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Social exchange and innovative behaviour of nursing employees: a hierarchical linear examination

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Introduction

This study will examine the innovative behaviour of Australian public sector nursing employees to provide an understanding about improving overall nursing employees' performance. Current economic conditions, changes in public management, the current skill shortage of registered nurses and the increased accountability of public health care professionals have seen a push to streamline operations within public and private hospitals and to improve patient safety. However, it would seem that within Australia both public and private hospitals are finding it difficult to develop and maintain nurse morale, satisfaction and commitment; which, amongst other problems, have contributed to the current skill shortages of registered nurses within Australia and around the world. Therefore, a problem has developed because hospital management are expected to do more with less and are expected to conduct their practices sometimes with poor-skill mixes of nurses. The issue is further exacerbated because there has been a problem with nurse skill shortages for some time and the problem is only expected to get worse. As a result, hospital management are required to develop an environment that will facilitate and foster efficient and effective nursing behaviour.

During the past decade research examining employee innovative behaviour has become a popular focus for both practitioners and researchers alike. The interest in developing innovative behaviour can be attributed to the argument that innovative behaviour can provide organisations with an advantage over their competitors (Yuan & Woodman, 2010). Innovative behaviour is considered as a management driven process, which facilitates an employee's ability to identify and solve workplace problems innovatively (Subramaniam & Youndt, 2005). As such, organisations that can foster the innovative behaviour of employees effectively develop a framework to improve organisational efficiency and effectiveness (Carmelli, Meitar, &

Weisberg, 2006). In the context of nursing, improving efficiency and effectiveness will contribute to improving patient safety and satisfaction.

This research study uses Social Exchange Theory (SET) as a theoretical lens for examining two antecedents of nursing employees' innovative behaviour. In particular, this study examines the impact of interactional justice and POS upon the innovative behaviour of nursing employees. To clarify, interactional justice is referred to as an employee's perception of fairness regarding the relationships and exchanges they have with their colleagues (Konovsky, 2000). On the other hand, POS refers to an employee's perception about the workplace relationships that develop between an employee and their employing organisation.

There is clear consensus within current literature that innovative behaviour is beneficial for organisations. In particular, innovative behaviour has also been found to be important for hospitals, health care professionals, and other health care organisations (Åmo, 2006; Knol & van Linge, 2009; Reuvers, van Engen, Vinkenburg, & Wilson-Evered, 2008). However, there is a lack of empirical knowledge about developing the innovative behaviour of nurses. Specifically, some studies have examined the impact of leadership and empowerment upon the innovative behaviour of nurses, although no studies have examined the role of workplace relationships. This is surprising considering the importance of workplace relationships in developing an environment that fosters the innovative behaviour of employees (Carmeli & Spreitzer, 2009). More importantly, there have been no studies that have examined whether an employee's relationships with their colleagues and their organisation impact upon the innovative behaviour of nursing employees. 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 interactional justice and POS upon nursing employees' innovative behaviour?"

Background

Interactional justice and Social Exchange Theory

Past literature about SET suggests that organisations are based around and operate by entering into transactions with other parties. For instance, one transaction is the social exchange between a supervisor and their subordinate (Colquitt, 2001). Another example is the interaction between employees within an organisation. In contrast, an example of a transaction between the organisation and the employee would be the work that the employee performed for monetary-

gain. Additionally, employees' form their own perceptions about the fairness of the organisational and social transactions or exchanges. In addition, past literature suggests that perceptions of fairness affect an employee's attitude and behaviour and in-turn can impact upon work behaviours, workplace social exchange and an employee's commitment to the organisation (Konovsky & Pugh, 1994; Niehoff & Moorman, 1993).

Current literature has converged on the idea that the different types of organisational justice are linked separately to workplace behaviour and attitude that impact on the supervisor and the organisation (Aryee, Budhwar, & Chen, 2002; Erdogan, 2006; Stinglhamber, Cremer, & Mercken, 2006). An employee's perception of fairness is said to form the basis of organisational justice. In addition, current literature suggests that an employee evaluates fairness/organisational justice on three distinct experiences: the result they receive from their exchange with the organisation (distributive justice), formal policies and procedures (procedural justice), and the relationships and exchanges they have with colleagues and supervisors (interactional justice) (Aryee, et al., 2002; Colquitt, 2001; Luo, 2007; Tekleab, Takeuchi, & Taylor, 2005). This study will examine interactional justice, procedural and distributive justice will not be used because an employee's exchange with the organisation will be measured using POS.

Hypothesis 1: Interactional justice will be positively correlated with innovative behaviour

Hypothesis 2: Interactional justice will be positively correlated with POS

POS and Social Exchange Theory

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. More specifically, Eisenberger, Fasolo, and Davis-LaMastro (1990) found POS to be positively related with innovation. With this said 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, past literature suggests that to support and facilitate the development of innovative solutions to workplace problems, amongst other things, employees must perceive their workplace interactions to be fair and that their organisation is supportive of behaviour associated with innovation (Coakes, & Smith, 2007).

Hypothesis 3: POS will be positively correlated with innovative behaviour

Workplace relationships and 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 (Carmelli 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. More recently, 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.

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 (Carmelli et al., 2006). Scott and Bruce (1994) suggest for innovative behaviour to be fostered an organisational climate, which supports innovative behaviour and provides the necessary resources 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).

Methods

Sample and procedure

As previously mentioned, 104 nurses participated in a cross-sectional survey and 12 nursing supervisors (nursing unit managers) were interviewed using a semi-structured interview technique, in particular examining two public hospitals in Australia. As such, the study uses a mixed methods approach to examine the hypotheses, applying a sequential explanatory design. The sequential explanatory mixed methods design prescribes that the quantitative data is collected and analysed first, from which the qualitative measures can be developed. More specifically, in the context of this research the interview questions can be developed from the survey findings. Therefore, the qualitative data is used to supplement and build upon the quantitative findings. Following the quantitative data analysis, semi-structured interviews were conducted with nursing supervisors.

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 supervisors. 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.

Measures

Three survey measures were used in this study to provide insight into two antecedents of innovative behaviour. The survey consisted of two main sections; demographic questions and questions/ items examining the three variables to be tested. The items examining the variables require participants to rate on a six point Likert scale whether they agree or disagree with the statements (1 = strongly disagree to 6 = strongly agree).

Interactional justice will be measured using an instrument developed by Luo (2007). The instrument contains 6-items and examines nurses' perceptions about the fairness of the interpersonal exchange that takes place during the application of formal policies and governance. Due to the fact that the instrument measuring interactional justice is relatively new, it has not been applied within current nursing literature. However, the instrument was developed and applied by Luo (2007) who found the measures to be reliable.

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 Armeli (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. 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.

Results

Demographics

The demographic results depicted in table 1 outline that 104 nurses participated in the survey comprised of 89 (85.6%) females and 15 males (14.4%). More specifically, from the participants 11.5 percent of nurses were under the age of 30, 36.5 per cent of nurses were between the age of 30 and 45, and 52 percent of nurses were above the age of 45.

Table 1
Survey Demographics

Demographics	Nursing employees (%) (N = 104)
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
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

Descriptive statistics and correlations

The descriptive statistics are depicted in table 2 and include means, standard deviations, Cronbach's alphas and inter-correlations for all variables examined within this study.

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

Variable	Mean	SD	Innovative Behaviour	Interactional justice	Procedural justice
Innovative Behaviour	4.15	1.42	(.91)		
Interactional justice	4.67	.82	.312**	(.88)	
POS	2.98	.99	.524**	.467**	(.83)

Gender (control)	1.85	.35	.096	.028	.012
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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).

Hypotheses testing

A hierarchical linear regression was used to test hypotheses 1 and 3, examining two models. Hypothesis two was examined using a linear regression. Hypothesis 1 proposed that interactional justice would be positively correlated with innovative behaviour. The results provide support for the hypothesis depicting a positive and significant relationship between interactional justice and innovative behaviour ($F = 11.01$, $p = .001$, $R^2 = 9.7\%$). Additionally, interactional justice explained 9.7% of the variance of innovative behaviour.

Hypothesis 2 proposed that interactional justice would be positively correlated with POS. The results indicate that an employee's perception of interactional justice is positively correlated with their perception of organisational support ($F = 28.38$, $p < .000$, $R^2 = 21.8\%$). As such, this provides support that hypothesis 2 should be accepted. In this case there may be other variables that contribute to explaining the variance of POS, such variables should be identified and examined within future research.

Hypothesis 3 postulated that POS would mediate the relationship between interactional justice and innovative behaviour. The results from the hierarchical linear regression suggest that the addition of POS to the model examining interactional justice and innovative behaviour makes a significant contribution of 18.3 per cent to the variance of innovative behaviour. Combined POS and interactional justice explain 28 per cent of the variance of innovative behaviour ($F = 25.63$, $p < .000$, $R^2 = 28\%$). Additionally, the results provide support for the acceptance of hypothesis 3; however, the addition of POS to the model indicated that interactional justice was no longer a significant predictor of innovative behaviour. To explain, interactional justice as a single variable is a significant predictor of innovative behaviour ($F = 11.01$, $p = .001$, $R^2 = 9.7\%$), although its effect is insignificant when combined with POS ($r = .087$, $p = .366$).

Therefore, this provides support that POS mediates the relationship between interactional justice and innovative behaviour.

Qualitative findings

The 12 semi-structured interviews conducted with NUMs from the two hospitals provide further insight into the relationship between interactional justice, POS and innovative behaviour. The first interview questions probed participants about whether they considered innovative behaviour to be important for nursing employees. The participants were very similar in their responses, suggesting that innovative behaviour, which is associated with the efficiency and effectiveness, is important within nursing practice. The next question examined whether it is perceived that nurses have an appropriate level of organisational support; for example time, resources, rewards, a supportive environment, and organisational care for their well-being. In response, ten out of the twelve interview participants suggested that nurses receive minimal to no organisational support.

On the other hand, when asked about the current relationships between nurses and their colleagues; 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 most nursing employees. 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 nursing employees. However, based on the quantitative results, as previously mentioned, POS mediates the relationship between interactional justice and the innovative behaviour of nursing employees.

Discussion

The results from the examination suggest several possible outcomes for public health care management. The results provide support for the hypotheses, confirming that interactional

justice and POS have a positive and significant impact upon the innovative behaviour of nursing employees. As a result, the findings from this study provide insight into the role of workplace relationships in fostering the innovative behaviour of nursing employees. Additionally, the research also provides new implications for hospital management seeking to foster and develop the innovative behaviour of nursing employees. The development of such behaviour has been found to provide a foundation from which to improve employee problem-solving and as such increase employee efficiency and productivity (Sanders, Moorkamp, Torka, Groeneveld, & Groeneveld, 2010; Yuan & Woodman, 2010). In particular, the improvement of nursing employee efficiency and effectiveness should contribute to the enhancement of patient outcomes and safety.

In turn, improving overall patient outcomes through the development of nursing employee behaviour provides a strategic approach to HRM. The strategic approach is evident in the alignment of employee perceptions and behaviour with the organisation's goals to improve overall performance and patient outcomes. Additionally, improving nursing employees' work outcomes should have a positive impact on the level of patient care provided and should also improve overall patient safety.

Therefore, this study supports SET suggesting that effective relationships between an employee and their employing organisation, as well as their colleagues should be positively associated with the 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, past studies indicate that POS (Edwards & Peccei, 2010; Lynch, Eisenberger, & Armeli, 1999; Patrick & Laschinger, 2006) and interactional justice (Luo, 2007; Malatesta & Byrne, 1997; Tekleab, et al., 2005) can 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 interactional justice and the innovative behaviour of nursing employees, it is imperative that an employee's 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 workplace colleagues ($m = 4.67$) and that interactional justice is positively 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, interactional justice is not the only factor influencing an employees' perception of organisational support.

Conclusion

Overall this research contributed to current literature about innovative behaviour and provided insight into the current understanding about SET in a nursing context. The contribution to SET was conducted by applying the literature to examine two antecedents of the innovative behaviour of nursing employees. As previously mentioned, insight about social exchange in the workplace is required to provide a better understanding about developing the factors that impact on employee behaviour and performance. If hospital management are able to improve nursing employees' behaviour and performance, a foundation is developed, which should contribute to improving patient outcomes. This study also contributes to current literature by providing empirical evidence that there is a discrepancy between levels of organisational support required to support and facilitate innovative behaviour and current practice within Australian hospitals.

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