursing teams. In particular, a willingness by the supervisor to come to their nurses' defense and having a consistent standard of relationship quality across their nurses is likely to improve nurse retention.

Keywords: relationship quality, social exchange, engagement, trust, organizational citizenship, in-role behavior

SUMMARY STATEMENT

Why is this research needed?

- Retention of nurses is an important global issue and research is needed to help address this issue.
- Increasing evidence points to the contribution of social exchange, between nurse unit managers and nurses, to engagement and retention of nurses. There is a need for greater understanding of the way such exchange relationships work.
- Recent research using innovative forms of assessing the quality of the relationship between supervisor and subordinate is revealing the importance of the way that supervisor-subordinate relationship quality is distributed in groups, as well as the effects of the various aspects of the quality of the relationship.

What are the key findings?

- Particular aspects of the supervisor-subordinate relationship quality relate differentially to outcome variables, supporting the idea that the social exchanges at

work are multi-faceted.

- The results suggest that leader's having a wide variety of quality in the relationships with their subordinates reduces the subordinate nurses' trust in the organization and increases their intent to quit.
- Engagement was the pivotal variable mediating the relationship between relationship quality and nurses' in-role and extra-role behaviors.

How should the findings be used to influence practice/education?

- The findings suggest that nurse manager effectiveness will benefit from attention to exchange relationships in nursing groups. Training and professional development might usefully include an understanding of the importance of ensuring similar, preferably high, levels of relationship quality across their nursing staff, avoiding favoritism.
- Attention should be paid to nurse engagement and trust as key factors that foster in-role and extra-role behavior as well as reducing turnover among nurses.

Introduction

In many countries around the world a nursing shortage, in the context of the increasing demands inherent to an aging population, presents substantial challenges, challenges that are exacerbated by nurse turnover (Hayes *et al.* 2012). A key indicator of likely nurse turnover, which may present with enough notice to be addressed by nurse managers, is the nurse's intent to leave. Turnover intentions are particularly useful in nursing studies because of their effectiveness in predicting actual turnover (Robson & Robson 2015). Among the issues that impact nurses' intention to leave there is a recognition across a range of studies that turnover intention is influenced more by supervisors or managers than by co-workers (Hayes *et al.* 2012). Although this pattern across studies suggests a need to focus more on the impact of supervisors and managers for nurse's intention to leave, at the same time those managers, their organization and the nurses will want to maintain performance levels both in terms of the core, required behaviors of their job and, preferably, maintain the discretionary behaviors that facilitate the smooth and successful running of their unit.

Background

The quality of the relationship a nurse has with their supervisor influences the nurse's work

attitudes and performance (Laschinger *et al.* 2009), including their intention to quit (Galletta *et al.* 2013). The importance of the quality of the working relationships between subordinates, sometimes referred to as ‘members’ and their supervisor was developed some time ago (Graen *et al.* 1972, Danserau *et al.* 1973) and increasingly became known as leader-member exchange (LMX). LMX is based on the framework known as social exchange theory, where a series of interpersonal interactions develops a system of exchange and trust between the parties involved (Blau 1964, Cropanzano & Mitchell 2005). Nurses’ perceptions of high quality relationships with their supervisor has been associated with lower levels of intention to leave or higher levels of intention to remain in both quantitative (Galletta *et al.* 2013, Robson & Robson 2015) and qualitative studies (Tourangeau *et al.* 2010). However, in contrast, studies with a focus on narrower, specific elements of the relationships in a nursing environment have found no links between collegial nurse-physician relations, nor nurse manager ability, leadership and support, with nurses’ turnover intention (Lansiquot *et al.* 2012).

From a social exchange perspective this discrepancy in the pattern of results across studies could be due to a need to incorporate the nurses’ more affect-oriented perceptions of their specific supervisor, rather than rating more structural characteristics of the work environment. Alternatively, this discrepancy in the pattern of results across studies could be due to the nature of the aspects or facets of the relationship between the nurse and the supervisor that were examined. The current study will investigate both the social exchange approach and the contributions of specific aspects of the relationship with the supervisor.

The perceived quality of the exchange relationship between the nurse and their supervisor has been linked to intention to leave (Han & Jekel 2010) as well as more affect-oriented issues such as job satisfaction and trust (Trybou *et al.* 2014a) or individual psychological empowerment and organizational commitment (Laschinger *et al.* 2009, 2011). High quality overall LMX is enacted through social mechanisms such as formal and informal rewards and fosters high levels of trust, interaction and support (Dienesch & Liden 1986). Similarly, LMX has been associated with turnover intentions, actual turnover (Dulebohn *et al.* 2012) and with the extent to which nurses are more likely to go beyond the basic requirements of their role for the organization (Trybou *et al.* 2014b).

There are several reasons for the positive influence of LMX on employee-level outcomes. Employees may be included in the supervisor’s in-group if they have better skills and abilities to conduct work effectively. Alternatively, employees with better LMX may receive more support from their leader, which may then enable and oblige them to perform

more effectively. High LMX relationships include exchanges of material and non-material goods that extend beyond what is specified in the formal job description (Illes *et al.* 2007). Thus, in high LMX relationships, it is likely that subordinates will go beyond required in-role behavior and do more to reciprocate their supervisors' high levels of investment in them (Illes *et al.* 2007). The nature of these differences may be revealed when using a more comprehensive set of measures of aspects of LMX.

In terms of the aspects of the nurse-supervisor relationship that are important, LMX has usually been examined as a one-dimensional construct, despite its multidimensionality having been theoretically and statistically established for over a decade (e.g. Dienesch & Liden 1986, Gerstner & Day 1997, Liden & Maslyn 1998). Four dimensions of LMX have been suggested: contribution to organizational goals, loyalty, professional respect and affect (Dienesch & Liden 1986, Liden & Maslyn 1998). Contribution relates to the work-related effort each member of the dyad invests in the mutual goals of both parties. Professional respect relates to the degree that each individual recognizes and admires the others' work-related competency and knowledge. Loyalty (e.g. public support of the others' behaviors and character traits) may be a vital commodity of exchange. Affect relates to the interpersonal 'liking' between the two individuals in the dyad. The dimensions are conceptually and statistically distinct from each other (Liden & Maslyn 1998).

A further characteristic of the quality of the relationship nurses have with their supervisor is to recognize the group context of those relationships. That is, nurses may be aware of the degree of differentiation in the quality of the relationships they and their peers respectively have with their supervisor, formally known (e.g., Hooper & Martin 2008) as LMX variability (LMXV). The extent to which LMX relationships are perceived to vary in a team (LMXV) has been found to negatively impact job satisfaction and employee wellbeing, above and beyond the effects of LMX, possibly due to the mediating influence of team conflict (Hooper & Martin 2008). Members with low LMXV have more balanced groups with greater job satisfaction and organizational commitment due to better social harmony among team members leading to greater engagement (Schyns 2006). Further, it has been suggested that high LMX in a work team with low LMXV is optimal (Schyns & Day 2010), although these conditions may be difficult to realize (Liden *et al.* 1997).

The potential mechanisms of engagement and trust on to outcomes

Supervisors' behavior can provide opportunities to contribute to decision processes, recognize nurses' skill and build a cohesive workgroup for the benefit of the organization and

patients (Galletta *et al.* 2013). Work tasks may be mandatory for employees, but they may reciprocate high quality social exchanges with their supervisor by increasing their engagement in such tasks (Illes *et al.* 2007). In contrast, engagement correlates negatively with employees' intent to leave their organization (Saks 2006). That is, if the supervisor does not provide enough resources and/or support, the employee may respond with decreasing work engagement and lower performance before actual quitting (Krpalek *et al.* 2014).

Employees who are engaged at work are cognitively, emotionally and physically 'present', invested in their work tasks and allocate more personal resources and energy to their work (Kahn 1990). Engaged employees perform their tasks efficiently and are able to make resources available to pursue activities beyond their formal job descriptions (Christian *et al.* 2011). That is, engagement may be associated with mandatory in-role behaviors (IRB) and discretionary organizational citizenship behaviors (OCB) at work (Christian *et al.* 2011, Rich *et al.* 2010). OCB is particularly useful in nursing because nurses have the most frequent interactions with patients and their positive behaviors strongly influence the quality of healthcare services (Kazemipour *et al.* 2012). OCB can benefit the organization (OCBO), or benefit individual (OCBI) employees (Williams & Anderson 1991). However, OCBI and OCBO are rarely explored as separate outcomes in relation to engagement.

Similarly, another likely mechanism for the links between nurses' perceived relationship quality with their supervisor and various outcomes, especially intent to quit, is trust. Trust reflects the expectations about the likelihood that 'another's future actions will be beneficial, favorable, or at least not detrimental to one's interests' (Robinson 1996, p. 576). That is, when subordinates trust their managers or supervisors, they are likely to have a history of successful social exchanges with them (Blau 1964). These exchanges may create feelings of obligation with high expectations of reciprocal response from the supervisor (Cropanzano & Mitchell 2005).

In nursing, the negative association between LMX and intent to quit has been posited to be due to higher levels of trust and other benefits that nurses with high LMX receive, although the explicit links between nurse LMX and trust have not always been found (Trybou *et al.* 2014a). There can be an in-group effect when the supervisor builds relationships with select employees and consequently builds trust between these employees and the employer (Brower *et al.* 2000). Trust appears to be positively associated with OCB and IRB and negatively associated with intent to quit, across several industries (Colquitt *et al.* 2007, Brower *et al.* 2009).

LMX has been found to be directly related to overall OCB and IRB, in addition to

turnover intentions and actual turnover, across several studies (Dulebohn *et al.* 2012). However, at the facet level, there have not been enough studies to predict specific relationships. LMX contribution may be a stronger predictor of engagement and performance than loyalty and professional respect, as it has been argued to be work-related compared with the other, primarily social, LMX dimensions (Maslyn & Uhl-Bien 2001). LMX affect, together with contribution, may be stronger predictors of OCB than other LMX dimensions (Illes *et al.* 2007). To the best of our knowledge these aspects of LMX have yet to be examined in relation to engagement, trust, OCB/IRB and intent to quit in the same study.

The Study

Aim

The current study examines the influence of multiple aspects of LMX (i.e. contribution, loyalty, affect, personal respect), in addition to LMXV, on engagement and trust and their influence on several measures of employee performance behaviors (OCBI, OCBO and IRB) and intentions to quit.

Data collection

A recent review of nurse turnover intention suggested that samples should endeavor to come from a variety of geographical jurisdictions and backgrounds (Hayes *et al.* 2012). Consequently, respondents were recruited through an online panel with coverage across the whole of Australia to complete an online questionnaire during 2013. This study was part of a broader research program, with an otherwise unrelated precursor paper finding that the nursing practices across sectors were generally similar (Rodwell & Demir, 2013).

Design

Cross-sectional correlation survey.

Measures

Nurse LMX was measured using a 12-item scale developed by Liden and Maslyn (1998). The 12-items were evenly split into four subscales (LMX affect, LMX loyalty, LMX contribution and LMX respect). Example items include 'I like my supervisor very much as a person' (LMX affect), 'my supervisor would come to my defence if I was 'attacked' by others' (LMX loyalty), 'I do not mind working my hardest for my supervisor' (LMX contribution) and 'I respect my supervisor's knowledge of and competence on the job' (LMX professional respect). Items were rated on a scale of 1 (strongly disagree) - 7 (strongly agree). Researchers have previously demonstrated that the LMX scale had high reliability and an appropriate

factor structure with Cronbach's alpha for the facet scales ranging from .85 to .96 (Michel & Tews 2016).

LMXV was measured using a scale adapted from Hooper and Martin (2008) and their scoring process. Participants were asked to indicate the number of members of their work team, including themselves, that had very poor, poor, satisfactory, good and very good relationships with their supervisor. Participants were asked to make a reasonable estimate of these numbers if they were unsure. These responses were then used to calculate LMXV, which was the coefficient of variation of the scores, by dividing the standard deviation of the team's LMX relationships by the team mean (per Hooper & Martin 2008).

Engagement was measured using a 12-item scale developed and validated by May *et al.* (2004). Respondents were asked to indicate the extent that they agreed with each item on a 5 point scale from strongly disagree to strongly agree. Example items include 'I exert a lot of energy performing my job', 'I really put my heart into my job' and 'time passes quickly when I perform my job'. The scale's strength is highlighted by later studies using the marker items and still finding predictive and discriminant validity (e.g., Christian *et al.* 2015).

Trust in employer was measured using a seven-item scale used by Robinson (1996) as also validated by Coyle-Shapiro (2002). Participants were asked to indicate the extent to which they agreed with each statement relating to their trust in their employer on a scale of 1 (strongly disagree) - 5 (strongly agree). Examples of items in this scale include 'I believe my employer has high integrity' and 'in general, I believe my employer's motives and intentions are good'.

Performance behaviors were measured using scales developed and tested by Williams and Anderson (1991). The scale consisted of three subscales rated on a 7-point scale (from *strongly disagree* to *strongly agree*). Items 1-7 measured individually focused OCB, with items such as 'I help others who have been absent' and 'I go out of my way to help new employees'. Items 8-14 measured organizationally focused OCB, with items such as 'My attendance at work is above the norm' and 'I take undeserved work breaks' (reverse-scored). Items 15-21 measured in-role behavior (IRB), with items such as 'I adequately complete my assigned duties' and 'I perform the tasks expected of me'. These items have been tested many times, especially IRB and typically have reliabilities of 0.86 and above (e.g., see Epitropaki *et al.* in-press) or 0.83 and above for each of the three subscales, along with confirmatory structure analysis (Turnley *et al.* 2003).

In a similar manner to Lansiquot *et al.* (2012) intent to quit was considered in terms of the nurses' intent to leave their current organization in the short to medium term (e.g., <3

years). Intention to quit the organization was measured using four items rated on a scale from 1 (strongly agree) to 5 (strongly agree). These items were 'I am seriously thinking about quitting my job' (Landau & Hammer 1986): 'I expect to be working at this organization two years from now', 'I intend to remain with this organization' and 'If I had my way, I will be working for this organization three years from now' (Chatman 1991).

The structures of all of the scales were checked for congeneric structure, unidimensionality and discriminant validity before being used in the structural equation modeling (SEM). For example, the unidimensionality of each scale was assessed by creating a measurement model to identify possible sources of misspecification for each factor separately and to check that each item loaded on its factor at greater than 0.6. All of the unidimensional factors were then tested in a measurement model to check that each item and factor was discriminant by judging misspecifications following Byrne (2001) and in terms of manual specification checks such as checking that the items loaded on a factor more strongly than items on other factors multiplied by the correlations between factors.

Data analysis

The process for calculating LMXV detailed above entailed that LMXV be set as a manifest variable for the SEM. Parceling was used for the remaining variables, all variables except LMXV, for several reasons: First, the associations between variables rather than their structures were the main reason for conducting the current study. Second, item parceling has been demonstrated to improve normality of data and thus reduce estimation errors in SEM. Third, item parceling provides parameter estimates that are more stable when using smaller sample sizes or for testing models containing many items per construct (Bagozzi & Heatherton 1994). Unidimensionality was established prior to item parceling in the current study so as to ensure parceling would not influence the estimates of unidimensional constructs. The formulae provided by Munck (1979) were used to derive the regression coefficients (i.e. $SD\sqrt{\alpha}$), which reflect the regression of each composite variable on its latent variable and the measurement error variances associated with each composite variable (i.e. $SD^2(1-\alpha)$). These values were then used to specify the single-item indicator latent variables in the structural equation model, a technique that has been successfully applied in several previous studies (e.g. Wang *et al.* 2009).

The current study used a total score approach to examine engagement as established by previous studies that did not find separate and reliable factors and consequently used an overall factor of engagement made up of select items that demonstrated good reliability

(Viljevac *et al.* 2012). The full model was tested with connections from the predictor variables (four dimensions of LMX and LMXV) to psychological engagement and employee trust in their employer, with connections from engagement and trust to employee-level performance (OCBO, OCBI and IRB) and intent to quit.

Results

The sample comprised 459 nurses working across Australia. Approximately half of the respondents were in full time roles (49.0%) and the rest (51.0%) worked on a part time/casual basis. The sample could be divided into three groups aged 34 years or under (33.3%), 35-44 years (29.4%) and 45 years or older (37.3%). The largest group of respondents had an organizational tenure of 0-4years (46.2%), followed by 5 to 9 years (29.2%) and 10 or more years (24.6%). The dataset was checked for outliers and normality. Means, standard deviations, reliability coefficients and correlations are shown in Table 1.

The initial model had $\chi^2(21) = 65.418$, $p < .001$ and Bollen-Stein $p = .001$. The non-significant paths were then removed, which resulted in a model with a $\chi^2(28) = 73.546$, $p < .001$, Bollen-Stein $p < .01$. Finally, the modification indices indicated a line between LMX loyalty and intent to quit and LMXV and intent to quit, resulting in a model with a $\chi^2(26) = 46.404$, $p = 0.008$, Bollen-Stein $p = 0.062$, indicating a significantly improved model. The goodness of fit statistics for the final model indicated a good model fit: $\chi^2/df = 1.785$, SRMR (0.0247), RMSEA (0.043), GFI (0.981) and CFI (0.992). A notable proportion of the variance of all of the endogenous variables was explained, as detailed in Figure 1.

Discussion

The current study investigated the associations between dimensions of LMX and LMXV with engagement and trust and their impact on employee-level performance behaviors (OCBI, OCBO and IRB) and intent to quit. This study's results confirm prior studies' findings that nurses' perceptions of high quality relationships with their supervisor is associated with lower levels of intention to leave (Galletta *et al.* 2013, Robson & Robson 2015) and takes those results further by examining the characteristics of leadership that drive particular elements of those relationships.

Overall, the current study illustrates the importance of examining the facets of LMX, in addition to the impact of LMXV. Engagement was the most pivotal variable in the model, being significantly influenced by three of the four aspects of LMX, positively impacting all three types of performance behaviors and negatively relating to intention to quit. Trust also

appears important for its negative association with intent to quit rather than for performance. This discussion will work from the right hand side of the model toward the left, thereby being able to draw out the effects of the respective leadership characteristics.

Employee engagement was positively related to OCBI, OCBO and IRB, whereas engagement and trust negatively related to intention to leave the organization, confirming similar results from previous studies (Saks 2006, Rich *et al.* 2010). Highly engaged employees invest more resources into their work tasks and possess a broader view of what their roles entail, accomplishing goals more efficiently and freeing up more resources to pursue OCB (Rich *et al.* 2010, Christian *et al.* 2011). In a similar manner to previous studies, employee engagement was negatively related to intent to leave the organization (Saks 2006). The aspects of LMX investigated here had relationships with both in-role and extra-role performance behaviors, in contrast to previous studies finding links to extra-role behaviors but not in-role behaviors (Trybou *et al.* 2014b) suggesting that engagement may act as a mechanism for directing leadership effects to also cover in-role behaviors. The broad array of relationships from engagement with both the performance behavior variables and intent to quit in this study appear to be due to the nurses being invested in their work, with the input- and task-oriented nature of engagement ensuring strong relationships with the performance behavior outcomes.

In contrast trust was related to intent to quit but not significantly related to any of the performance behavior variables. Previous research has sometimes found relationships between trust and OCB or IRB (Colquitt *et al.* 2007), but not to the same extent as the relationship with intent to quit (Brower *et al.* 2009). This difference between studies in the relationships between trust and performance behaviors may be because relationships between other variables, such as some of the nurse LMX aspects via engagement in this case, take some of the shared variance in performance from trust.

LMX affect and LMX professional respect were positively related to trust, while LMXV was negatively related to trust. Trust may, at least partially, represent the long-term effects of reciprocity in high quality LMX relationships increasing employees' commitment to remain in the relationship with their leader and the organization (Brower *et al.* 2009). That is, being friendly with and liking the supervisor, as well as respecting the supervisor, in a context with low variability in the quality of the subordinates' relationships with the supervisor (low LMXV), increases the trust the nurses have in their supervisor, perhaps reflecting a pattern of trust being driven by the supervisor being personable and consistent.

Further, direct relationships were found between LMX loyalty and intent to quit

(negative) and between LMXV and intent to quit (positive). Neither LMX loyalty nor LMXV were associated with any of the performance behavior variables. These results suggest that the amount of personal loyalty a supervisor demonstrates towards a subordinate directly and specifically impacts the subordinate's intent to stay or withdraw from the organization. This tight relationship between LMX loyalty and intent to quit reflects a history of social exchanges between the nurses and their supervisor where the nurses would expect their supervisor to come to their defense, an advanced state of social exchange where the nurses feel unlikely to quit. When the direct relationships with intent to quit are combined with the indirect relationships working through the mechanism of trust, the pattern of results suggests that the expectation of having a socially safe work situation, where others would come to a nurse's defense is a driver of intending to stay.

The results of this study confirm the relative consistency with which LMX has been linked to intention to quit in previous studies with nurses (e.g., Han & Jekel 2010, Galletta *et al.* 2013, Robson & Robson 2015) and suggests the social safety mechanisms by which that consistent relationship is achieved. The presence of both direct links of a facet of LMX with intent to quit as well as multiple links to trust, such as found with overall nurse LMX by Trybou *et al.* (2014a), indicate the consistency of the direct and indirect links between LMX and intent to quit and also discriminate trust as a key mechanism impacting intent to quit, rather than engagement.

Building on the above mechanisms by which the patterns of relationships with the outcomes arise, the nature of the various leadership components can be examined. Both LMX contribution and LMX loyalty had relatively straightforward patterns of relationships. LMX contribution's relationship with only engagement, onto the performance behaviors, indicates an instrumental nature where working hard for the supervisor impacts the extent to which the nurse is invested in their work. The task-related focus of LMX contribution compared with the social foci of the other LMX dimensions reflects their original design and bases (Maslyn & Uhl-Bien 2001). Interestingly, global LMX quality may be primarily based on personal liking rather than performance (Liden & Maslyn 1998), yet the performance based aspect of nurse LMX (i.e., contribution) had the largest impact on engagement in the current study, illustrating the need to separate the work-related or performance based aspects of LMX from the affect based dimensions. LMX loyalty only having a relationship with intent to quit suggests a continuance-oriented impact for that aspect, emphasizing its basis in social exchange. That is, believing that their supervisor would come to their defense is reciprocated by the nurse's intent to remain forming one part of a perception of a socially safe work

situation, as suggested above and may have been the LMX aspect underpinning previously established continuance links such as between LMX and organizational commitment (Laschinger *et al.* 2009, 2011).

The remaining two facets of LMX appear to have indicated a dual nature in this study. LMX respect has a dual, aligned nature with relationships with both engagement and trust that are beneficial and complementary. The professional respect aspect contains elements of personal liking based on work-related attributes and reputation and therefore high levels of professional respect were understandably beneficial for both engagement and trust. In contrast, the relationships of LMX affect with engagement (negative) and trust (positive) indicate a dual and polarized nature. Prior studies had suggested that LMX affect, along with LMX contribution, may more strongly predict performance compared with other LMX dimensions (Ilies *et al.* 2007). However, our results suggest that high LMX affect may decrease engagement and by association decrease performance. LMX affect is more personal in nature relative to the other dimensions (also shown by its relationship with trust and, by association with negative intent to quit) and not as task-related (Liden & Maslyn 1998). One explanation for this negative relationship may be that liking one's supervisor, seeing that person as a possible friend or having fun with them (Liden & Maslyn 1998) has little to do with the intrinsic motivation at the core of work engagement.

Overall, the associations between LMXV and trust and intent to quit in the current study support the proposition that LMXV has a negative impact on employee outcomes (Schyns 2006). The negative relationship between LMXV and trust indicates that variability in the quality of relationship between a supervisor and the individual nurses in their work team may be contrary to the development of trust. Conversely, low LMXV tends to improve cohesion and reduce conflict in teams. In contrast to suggestions from previous research (Schyns 2006), LMXV had no impact on any of the performance behavior outcomes. The consistent positively-signed impact of LMXV on intent to quit whether directly or indirectly via trust (a negative loading multiplied by a negative loading indicates a positive indirect effect) confirms the need to account for the nurse's perceptions of others in their group context when investigating the impact of relationships with their supervisor.

Limitations

The cross-sectional design limited conclusions regarding causal relationships between variables. Longitudinal data might enable a deeper understanding of the sequence of events for the characteristics of leadership that influence engagement, trust and, consequently,

performance behaviors and intention to quit. Now that this study has indicated that the facets of LMX and the further characteristic of LMX had an impact, longitudinal research in this area will be able to build on these findings. Our panel data were obtained from the nurses themselves and our analysis relies on respondents' perceptions of LMXV. We were not able to obtain data from the respondents' supervisors to have a different-source measure of their leadership perceptions and consequently this paper specifically notes 'nurse LMX' where specifically appropriate. However, it is notable that many of the studies this paper builds on also focused on the nurse's perceptions, with few including or finding a significant impact of, the supervisor's perceptions, particularly on nurses' intent to quit. The subjective performance measures were appropriate for this study because of the subjective-perceptual focus of the project and it is noteworthy that a meta-analysis has found that subjective ratings of performance may be more reliable over time than objective ratings (Sturman *et al.* 2005). Future research may also wish to include more of the issues found from qualitative research such as those presented by Tourangeau *et al.* (2009).

Conclusions

The current study illustrates the utility of investigating which characteristics of nurses' leadership perceptions, whether facets of LMX or the characteristic of LMXV, work through either engagement and/or trust onto an array of performance behaviors and intent to quit. This utility is particularly demonstrated by the differential relationships between the characteristics of leadership perceptions and various employee outcomes. Engagement is important for all three forms of employee performance behaviors (IRB, OCBI and OCBO) and thus these outcomes may be increased by higher LMX affect, contribution and respect. Additionally, employee trust is particularly important to retain employees, along with having low LMXV.

A good relationship between nurse and supervisor should have some element of each LMX dimension. For example, more personal liking aspects of LMX (affect) are important for trust and retention but too much can reduce engagement at work, whereas work-related aspects such as LMX (contribution) are important for engagement and performance at work and LMX (loyalty) is specifically good for retention. On the other hand, LMX (respect) is important for work-related and personal outcomes. Examining the facets of nurse LMX provides insights and illustrates areas that supervisors could focus on to improve their relationships with their employees and consequently improve performance and retention.

For example, the message that emerges from combining the direct relationships with intent to quit with the indirect relationships working through the mechanism of trust, suggests

that the expectation of having a socially safe work situation is a driver of nurses' intending to stay. Nurse managers can build a socially safe work situation as a product of a history of social exchanges as well as a preparedness for the supervisor to come to a nurse's defense. Similarly, when supervisors are consistent in their relationships across their nurses, with little variation in how they treat their subordinates is beneficial for retaining nurses.

Author Contributions:

All authors have agreed on the final version and meet at least one of the following criteria (recommended by the ICMJE*):

- 1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
- 2) drafting the article or revising it critically for important intellectual content.

* <http://www.icmje.org/recommendations/>

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Table 1 Means, standard deviations, correlation coefficients and Cronbach's alpha coefficients of the predictor and outcome variables.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10
1. LMX Affect	13.14	4.41	.94									
2. LMX Loyalty	13.06	4.61	0.80**	.93								
3. LMX Contribution	14.82	3.78	0.57**	0.56**	.89							
4. LMX Respect	14.23	4.87	0.78**	0.77**	0.61**	.97						
5. LMXV	0.22	0.15	-0.30**	-0.26**	-0.15**	-0.28**	NA					
6. Engagement	15.60	2.59	0.23**	0.24**	0.44**	0.33**	0.01	.83				
7. Trust	13.51	3.43	0.51**	0.49**	0.30**	0.54**	-0.28**	0.21**	.90			
8. OCBI	34.01	5.49	0.13**	0.14**	0.37**	0.21**	-0.01	0.57**	0.11*	.92		
9. OCBO	22.24	3.72	0.14**	0.15**	0.37**	0.17**	-0.05	0.54**	0.15**	0.74**	0.76	
10. IRB	24.11	3.87	0.08	0.10*	0.32**	0.19**	0.00	0.60**	0.11*	0.71**	0.70**	.94
11. Intent to quit	10.40	4.32	-0.45**	-0.42**	-0.33**	-0.41**	0.27**	-0.22**	-0.46**	-0.16**	-0.25**	-0.14**

Note. Reliabilities are reported along the diagonal except for Intent to Quit which is .89. * $p < .05$, ** $p < .01$.

Figure 1 Final model showing significant relationships.

Note: For clarity the correlations between the predictor variables have been removed. The variance explained for a variable is indicated above the variable. For example, .44 indicates 44% of the variance for OCBI was explained.

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