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Workplace relationships and the innovative behaviour of nursing employees: a Social Exchange Perspective

Abstract

This research examines the impact of two organisational factors on the innovative behaviour of nurses. More specifically, this research applies the dimensions of Social Exchange Theory as a lens to develop an understanding into the mediating effect of perceived organisational support on the relationship between leader-member exchange and the innovative behaviour of nursing employees. This study uses a mixed-methods approach, including a survey in which 104 nurses responded with useable results and semi-structured interviews with twelve nursing unit managers (nursing supervisors). The findings confirm that perceived organisational support mediates the relationship between leader-member exchange and the innovative behaviour of nursing employees. This research adds to the current body of literature by providing insight into the impact of workplace relationships upon the individual innovativeness of nurses. In summary, this research provides new implications for management seeking to develop an environment that fosters the innovative behaviour of employees.

Key words: Workplace relationships, Social Exchange Theory (SET), Perceived Organisational Support (POS), Leader-Member Exchange (LMX), Innovative behaviour

INTRODUCTION

An important issue for Australia and other countries around the world is the performance and behaviour of skilled employees, because this is a key factor contributing to organisational effectiveness (Hartog, & Verburg, 2004). This is particularly the case for health care employees due the fact that around the world there are not enough nurses (Buchan, & Calman, 2004; Doiron, Hall, & Jones, 2008; Duffield, & O'Brien-Pallas, 2002; Leiter, & Maslach, 2009; O'Brien-Pallas, Duffield, & Alksnis, 2004; Skinner, Van Dijk, Elton, & Auer, 2011). In particular, past and current literature suggests that there are not enough nurses due to a number of factors including: an increased demand for hospital services (aging population), few good substitutes for registered nurses, decreasing enrolment in nursing education (Doiron et al., 2008), the nursing workforce is aging (Buerhaus, Staiger, & Auerback, 2000), inadequate numbers of skilled employees to fill current roles, and a high turnover of employees (Buerhaus, 2002). Additionally, the shift to resource-driven nursing, reflecting a private style of management, in western hospitals has intensified problems with nursing turnover and shortages (Pearson, & Duffy, 1999). The problems facing current nursing employees have been well examined within current literature, but the simple fact is that the problem is expected to get worse.

For example, it is estimated that by 2012 Australia could be short as many as 61 000 nurses (Twigg, Duffield, Thompson, & Rapley, 2010). In addition, due to the shortage of skilled nursing and health care employees it is imperative that nurses are as efficient and productive as possible (Bonias, Bartram, Leggat, & Stanton, 2010). In particular, the need to do more with less is further exacerbated by the ever increasing budget constraints placed on both the public and private health sectors (Åmo, 2006). Current research suggests that such effectiveness and efficiency can be achieved by encouraging and developing, amongst other things, the innovative

behaviour of employees (Carmeli, Meitar, & Weisberg, 2006; Scozzi, Carvelli, & Crowston, 2005). Innovative behaviour is referred to as the process of facilitating new problem solving ideas into organisational practice (Carmeli, Meitar, & Weisberg, 2006). Jafri (2010) suggests that knowledge can be used to create new ideas and that these ideas can be used as the building blocks from which to develop and provide excellence in service and/or other effective workplace processes.

Past research has referred to innovative behaviour as a multi-dimensional process, which involves more than just the output of creative ideas (Carmeli et al., 2006; Scott, & Bruce, 1994). Additionally, while innovative behaviour is considered to include several dimensions (problem identification, solution development, and solution support); the construct has predominantly been examined using a one-dimensional measure (Scott and Bruce, 1994; Carmeli et al., 2006; Sanders et al. 2010). There is a growing body of literature about innovative behaviour and its importance in the workplace. However, there have been very few studies that have adequately examined the innovative behaviour of nursing employees. Additionally, the few studies that do examine the innovative behaviour of nursing employees, only examine the impact of empowerment (Åmo, 2006; Knol, & van Linge, 2009) and transformational leadership (Reuvers, van Engen, Vinkenburg, & Wilson-Evered, 2008) upon innovative behaviour.

In particular, to date nursing management literature has focused primarily on how to attract and retain nursing employees (e.g. Andrews, & Dziegielewski, 2005; Doiron et al., 2008; Gambino, 2010; O'Brien-Pallas et al., 2004; Stolte, & Myers, 1995). However, there are very few studies that have examined the organisational factors that are required to develop an environment that fosters the innovative behaviour of nursing employees (Åmo, 2006; Knol, & van Linge, 2009; Reuvers et al., 2008). In addition, there is a lack of empirical research about

workplace environments and the impact they have on the behaviour of nursing employees. Therefore, this research aims to add to current literature using Social Exchange Theory (SET) as a lens for examining some of the organisational factors that affect the development of the innovative behaviour of nursing employees. As such, this research will outline implications for hospital management and human resource managers seeking to improve organisational effectiveness, productivity, and patient outcomes by developing the innovative behaviour of nursing employees.

Social exchange theorists suggest that social exchange involves a series of interactions that over a period of time generate obligations and liberties between workplace social network members (Åmo, 2006; Cook, & Whitmeyer, 1992; Cropanzano, & Mitchell, 2005; Maurer, Pierce, & Shore, 2002). The social interactions tend to be mutually dependent and contingent upon the actions of another person. Mutuality is not commonly used within current literature; however, it has been used in the past to refer to a reciprocal relationship between two entities. In particular, reciprocity within an organisation refers to the cooperative exchange between employees or between employees and the organisation (Dabos, & Rousseau, 2004). More specifically, the theory of reciprocity is based on the assumption that one good deed or exchange from one entity will be returned at some point by the receiver of the good deed or exchange.

In particular, these mutually dependent or reciprocal interactions under the right circumstances are able to generate high quality relationships in the workplace (Maurer et al., 2002). More specifically, this means within organisations, if employees are satisfied with the outcomes of their workplace exchanges they are more inclined to respond with greater performance in the workplace (Shaw, Dineen, Fang, & Vellella, 2009). Furthermore, when employees are satisfied with the outcomes of their workplace relationships, they are more likely

to respond by fulfilling obligations they have to their supervisor and/or employing organisation. In addition, reciprocal social exchange relationships are said to develop only if all parties involved consider the exchange as valuable and feel as if they can contribute.

Therefore, this research will examine workplace relationships between the employee and the organisation, which within SET literature is commonly referred to as perceived organisational support (POS) (Sluss, Klimchak, & Holmes, 2008). In addition, the workplace relationship between an employee and their direct supervisor will also be examined; this relationship is referred to in SET literature as leader-member exchange (LMX) (Settoon, Bennett, & Liden, 1996; Wayne, Shore, Bommer, & Tetrick, 2002; Wayne, Shore, & Liden, 1997). In particular, this study will examine a mediation model, testing the direct and indirect effects of LMX and POS on the innovative behaviour of nursing employees.

The contribution of this research is to provide insight into the social exchange interactions between employees and their organisation and supervisor. In addition, this forms a framework for the development of workplace relationships that support the facilitation and development of innovative behaviour. For these reasons, the following primary research question is proposed to guide the direction of the study and in particular data collection.

"What is the impact of POS and LMX upon the innovative behaviour of nursing employees?"

This paper will be written using three main parts. Part one provides a review of past and current literature, which is used to build an understanding of the theory. An understanding of theory is required to develop a theoretical model and to draw hypotheses from the literature (Hair, Black, Babin, & Anderson, 2010). Part two outlines the methodology used to undertake

the study. In particular, this section covers the sample that will be examined, the procedure, and how the data will be measured and analysed. Additionally, part three includes a discussion combining the results and the literature review.

BACKGROUND

Social Exchange Theory and workplace relationships

One of the main views of SET suggests that relationships evolve over a period of time into trusting, loyal, and mutual commitments. However, whilst the effective development of workplace social network ties can be developed over a period of time, SET suggests that such relationships will only be fostered under ideal conditions (Cole, Schaninger, & Harris, 2007). This means that to facilitate an environment that fosters workplace relationships, it is imperative that employees abide and follow the rules and norms of exchange, as guidelines to the exchange process. By abiding with the rules and norms of the exchange process employees are more likely to share in positive exchanges with other employees (Cook, & Whitmeyer, 1992; Gefen, & Ridings, 2002). As such, organisations seeking to successfully provide employees with the information and resources they require to be innovative will develop an organisational mechanism that supports employees when attempting to solve work-based problems (Cross, Parker, Prusak, & Borgatti, 2001; Marouf, 2007). Such mechanisms require that employees perceive the organisation and their direct supervisor to be supportive.

Additionally, SET suggests that interpersonal exchanges can be viewed from a cost-benefit perspective, similar to an economic exchange, except a social exchange deals with the exchange of intangible social costs and benefits (respect, honour, friendship and caring) instead of monetary gains (Cropanzano, & Mitchell, 2005). Similar to an economic exchange, a social exchange presumes that employees will enter into an exchange only when they expect that the

benefit of the exchange will outweigh the cost. What sets apart social from economic exchange is that a social exchange gives no guarantee that the benefit provided in an exchange will be reciprocated by the other party. What this means is there are no rules and norms or policies that manage or facilitate the social exchanges between employees.

SET implies that an exchange relationship exists between an employee and their employing organisation, as a result of the employment contract. In addition, Konovsky and Pugh (1994) suggest that the supervisor is an agent of the organisation. Therefore, because a supervisor has their own exchange relationship with employees and they can influence the relationship an employee has with the organisation, supervisors are considered to be a pillar that supports the social exchange framework (Tekleab & Chiaburu, 2010). For example, if the supervisor-subordinate relationship is built upon mutual trust and fairness, it is suggested to develop obligations and liberties between an employee, their supervisor, and their employing organisation (Dabos & Rousseau, 2004). Moreover, the supervisor also controls a key position with regards to the operations of the organisation and the behaviour of employees. As such, the supervisor undertakes a central position when considering a mechanism for facilitating workplace social relationships and the development of innovative behaviour. Therefore, SET is used as a theoretical lens to examine the relationship between the LMX, POS and the innovative of nursing employees.

Innovative Behaviour

Innovative behaviour is referred to as the process of bringing new problem solving ideas into use, thereby enhancing a product, service or process (Carmeli et al., 2006). Furthermore, innovation diffusion is the process by which, over a period of time, innovations are communicated throughout a social system linked by a network (Ford, & Ogilvie, 1996). Seminal

work on innovation can be traced back to Joseph Schumpeter (Schumpeter, 1934). According to Schumpeter 'The theory of economic development' focussed on the interaction between innovative individuals who he called 'entrepreneurs'. In addition, Schumpeter (1934) broadly defined innovation as: the introduction of a new good in a market, a new method of production, opening a new market, or the conquest of a new source of supply of raw materials or half-manufactured goods. Subramaniam and Youndt (2005) emphasise that innovation, like many business functions, is a management process that requires specific tools, rules, discipline, and management and organisational support.

In particular, innovative behaviour in the workplace begins by an employee identifying a work-based problem; this is followed by the development of new ideas and solutions for the problem/s. The final step in the innovative process is to develop support for the new ideas and solutions, so they become embedded within the organisation (Carmeli et al., 2006). Additionally, Scott and Bruce (1994) suggest for innovative behaviour to be fostered an organisational climate, which supports innovative behaviour and provides the necessary resources, also needs to be created. Moreover, the ideas generated within the innovation process also need to make a positive change in a product or service for the innovation cycle to be completed and sustainable (Kleysen, & Street, 2001). As such, SET suggests that none of this can happen without organisational and supervisor support, which employees perceive as being fair and which develops overtime a supportive climate that facilitates and fosters innovative behaviour (Åmo, 2006; Cropanzano, & Mitchell, 2005; Cropanzano, Prehar, & Chen, 2002).

Leader-member exchange and innovative behaviour

The LMX construct measures the quality of the relationship between a subordinate and their immediate supervisor (Bass, 1999). Additionally, LMX theory describes how leaders

develop differential working relationships with subordinates (Hackman & Johnson, 2004). Moreover, it is suggested that LMX relationships develop quickly and remain relatively stable over time (Yukl, 2006). Consistent with SET, the quality of LMX varies depending on the mutuality, perceived value, and reciprocal nature of the relationship (Hung, Ansari, & Aafaqi, 2004). The quality of the LMX relationship affects both leader and member attitudes (and consequently their behaviour) towards one another (Gerstner & Day, 1997; Sparrowe, Liden, Wayne, & Kraimer, 2001).

De Jong and Den Hartog (2007) suggest that there are several studies that examine the impact of different leadership styles upon the innovative behaviour of employees. However, there are no current studies with the exception of De Jong and Den Hartog (2007) that examine the relationship between leadership behaviour and the innovative behaviour of employees. Moreover, social exchange theorists suggest that according to LMX theory the quality of the relationship between supervisor and subordinate impacts on several employee outcomes. The outcomes include such factors as job satisfaction, satisfaction with the supervisor, performance, commitment and turnover intentions (Brunetto, Farr-Wharton, Nelson, Shacklock, Clarkson, Pearman et al., 2008; Cropanzano, & Mitchell, 2005; Sin, Nahrgang, & Morgeson, 2009; Wayne et al., 1997). Therefore, innovative behaviour should be supported if reciprocal social exchange relationships are developed between a supervisor and a subordinate, which improves employees' satisfaction and commitment, as well as their access to information, knowledge, support and resources.

It is widely accepted that supervisors/ management also have the power to influence employees and therefore are also able to facilitate or thwart the transfer of knowledge, information, resources and support (Janssen, 2005). Brunetto, Farr-Wharton, and Shacklock

(2011) found that LMX was indirectly related to an increase in the relevant information and support nurses required to provide a high standard of patient care. Therefore, successful leaders will facilitate and foster the diverse styles of employees; so that problems are continuously identified, new ideas and solutions are applied and that support is created for the new ideas and solutions (innovative behaviour). To provide a holistic approach for examining nursing employees' innovative behaviour; this study will use a social exchange lens, focusing on the impact of the interactions between an employee and their supervisor, as well as their employing organisation.

Perceived Organisational Support, LMX and innovative Behaviour

A social exchange relationship between an employee and the organisation that employs them is referred to in current literature as Perceived Organisational Support (POS). The theory of POS encompasses the fundamental components of social exchange within the employment relationship. Seminal work on POS can be traced back to Eisenberger, et al. (1986) who postulated that POS refers to an employee's collective attitude pertaining to the extent their employing organisation values their contributions and is concerned with their overall well-being. In particular, it is suggested that employees perceive that the organisation has an optimistic or pessimistic orientation towards them, because of the human characteristics employees associate with organisations (Shanock, & Eisenberger, 2006).

In addition, current literature suggests that POS impacts upon an employee's morale and mood, which impacts on attitudes and behaviours that are associated with organisational commitment (Aselage, & Eisenberger, 2003; Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001; Vandenberghe, Bentein, & Stinglhamber, 2004). Therefore, according to SET employees will become attached to their employing organisation when they perceive there to be

reciprocation between their organisational contributions and the rewards they receive for such contributions (O'Driscoll, & Randall, 1999; Wayne et al., 1997). However, other current literature suggests that POS is also correlated with performance; although, such findings are less definitive.

Eisenberger, Fasolo, and Davis-LaMastro (1990) found POS to be positively related with innovation, while Yuan and Woodman (2010) found that LMX impacted on innovative behaviour both directly and indirectly. In addition, Sanders, Moorkamp, Torka, Groeneveld, and Groeneveld (2010) found that human resource (HR) practices mediated the relationship between LMX and innovative behaviour within four Dutch and German technical organisations. Moreover, past literature about innovative behaviour suggests that all innovation has some variation of risk attached and is difficult to facilitate (Kleysen, & Street, 2001; Scott, & Bruce, 1994). Therefore, to support and facilitate the development of innovative solutions to workplace problems, employees must perceive that their supervisor and the organisation are supporting such behaviour (Coakes, & Smith, 2007).

However, Wayne and colleagues suggest that LMX also over a period of time influences POS. This can be attributed to the fact that leaders will often over a period of time provide more rewards to those employees they share a high quality relationship. As such, the provision of more rewards and a high-quality LMX relationship may influence an employee's perception of organisational support. Therefore, a reciprocal relationship is said to have formed between LMX and POS (Wayne et al., 2002; Wayne et al., 1997). As such, this study also aims to examine whether LMX is an antecedent of nursing employees' perception of organisational support.

As such, based on the literature discussed it was expected that LMX would influence innovative behaviour (Yuan and Woodman, 2010; Sanders et al., 2010), LMX would influence

POS (Wayne et al., 1997), and POS would influence innovative behaviour (Eisenberger et al., 1990). Taking these relationships into consideration it is expected that POS may mediate the relationship between LMX and innovative behaviour (see figure 1). Therefore, on the basis of the discussed literature the following hypotheses are derived.

Hypothesis 1: LMX will be positively related to nursing employees' perceptions of organisational support.

Hypothesis 2: POS will be positively related to the innovative behaviour of nursing employees.

Hypothesis 3: POS mediates the relationship between LMX and the innovative behaviour of nursing employees.

[Insert figure 1 here]

METHODS

Sample and procedure

The participants for the survey included nurses and twelve nursing unit managers (NUMs), in particular focusing on nursing employees and their supervisors from two public hospitals in Australia. As previously mentioned, data collection consisted of a quantitative cross-sectional survey of nursing employees and NUMS, and qualitative semi-structured interviews with NUMs. The survey data will be used as the primary data source and the semi-structured interviews will be conducted following the survey data collection and analysis, to provide more in-depth data on developing the innovative behaviour of nursing employees. In particular, initial contact with each hospital was sought through the director of nursing (DON) or the hospitals equivalent. Following a meeting with the DON an email was sent to all nurses and nursing managers informing them of the study. The next step was to distribute 400 hundred

surveys to nurses and nursing managers. The survey was given to nurses along with a pre-paid envelope, so that surveys could be returned directly to the researcher, maintaining participant anonymity. Following the survey data collection and analysis, semi-structured interviews were conducted with NUMs to provide additional information to support the survey data and analysis.

Moreover, while there were some minor differences between the two hospitals examined, this study predominantly seeks to provide insight into nursing employees within the public sector and a number of antecedents related to innovative behaviour. Therefore, this study provides an individual level of analysis, focusing on issues related to nursing employees and not on the impact that innovative behaviour has on organisational level factors, such as overall firm performance and innovative output.

Measures

This study used three main instruments derived from current literature to measure each variable. The nurses who participated in the study answered all of the survey questions using a six point Likert scale (1 = strongly disagree to 6 = strongly agree). Graen and Uhl-Bien's (1995) LMX instrument was used to measure nurses' satisfaction with the supervisor-subordinate relationship. The instrument contained seven survey items. Maslyn and Uhl-Bien (1999) suggested that the LMX-7 instrument was a reliable measure ($\alpha = .90$) for examining the supervisor-subordinate relationship.

POS is measured using an instrument created to measure organisational support as interpreted by the employee (Eisenberger et al., 1986). The number of items in this measure have been modified by Eisenberger, Cummings, Armeli and Lynch (1997) and used in this study to measure POS. The survey now contains eight items. A study by Lynch, Eisenberger, and Armelli (1999) suggested that prior studies (e.g. Eisenberger et al., 1986; Setton et al., 1996;

Shore & tetrick, 1991; Shore & Wayne, 1993; Wayne et al., 1997) have created a chain of evidence supporting that the POS measure modified by Eisenberger et al., (1997) is a highly reliable measure for examining employees' perceptions of organisational support.

This study used a modified version of Scott and Bruce's (1994) measure of innovative behaviour to examine the innovativeness of nursing employees. More specifically, the questions (items) were rephrased to provide a better fit for examining nursing employees. The survey instrument contained six survey items. Carmeli, Meitar and Weisberg (2006) reported a high reliability ($\alpha = .86$) when measuring innovative behaviour from the perspective of the supervisor and the employee.

Analysis

Quantitative analysis

Survey data was modelled and analysed using SPSS and AMOS software and an appropriate sample size was selected based on previous literature. This study applied Structural Equation Modelling (SEM) theory and techniques to examine a number of hypotheses. The techniques that will be applied include a confirmatory factor analysis (testing the measurement model) and a path analysis (testing the structural model) using latent variable SEM. Additionally, Preacher and Hayes (2008) suggest that the most popular method to test a simple mediation model is the causal approach developed by Baron and Kenny (1986).

In particular, with regards to sample size, it is prescribed that a minimum of 100 participants is adequate for SEM when using maximum likelihood estimates (Hair et al., 2010; Anderson & Gerbing, 1984). However, there are a number of conditions that must be met; for example, models should have five constructs or less, more than three indicators (observed variables), and all with communalities equal to or greater than .6. Additionally, Kline (2011)

adds to the argument supporting that SEM can provide stable results with sample sizes as small as 100. Therefore, this study was developed taking into account the factors prescribed within past and current literature, so only three constructs were used and each had four or more indicators. Furthermore, the results from the initial CFA suggest that all of the items were found to have high communalities ($>.6$). As such, this study will apply Baron and Kenny's (1986) approach to examine the hypotheses using SEM.

Conducting a SEM analysis requires the data to be normally distributed; it is prescribed that normal distribution should be measured using both statistical and graphical tests (Hair et al., 2010; Kline, 2011). The results suggest normal distribution with skewness ranging from $-.286$ to $-.728$ and kurtosis ranging from $-.719$ to $.533$. Although nursing employees' rated POS as being low; overall the data from all but one graphical test was considered to be normally distributed. To ensure normal distribution, two outliers were removed from the data, reducing the number of useable surveys from 106 to 104.

Qualitative analysis

Qualitative research was undertaken in addition to the quantitative research to provide a triangulation of the data. Semi-structured interviews were undertaken with 12 nursing managers. The interviews were undertaken with nursing managers (ward supervisors) to provide further understanding into leader-member relations, perceptions of organisation support, and innovative behaviour. More specifically, the interview data was coded and analysed using content analytical procedures (Cummings & Worley, 2005). Content analytical procedures prescribe that the comments from the interviews should be summarised, then perceptions and issues should be coded into groups of emerging themes. Moreover, it is important that the coded

themes be validated; validation can be achieved using a process known as inter-rater reliability. The inter-rater reliability process involves another researcher coding and analysing the same data. The inter-rater process found there to be only minor variations between the researchers.

RESULTS

Analysis of survey

As previously mentioned, the demographic results depict that 104 useable surveys were returned from a sample of 400 nursing employees. As such, the response rate is 26 per cent. The 104 participants comprised of 89 (85.6%) females and 15 males (14.4%). More specifically, from the participants 11.5 per cent of nurses were under the age of 30, 36.5 per cent of nurses were between the age of 30 and 45, and 52 per cent of nurses were above the age of 45.

[Table 1 here]

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) can be used to determine the validity of a particular construct that is formed by a group of measures and then to test whether or not the measures are a good indicator of the construct in question (Byrne, 2010). In particular, CFA like exploratory factor analysis is often used as a data reduction technique (Hair, et al., 2010). According to literature about SEM there are many methods that can be applied to test how well the model fits the data (Hair et al., 2010; Kline, 2011).

Therefore, in-line with previous research and literature about CFA, this study tested model fit by applying an adjusted chi-square test ($\Delta\chi^2$) (chi-square/ degrees of freedom), Root Mean-Square Error of Approximation (RMSEA) (Steiger, 1989), Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI) (Bollen, 1989) and the Tucker-Lewis Index (TLI) (Tucker, &

Lewis, 1973). The general rules surrounding model fit suggest that the normed chi-square should be between one and three and should not be significant, RMSEA should be below .08 for a reasonable fit or below .05 for a good fit (Browne, & Cudeck, 1993), and the other indexes should be above .90 (Meyer, & Smith, 2000). However, more recent literature suggests that a cut-off of .95 provides an indication of superior fit, where .90 indicates an adequate fit (Byrne, 2010).

It is important when undertaking a SEM analysis to assess the validity of the measurement model to be examined in the confirmatory factor analysis. Following the validity tests the CFA model can be examined for goodness-of-fit. No issues with validity were highlighted within this study. In particular, factor loadings were all above .7 and no factor loadings were greater than one (Kline, 2011). In addition, the average variances extracted (AVE) and the composite reliabilities were all above .5 and .7 respectively (Hair, et al., 2010). Moreover, three models were tested, which demonstrated that the model 3 provided the best fit for the data (see table 3) and that there were no issues with discriminant validity.

[Table 3 here]

The initial results suggest a poor fit of the mediated model; $\Delta\chi^2 = 1.7$, $p < .001$, RMSEA = .083, GFI = .772, CFI = .894 and TLI = .882. Furthermore, the addition of the parameter between LMX and innovative behaviour (testing the partially mediated model), did not alter significantly how well the model fitted the data. For example, $\Delta\chi^2 = 1.7$, $p < .001$, RMSEA = .83, GFI = .773, CFI = .895 and TLI = .882. Therefore, at this point it is necessary to determine where the problem of model fit lies before proceeding with testing the structural model. Joreskog and Sorbom (1996), and Schumacker and Lomax (2004) suggest that, amongst other

techniques, Standardised Residual Covariance's (SRC) can provide information for re-specifying a model in conjunction with the standardised loadings. As such, because high standardised loadings ($>.6$) have already been established the SRCs will be discussed.

SRCs examine the difference between the sample covariance matrix and the model predicted covariance matrix. As such, a large SRC; for example, greater than 1.96 or less than minus1.96 suggests that the sample covariance does not reflect the hypothesised model (Schumacker, & Lomax, 2004). Therefore, to improve model fit additional parameters can be included or items can be deleted from the survey instruments. In particular, because the addition of the parameter between LMX and innovative behaviour left the model fit statistics basically unchanged, all items (survey questions) from each of the three instruments (POS, LMX and innovative behaviour) that had an SRC of above 1.96 or below -1.96 were deleted from the model. However, before any items were deleted the associated Squared Multiple Correlations (SMC) were also checked, because a low SMC infers that the variable may not be related to the construct it was intended to reflect (Kaplan, 2008; Kline, 2011; Schumacker, & Lomax, 2004). Following the removal of items that had a large or small SRC or a small SMC (see appendix 1), overall the model provided a good fit for the data ($\Delta\chi^2 = 1.18$, $p < .125$, RMSEA = .042, CFI = .986, GFI = .900 and TLI = .987).

Descriptive statistics and correlation matrix

The means, standard deviations, Cronbach alphas and inter-correlations for all variables including innovative behaviour, POS and LMX are presented in Table 2. It is important to determine correlation, because constructs must be correlated to be able to examine a path/s between constructs (Hair et al., 2010).

[Table 2 here]

Testing the hypotheses

To investigate the first Step of mediation, a model was first specified examining only the relationship between LMX and innovative behaviour (see table 3). The results suggest that a positive and significant relationship exists between LMX and the innovative behaviour of nursing employees ($\beta = .45, p < .001$). As such, Baron and Kenny (1986) suggest that if the effect between the predictor and the dependent variable is significant then there is a relationship that may be mediated.

Hypothesis 1 proposed that there be a relationship between LMX and POS. The results support hypothesis 1 suggesting that LMX positively and significantly impacts on nursing employee perceptions of organisational support ($\beta = .43, p < .001$). Furthermore, the results also support hypothesis 2 suggesting that POS related positively and significantly with innovative behaviour ($\beta = .49, p < .001$). Additionally, the results from the standardised indirect effects suggest that LMX indirectly (positively and significantly) effects the innovative behaviour of nursing employees ($\beta = .21, p < .001$).

The final model (hypothesis 3) includes an examination of all paths, so the relationship between LMX and POS; between POS and innovative behaviour; and between LMX and innovative behaviour. The final model provides the best model-fit, providing validation for the mediation model tested. The final model explained 33.9% of the variance of innovative behaviour. However, following an examination of hypothesis 3 (final model) the effect of LMX on innovative behaviour was found to no longer be significant ($\beta = .17, p > .05$). As such, according to research regarding Baron and Kenny's (1986) causal steps, the model examined within this research suggests that LMX only indirectly impacts on innovative behaviour, when

POS is added as a mediator. Therefore, the results provide support for the hypothesis that POS mediates the relationship between LMX and innovative behaviour.

[Table 3 here]

Analysis of interviews

The qualitative semi-structured interviews conducted with NUMs from the two Australian hospitals provide further insight into the conditions required to facilitate and support the innovative behaviour of nursing employees. Initially interview participants were asked whether they considered innovative behaviour to be important for nursing employees. The responses were very similar in their responses suggesting that innovative behaviour, which is associated with the efficiency and effectiveness of nursing employees to solve work-based problems, was important within nursing practice. Additionally, when asked whether nurses currently have an appropriate level of support; for example time, resources, rewards, a supportive environment, and organisational care for their well-being; ten out of the twelve interview participants suggested that nurses receive minimal to no organisational support.

Furthermore, it was also suggested that not only do nurses and NUMs perceive there to be a lack of organisational support, but the presence of senior management was not clear to nurses. In particular, when asked about the relationship that nurses have with senior management, a number of participants suggested that some nurses did not recognise senior managers during their visits to the hospital wards. Additionally, when asked why senior managers may not have been recognised; interview participants provided similar responses, suggesting that senior managers rarely visit the hospital wards. Such an issue can be seen as detrimental to the relationship between employees and their employing organisation. As such, if a high-quality and positive relationship is not developed between nurses and the hospital (organisation), a lack of

reciprocity and obligatory behaviour may form (Cole et al., 2007; Cropanzano, & Mitchell, 2005). Moreover, similar to the quantitative findings, when asked about the current commitment of nurses, the participants indicated that NUMs perceive nurses to be committed to solving work-based problems within their wards, but in most cases nurses do not perceive the organisation to be supportive of the problem-solving process. More specifically, nurses are committed to their wards, colleagues, and supervisors; but they do not perceive that they have the resources and support from the organisation to be able to solve problems effectively.

As such, when asked about the current relationships between nurses and their supervisors; the interview participants provided similar points of view suggesting that while nurses did not perceive the organisation to be supportive, they did perceive there to be good working relationships between themselves and their supervisors. Moreover, the qualitative results provide some support for the quantitative results, that is, both NUMs and nurses perceive there to be good working relationships, on most occasions, between supervisors and subordinates. However, based on the quantitative results, as previously mentioned, POS mediates the relationship between LMX and the innovative behaviour of nursing employees. Therefore, the qualitative results provide further support for the quantitative results, highlighting the issues associated with nursing employees perceptions of organisational support within Australian public hospitals.

Discussion

This study has made several contributions to current literature including SET and innovative behaviour. For example, this study used a social exchange lens to examine the mediating effect of POS on the relationship between LMX and innovative behaviour. SET

argues that when employees develop effective workplace relationships, a reciprocal understanding develops that benefits both the employees involved and the organisation (Cole et al., 2007; Cropanzano, & Mitchell, 2005; Maurer et al., 2002). The results from this study add to previous studies, as well as provide further clarification.

For example, Yuan and Woodman (2010) found that LMX was both indirectly and directly related to innovative behaviour. In contrast, this study found that there was only an indirect relationship following the addition of a mediating variable (POS). As such, the findings from this study still support Yuan and Woodman (2010) although, Yuan and Woodman suggested a partially mediated model and this study found that POS completely mediated the relationship between LMX and innovative behaviour. An explanation could be that different mediating variables were applied and as such have a different impact on the relationship between LMX and innovative behaviour. As a result, the mediating variables applied by Yuan and Woodman were partial mediators, while POS completely mediates the relationship between LMX and innovative behaviour.

In addition, the findings from this study add to Eisenberger et al., (1990) who suggested that POS was positively and significantly related to individual innovation. In particular, the findings from this study suggest that POS has a direct, positive and significant relationship with the innovative behaviour of nursing employees. As such, together the studies have found that POS is related to organisational innovation as well as the individual innovative behaviour of employees.

Therefore, this study supports SET suggesting that effective relationships between an employee and their employing organisation, as well as their direct supervisor should be positively associated with the attitude and behaviour of employees. As previously mentioned,

Coakes and Smith (2007) argue that innovative behaviour can be a risky practice for organisations and employees alike. Therefore, it is imperative that organisations seeking to improve innovative behaviour, establish effective processes that demonstrate support for the employee and their well-being. In addition, Wayne, Shore and Liden (1997) propose that high levels of POS create feelings of obligation, whereby employees not only feel committed to the organisation, but also feel obligated to engage in employee behaviours that support organisational goals.

The results from this study support previous literature suggesting that POS is positively related to the effort on an employee to be innovative (Eisenberger et al., 1990). In addition, literature about POS and LMX postulates that both of the constructs (LMX and POS) influence employee performance, behaviour and attitudes. However, the quantitative results from this study suggest that employees disagree that they perceive the organisation to be supportive ($m = 2.98$). In addition, the interview results provide further support that nursing employees perceive there to currently be a low level of organisational support. As such, considering that POS mediates the relationship between LMX and the innovative behaviour of nursing employees, it is imperative that an employees' perception of organisational support be improved. Moreover, a gap has formed between what SET prescribes as being conducive of improved employee behaviour, and the attitudes, perceptions and environment examined.

According to SET, low POS is a reflection that employees do not perceive there to be equality between the contributions they make to the organisation and the rewards and recognition they receive. Low POS also implies that employees perceive that the organisation is not concerned about their well-being. Therefore, while high POS is related to improved morale, mood, and positive attitudes and behaviours; low POS is associated with a lower morale, and

attitudes and behaviour that are not conducive of attaining organisational goals (Liu, 2008; Sluss et al., 2008). More specifically, in the context of nursing low POS during times of nurse and skill shortages will put further pressure on nurses and will most likely have negative implications for patient outcomes and safety. Although, the results from this study suggest that employees perceive that they have good relationships with their direct supervisors ($m = 4.65$) and that the LMX relationship is positively and significantly related to POS; POS has still been found to be low. This means two things; first, to foster innovative behaviour, POS should be improved; and second, quality LMX is not the only factor influencing an employees' perception of organisational support.

CONCLUSION

This study has made several contributions to current literature about SET. The overall contribution to SET was conducted by applying the literature to examine two antecedents of the innovative behaviour of nursing employees. Furthermore, as previously mentioned such knowledge is imperative if a better understanding is to be developed about the factors that impact on nursing employees' productivity and effectiveness. If human resource managers and hospital managers are able to improve nursing employees' behaviour, effectiveness, and productivity a framework is created contributing to the improvement of patient outcomes and safety. Additionally, the study contributes insight to current literature providing evidence that a gap has formed between ideal levels of support required by an organisation to foster innovative behaviour and current practice.

This research has implications for hospital managers and human resource managers, providing an understanding into two of the management processes required to support and

facilitate innovative behaviour. The development of innovative behaviour is particularly important for hospital management and human resource management practice, because it contributes to improving employee behaviour to maximise organisational efficiency and effectiveness. As well managers that successfully align employee behaviour with organisational goals create a strategic human resource management function, that is, human resources that directly contribute to the attainment of organisational goals. In particular, this study provides insight into the importance of employee perceptions of organisational support and the supervisor-subordinate relationship. Moreover, following a discussion of the results which suggested that employees perceive organisational support to be low, the implication for management is to develop a strategy to improve this perception. Such a strategy should involve, amongst other things, appropriate rewards and support for employees when they exhibit innovative behaviour.

This study combined with current literature highlights areas for future research. For example, it is accepted within literature that workplace relationships and the sharing of knowledge are factors that support and foster innovative behaviour. However, there is a lack of empirical research examining the impact of workplace relationships upon the innovative behaviour of nurses, which highlights the requirement for further research. Such research could be further guided by SET. Additionally, this study provided a small examination of nurses and their supervisors; as such, more information is required from other nurses and NUMs from other hospitals to be able to generalise from such findings. As a result, this should provide a more holistic examination into the impact of the supervisor and the organisation upon the innovative behaviour of nursing employees.

As previously mentioned, this study provided a cross-section of the relationship between LMX, POS, and innovative behaviour. A cross-sectional study poses a limitation to research,

because such data is not suitable for deducing generalisable causal inferences. As such, further research providing a longitudinal approach should provide further insight into the innovative behaviour of nursing employees. This study found that LMX positively affected POS, but POS was still found to be low. Therefore, further research examining other antecedents of POS may provide a better overall understanding of the factors that directly and indirectly influence innovative behaviour. Another limitation arises due to the re-specification of the model; in this case the alteration of the model needs to be cross-validated on another sample drawn from the population. The cross-validation process should reduce the possibility that a researcher will take advantage of sampling error to achieve a reasonable goodness-of-fit (Anderson & Gerbing, 1988). Therefore, the need to cross-validate further highlights, in addition to the issues with cross-sectional studies that more research examining the same population of nursing employees should provide more generalisable results.

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Appendix 1

Survey questions from the model initially specified	Re-specified (final) model
Innovative Behaviour (Scott and Bruce, 1994)	
I Create new ideas for difficult issues	In survey
I Search out new working methods, techniques, or instruments	Removed
I Generate original solutions for problems	In survey
I Mobilise support for innovative ideas and solutions	In survey
I Encourage important organisational members to be enthusiastic about innovative ideas and solutions	In survey
I transform innovative ideas into useful applications	Removed
Leader-Member Exchange (LMX) (the quality of supervisor-subordinate relationship) (Graen and Uhl-Bien, 1995)	
My supervisor is satisfied with my work	Removed
My supervisor understands my work problems and needs	In survey
My supervisor knows how good I am at my job	In survey
My supervisor is willing to use her/his power to help me solve work problems	In survey
I have a good working relationship with my supervisor	In survey
My supervisor is willing to help me at work when I really need it	In survey
I have enough confidence in my supervisor that I would defend and justify his/her decision if he/she were not present to do so	In survey
Perceived Organisational Support (Eisenberger, Cummings, Armelli & Lynch, 1997)	
This organisation cares about my opinion	In survey
This organisation really cares about my well being	In survey
This organisation strongly considers my goals and values	In survey
Help is available from this organisation when I have a problem	In survey
This organisation would forgive an honest mistake on my part	In survey
If given the opportunity, this organisation would take advantage of me *	Removed
This organisations shows very little concern for me *	In survey
This organisation is willing to help me if I need a special favour	Removed

* Reverse coded survey questions

List of tables

Table 1
Survey Demographics

Demographics	Nursing employees (%)
Gender	
Male	14.4
Female	85.6
Age	
<30	11.5
>30 x <45	36.5
>45	52
Position	
Nursing Unit Manager	6.7
Clinical Nurse	16.3
Registered Nurse	61.5
Endorsed Enrolled Nurse	3.8
Enrolled Nurse	1.9
Other	9.6
Education	
High School	7.7
Hospital trained	10.6
TAFE diploma	16.3
Undergraduate	43.3
Postgraduate	22.1
Employment status	
Full-Time	47.1
Part-Time	44.2
Casual	7.7
Pool nurse	1
Ward	
Medical	29.8
Surgical	16.3
Maternity	3.8
Speciality	50

Table 2
Means, Standard Deviations and Correlations of the organisational factors tested

Variable	Mean	SD	Innovative Behaviour	Perceived Organisational Support	Leader-Member Exchange
Innovative Behaviour	4.15	1.42	(.91)		
Perceived Organisational Support	2.98	.99	.52**	(.83)	
Leader-Member Exchange	4.65	1.07	.37**	.43**	(.83)

N= 104. Numbers in parentheses on the diagonal are the Cronbach's Alpha in coefficients of the composite scales

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3
Preliminary models examining goodness-of-fit

	$\Delta\chi^2$	p	CFI	GFI	TLI	RMSEA
Model 1: LMX - IB^a	1.69	.000	.95	.86	.94	.08
Model 2: LMX – POS POS-IB	1.21	.102	.99	.89	.98	.05
Model 3: All paths	1.18	.125	.99	.91	.99	.04

^a Innovative Behaviour

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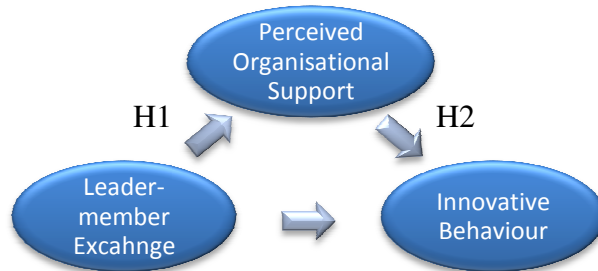


Figure 1: Examining the relationship between LMX and innovative behaviour, as well as the mediating effect of POS.