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Title: Factors predicting registered nurses' intentions to leave their organisation and profession? A job demands-resources framework

Running head: Factors predicting nurses' intentions to leave the organisation and profession

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ABSTRACT

Aims: To develop a comprehensive model of nursing turnover intention by examining the effects of job demands, job resources, personal demands and personal resources on burnout and work engagement and subsequently on the intention to leave the organisation and profession.

Background: The ageing population and a growing prevalence of multimorbidity are placing increasing strain on an ageing nursing workforce. Solutions that address the anticipated nursing shortage should focus on reducing burnout and enhancing the engagement of Registered Nurses (RNs) to improve retention.

Design: A cross-sectional survey design.

Method: Data were collected in 2014-2015 via an e-survey from 2,876 RNs working in New Zealand. Data were analysed with structural equation modeling.

Results: Higher engagement results in lower intention to leave the organisation and profession. Burnout has significant effects on intentions to leave through lower engagement. While most of the demands and resources' variables (except professional development) have effects on intentions to leave, greater workload and greater work-life interference result in higher burnout and are the strongest predictors of intentions to leave. Greater emotional demands (challenges) and greater self-efficacy also have strong effects in lowering intentions to leave through higher engagement.

Conclusions: Employee burnout and work engagement play an important role in transmitting the impacts of job demands, job resources, personal demands and personal resources into RN intention to leave the organisation and profession. Work-life interference and high workloads are major threats to nursing retention while challenge demands and higher levels of self-efficacy support better retention.

Keywords

Nursing turnover, nurse retention, work engagement, employee burnout, job demands-resources model

SUMMARY STATEMENT

Why is this research or review needed?

- A global nursing shortage is predicted to occur within the next 10-20 years due to aging populations increasing demand and an aging nursing workforce nearing retirement.
- Policy development needs to address the ‘discontents’ of current nurses and consider ways to retain these skilled workers despite their changing circumstances.

What are the key findings?

- Higher engagement results in lower intention to leave the organization and, even more strongly, lower intention to leave the profession.
- Burnout has significant effects on intentions to leave the organization and the profession, both directly and indirectly through lower engagement.
- Higher workload and higher work-life interference are the strongest predictors of intentions to leave the organization and the profession.
- Higher emotional demands (challenges) and higher self-efficacy also have strong effects in lowering intentions to leave the organizations and the profession.

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

- Institutions and managers need to develop educational interventions and support strategies that help nurses to deal more effectively with aggressive and troublesome patients.
- Health managers and funders will need to find ways to improve work-life balance and reduce workloads if they are to improve the organizational and occupational commitment of nurses.
- Enhancing job resources will also help to improve nurse retention, including collegial, supervisor and organizational support and steps to improve autonomy and foster value congruence.

1. INTRODUCTION

A global nursing shortage is predicted to occur within the next 10-20 years (Health Workforce Australia, 2012; Nursing Council of New Zealand, 2013). As elsewhere, the New Zealand population is ageing (Ministry of Health, 2016) because of increased life expectancy, advances in medical technology, declining birth rates and the 'baby-boomer' cohorts reaching 65 years (Bascand, 2007; Joumard, Andre, & Nicq, 2010). The ageing population and societal factors such as urbanisation and sedentary lifestyles have increased the number of people living with chronic conditions and multimorbidities, creating greater demand for health care services (Banerjee, 2015; Ministry of Health, 2014).

Like the population they serve, New Zealand's Registered Nurses (RNs) are ageing, with 46% aged over 50 (Ministry of Health, 2014). Research has shown a steady decline in the retention of RNs from the age of 50 years (Nursing Council of New Zealand, 2011). As these RNs retire, the health and disability system will be affected. It is unlikely that simply training more RNs will help to avoid a shortage; therefore policy development needs to address the 'discontents' of current RNs and consider ways to retain them (Forsyth & Mckenzie, 2006).

1.1 Background

The Job Demands-Resources (JD-R) framework is a leading model of the drivers of employee well-being that classifies job characteristics into two general categories: job demands and job resources (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Job demands refer to those "physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs" (Bakker & Demerouti, 2007, p. 312). Job resources refer to those aspects of the job that: "are functional in achieving work goals; reduce job demands and the associated physiological and psychological costs; and stimulate personal growth, learning and development" (Bakker & Demerouti, 2007, p. 312).

Job demands can threaten well-being when they foster job strain and generate burnout, a syndrome of exhaustion and cynicism (Maslach, Schaufeli, & Leiter, 2001; Schaufeli & Taris, 2005). Job resources, on the other hand, due to their intrinsic and extrinsic motivational potential, foster employee engagement, a state of mind characterised by vigour, dedication and absorption (Bakker & Schaufeli, 2008; Schaufeli & Salanova, 2007). The negative pathway through burnout

and the positive pathway through engagement can be expected to affect organisational and occupational commitment. The JD-R framework provides an excellent basis for studying issues relating to RN retention. Jourdain and Chenevert (2010) used the JD-R framework to model the drivers of intention to leave the profession (ITLP) through burnout. In what follows, we use the JD-R framework to generate hypotheses relating to both burnout and engagement pathways and their consequences for ITLP and intention to leave the organisation (ITLO).

2. THE STUDY

2.1 Aim

In this study, framed around the JD-R model (Bakker & Demerouti, 2007; Demerouti et al., 2001), we examine the impacts of RN job demands and resources on their levels of burnout and work engagement and, via these mediators, on their ITLO and ITLP, enabling us to compare what drives each of these important outcomes. We test a comprehensive set of hypotheses on a large national sample of RNs ($n = 2,876$). Our ultimate goal is to help policy makers and managers with decisions that will help them improve the retention of the nursing workforce.

2.2 Model

The research hypotheses are summarised in the model shown in Figure 1. The model contains job demands, including workload, emotional demands - hindrances and emotional demands - challenges; personal demands, including work-life interference; job resources, including supervisor support, colleague support, organisational support, autonomy and professional development; and personal resources, including psychological capital – self-efficacy and value congruence. These independent variables are antecedents of engagement and burnout. The

consequences of engagement and burnout are ITLO and ITLP. The variable of reward is also included as a control.

2.3 Burnout and engagement

The motivational process in the JD-R model envisages job resources leading to engagement and, thus, to higher commitment or lower intentions to leave (Hakanen, Bakker, & Schaufeli, 2006), giving the following hypothesis:

H1a: Engagement is negatively related to intention to leave the organisation/profession.

Burnout is seen as the antithesis of engagement and there is evidence that high levels of burnout are associated with low levels of engagement (Gonzalez-Roma, Schaufeli, Bakker, & Lloret, 2006), leading to the following hypothesis:

H1b: Burnout is negatively related to engagement.

In line with the JD-R model, we expect burnout to predict ITLO (Hakanen et al., 2006) and ITLP (Jourdain & Chenevert, 2010), leading to the following hypothesis:

H1c: Burnout is positively related to intention to leave the organisation/profession, both directly and through a negative relationship with engagement.

2.4 Job demands

2.4.1 Workload

Workload may become a stressor in situations which require high effort to sustain an expected performance level, consequently eliciting negative responses, including burnout (Hasselhorn et al., 2008; Schaufeli, Bakker, & Van Rhenen, 2009). High workloads frequently have an adverse effect on nursing retention in the organisation (Hayes et al., 2012; Huntington et al., 2010) and in the profession (Bakker & Sanz-Vergel, 2013; Hasselhorn et al., 2008), so we expect that:

H2: Greater workload is positively related to intention to leave the organisation/profession through a positive relationship with burnout.

2.4.2 Emotional demands

Recent theorising in the JD-R model (Bakker & Sanz-Vergel, 2013) distinguishes ‘hindrance demands’ from ‘challenge demands’. The former refers to demands that individuals regard as obstacles to learning or performance while challenge demands are positive sources of learning and motivation. In this study, we define hindrance-type emotional demands as exposure to aggressive and troublesome patients. Dealing with such patients may increase stress and burnout for RNs (de Jonge, Le Blanc, Peeters, & Noordam, 2008). High levels of emotional demands that result in high levels of stress and burnout increase ITLO (O'Brien-Pallas, Murphy, Shamian, Li, & Hayes, 2010) and ITLP (Li et al., 2010). This leads to the following mediating hypothesis:

H3: Emotional demands (hindrances) are positively related to intention to leave the organisation/profession through a positive relationship with burnout.

In contrast, emotional demands that fulfil RN desire to offer patient-centred care act as challenges that can reduce burnout and increase engagement with work (Bakker & Sanz-Vergel, 2013; Crawford, LePine, & Rich, 2010). Research has shown that care-oriented challenge demands can reduce RN ITLO (Podsakoff, LePine, & LePine, 2007). Given that dealing with such needs is attractive to RNs, we expect that these types of demand will also encourage them to remain in the profession, such that:

H4: Emotional demands (challenges) are negatively related to intention to leave the organisation/profession (a) through a negative relationship with burnout and (b) through a positive relationship with engagement.

2.5 Personal demands

2.5.1 Work-life interference

With the proliferation of dual-career couples, balancing work and home responsibilities has become increasingly difficult, leading to an increased occurrence of work-life interference (Luk & Shaffer, 2005). Conflict between work and family may have profound consequences for RNs and their employers due to burnout (Innstrand, Langballe, Espnes, Falkum, & Aasland, 2008). Work-life interference is associated with outcomes such as decreased organisational commitment (Carter & Tourangeau, 2012) and decreased professional commitment (Russo & Buonocore, 2012; van der Heijden, van Dam, & Hasselhorn, 2009), leading to the following mediating hypothesis:

H5: Greater work-life interference is positively related to intention to leave the organisation/profession through a positive relationship with burnout.

2.6 Job resources

2.6.1 Supervisor support

Research has shown that RNs experiencing resource shortages rely on work-related social support from supervisors to reduce the negative consequences (Teo, Yeung, & Chang, 2012). This leads to better psychological health, including a lower risk of burnout, higher job satisfaction and a higher level of commitment. Previous studies have found that supervisory support is an important predictor of work engagement for RNs (Duffield, Roche, Blay, & Stasa, 2011; Llorens, Bakker, Schaufeli, & Salanova, 2006; Othman & Nasurdin, 2013). This leads to the following mediating hypothesis:

H6: Greater supervisor support is negatively related to intention to leave the organisation/profession (a) through a negative relationship with burnout and (b) through a positive relationship with engagement.

2.6.2 Colleague support

In addition to supportive supervision, colleague support is a common resource for dealing with stress and has been found to be positively associated with work engagement (Halbesleben, 2010; Schaufeli & Bakker, 2004). Research on RNs has shown that greater colleague support results in higher levels of job satisfaction and commitment towards the organisation (Teo et al., 2012) and profession (van der Heijden et al., 2009). This leads to the following mediating hypothesis:

H7: Greater colleague support is negatively related to intention to leave the organisation/profession (a) through a negative relationship with burnout and (b) through a positive relationship with engagement.

2.6.3 Organisational support

An Australian study of RNs working in aged-care facilities concluded that they are most positive when they feel valued and supported by their organisation (Chenoweth, Merlyn, Jeon, Tait, & Duffield, 2013). Research on South African RNs found that a lack of organisational support contributed significantly to burnout (van der Colff & Rothmann, 2009) while high levels of organisational support can be expected to enhance work engagement (Hallberg & Schaefer, 2006). Research suggests that lower levels of perceived organisational support result in decreased organisational commitment (Gutierrez, Candela, & Carver, 2012). We expect that decreased organisational support will also result in decreased occupational commitment due to disillusionment with organisations in the sector, leading to the following mediating hypotheses:

H8: Greater organisational support is negatively related to intention to leave the organisation/profession (a) through a negative relationship with burnout and (b) through a positive relationship with engagement.

2.6.4 Autonomy

Autonomy has been identified as a major motivator that alleviates burnout and increases engagement (Bakker & Demerouti, 2007; Hakanen et al., 2006). Research has found that autonomy contributes to RNs' job satisfaction and to their retention in the organisation (Cowden,

Cummings, & Profetto-McGrath, 2011; Storey, Cheater, Ford, & Leese, 2009). Other research has shown that having lower autonomy results in greater ITLP (Hasselhorn, Muller, & Tackenberg, 2005). This leads to the following mediating hypothesis:

H9. Greater autonomy is negatively related to intention to leave the organisation/profession (a) through a negative relationship with burnout and (b) through a positive relationship with engagement.

2.6.5 Professional development

Professional development, including opportunities for ongoing training and promotion, has been identified as a factor in RN job satisfaction and intention to stay (Chenoweth et al., 2013; Twigg & McCullough, 2014). Such opportunities should help people cope better with stress and are positively related to work engagement (Bakker & Demerouti, 2007; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007, 2009). LeVasseur et al. (2009) found that many RNs choose to leave their jobs due to lack of career advancement, something that is also likely to undermine professional commitment, leading to:

H10: Greater access to professional development is negatively related to intention to leave the organisation/profession (a) through a negative relationship with burnout and (b) through a positive relationship with engagement.

2.7 Personal resources

Personal resources are “aspects of the self that are generally linked to resiliency” and refer to “individuals’ sense of their ability to control and impact on their environment” (Hobfoll, Johnson, Ennis, & Jackson, 2003, p. 632). Positive self-evaluations predict goal setting, motivation, performance and life satisfaction, because the higher an individual’s personal resources, the more positive the person's self-regard and the more ‘goal self-concordance’ is expected to be experienced (Bakker & Sanz-Vergel, 2013).

2.7.1 Psychological capital (self-efficacy)

The self-efficacy component of the construct of ‘psychological capital’ is characterised by having confidence to take on and put in the necessary effort to succeed at, challenging tasks (Luthans, Youssef, & Avolio, 2007). When challenge demands are high, employees with personal resources such as self-efficacy can flourish and become more engaged with their work (Bakker & Sanz-Vergel, 2013). Employees with high levels of self-efficacy and a positive self-regard are more likely to experience goal self-accordance, leading to an intrinsic motivation to pursue their goals and resulting in deeper levels of work engagement (Luthans & Youssef, 2007). This implies that the individual is less at risk of burning out. A study of RNs found a strong relationship between self-reported psychological capital and performance and concluded that improving the psychological state of RNs will have a positive impact on their retention intention (Sun, Zhao, Yang, & Fan, 2012). Therefore, we hypothesise that:

H11: Greater psychological capital (self-efficacy) is negatively related to intention to leave the organisation/profession (a) through a negative relationship with burnout and (b) through a positive relationship with engagement.

2.7.2 Value congruence

Value conflicts are a central aspect of person/environment fit (Leiter, Jackson, & Shaughnessy, 2009). Research has shown that value-fit in the workplace can be a significant predictor of work engagement (Koyuncu, Burke, & Fiksenbaum, 2006). Many RNs choose nursing because of the opportunity to help others (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). Those RNs who are more altruistic have higher levels of job satisfaction, while RNs whose values do not match with the organisation are likely to have lower job satisfaction and higher ITLO and ITLP (Dotson, Dinesh, Cazier, & Spaulding, 2014), leading to:

H12: Greater perception of value congruence is negatively related to intention to leave the organisation/profession (a) through a negative relationship with burnout and (b) through a positive relationship with engagement.

2.7.3 Control variable

Reward, which included extrinsic rewards (pay and promotion) and intrinsic rewards (respect and recognition), was used as a control variable. Previous studies have found that these factors strongly relate to ITLO and ITLP (Hasselhorn, Tackenberg, & Muller, 2003; Siegrist et al., 2004).

2.8 Summary of the model

Earlier research on RNs using the JD-R framework has considered the effects of work demands such as workload and bullying; personal demands such as work-life interference; work resources such as social support, organisational support and autonomy; and personal resources such as psychological capital (Jourdain & Chenevert, 2010; Spence Laschinger, Grau, Finegan, & Wilk, 2012). This study extends these models to include emotional demands that are both hindering and challenging, as well as professional development and value congruence and addresses two dependent variables: ITLO and ITLP.

3. Design

A cross-sectional survey design was used.

4. Participants and data collection

In October 2014, a link to the survey questionnaire was emailed to a random sample of 3,500 RNs in the New Zealand Nurses Organisation's membership database, who had an active membership of approximately 46,000 RNs. This resulted in 665 responses, a response rate of 19%. To increase the number of responses, a second wave of data collection was conducted. In August 2015, the survey was advertised in the Nursing Council of New Zealand's (NCNZ) online newsletter, which included an external link to the survey. The NCNZ represents the total population of RNs, which was 50,356 at the time of the study. To ensure respondents had not completed the survey more than once, responses were checked for duplicate personal information and removed. Analyses were undertaken comparing the 2014 and 2015 respondents before combining the two samples. Firstly, independent sample t-tests showed the only

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difference in demographics was one year more in tenure for the 2015 sample, showing that the data was collected from the same cohort in two subsequent years. Next, measurement invariance tests (Cheung, 2008) showed that the two samples demonstrated configural invariance, metric invariance and scalar invariance, implying the two samples conceptualised the constructs in the same way. Therefore, the two data waves could be combined, giving a total sample size of 2,876 usable responses, including 2602 full respondents (90.5%) and 274 partial respondents (9.5%). Since there are missing data, Full-Information Maximum Likelihood (FIML) was used to estimate the parameters in the model.

The sample was made up of 93.9% women and 6.1% men. The age of the respondents ranged from 18-75, with a mean age of 48.8 years (SD 11.5). The mean for hours of work per week was 33.9 hours (SD 9.68). Some 12.3% were working in primary healthcare, while the rest worked in a range of secondary and tertiary settings. Years of tenure in current role ranged from less than one to 45, with a mean tenure of 7.1 years (SD 6.97).

4.1 Measures

Unless otherwise specified, RNs were asked to express their level of agreement with each statement on a continuum ranging from strongly disagree (1) - strongly agree (7). Measures were chosen that had demonstrated validity and a Cronbach's alpha above 0.7.

4.1.1 Outcomes and mediators

ITLO and *ITLP* were measured by three items each, developed by Dotson, Dave, Cazier and Spaulding (2014) as part of a retention survey for RNs. *Burnout* was measured using the

Malach-Pines Burnout Measure Scale, short version (BMS-10) (Malach-Pines, 2005).

Engagement was measured using the shortened Utrecht Work Engagement Scale (UWES-9) (Schaufeli, Bakker, & Salanova, 2006).

4.1.2 Job and personal demands

Following the job-demands scale of Hasselhorn et al. (2008), *workload* was measured by five items. Four were taken from the “quantitative demand scale” in the Copenhagen psychosocial questionnaire (Kristensen, Hannerz, Hogh, & Borg, 2005). For example, “How often do you lack time to complete all your work tasks?” Another item was added from the NEXT study group (Hasselhorn et al., 2005) on the basis of validity tests: “Do you have enough time to talk to patients?” Responses were given on a five-point scale ranging from 1 = Never to 5 = Always.

Emotional demands were measured by four items developed for healthcare professions by de Jong, Mulder, and Nijhuis (1999). Participants were asked to indicate how often they were confronted with “aggressive patients” and “troublesome patients”, which could lead to increased stress and burnout (so were considered *hindrance demands*) and with “death”, “illness or any other human suffering”, which may appeal to RNs’ sense of altruism leading to increased engagement (so were considered *challenge demands*). A five-point rating scale was used ranging from 1 = Never - 5 = Always. *Work-life interference* was measured with six items taken from Macky and Boxall (2014) which go beyond family to include negative work spill-over to non-familial aspects of personal life and friendship. The response scale was “Never, Seldom, Sometimes, Often, Very often” (scored from 1 = Never to 5 = Very often).

4.1.3 Job and personal resources

Supervisor support and *colleague support* were measured with four slightly modified items taken from van der Heijden (2003). For example, “How often does/do your immediate supervisor/colleagues appreciate the value of your work and its results?” A five-point rating scale was used, ranging from 1 = Never - 5 = Always. *Organisational support* was measured by three items used by Wayne, Shore, and Liden (1997): “Senior management really cares about my wellbeing”, “Senior management cares about my general satisfaction at work,” and “Senior management shows very little concern for me” (reverse-scored). The term “organisation” was changed to “senior management” to better suit RNs in a diverse range of practice areas.

Autonomy was measured by three items taken from the Work Design Questionnaire (WDQ) (Morgeson & Humphrey, 2006). For example, “The job gives me a chance to use my personal initiative or judgment in carrying out the work.” *Professional development* was measured by two items taken from a study by the New Zealand Nurses Organisation (2011): “I am able to take time off for training,” and “I am able to keep up with developments to do with my job”. *Self-efficacy*, a key component of psychological capital, was measured by six items taken from the PsyCap Questionnaire (PCQ) (Luthans et al., 2007). The phrase, “People outside company (suppliers, customers)”, was changed to “outside work area (other health professionals, patients’ family members)” to make the items more relevant to RNs. *Value congruence* was measured by three items taken from Dotson et al.’s (2014) retention model: “My employer’s values align very closely with my personal values”, “Those above me in the organisation put quality of care of the patient first” and “My organisation and I agree on patient care.”

4.1.4 Control variable

A control variable relating to rewards was constructed, including perceptions of pay and promotion (extrinsic rewards) and respect and recognition (intrinsic rewards). Pay was measured with three items taken from the NEXT-Study Group research (Hasselhorn et al., 2003) covering satisfaction with pay in relation to needs for income, the pay of other comparable professions and the pay of RNs in other organisations. Another item was added asking about satisfaction with pay considering the pay of RNs in the same organisation. *Promotion* and *respect and recognition* were measured with one item each taken from the reward section of the shortened scales involved in the effort-reward imbalance (ERI) model (Siegrist et al., 2004). The ERI model is based on the idea that there should be a balance between what the employee gives ('effort') and what they receive ('reward'). Promotion was measured with: "Considering all my efforts and achievements, my work prospects are good." Respect and recognition was measured with: "Considering all my efforts and achievements, I receive the respect and prestige I deserve at work."

5. Ethical considerations

Ethics committee approval was obtained from the University of Auckland Human Participants Ethics Committee on 13th July 2013. Study participation was voluntary, consent was assumed when the participant chose to complete the survey online and the questionnaire data were stored and analysed anonymously.

6. Data analyses

Structural equation modeling (SEM) with MPlus 7.4, using the FIML estimator, was adopted for the analytical method. As a multivariate method, SEM provides a way to conduct a simultaneous analysis of an entire system of relationships. However, in contrast to traditional multivariate techniques, SEM explicitly takes measurement error into account when statistically analysing data and incorporates both unobserved and observed variables (Cheung, 2008; Jourdain & Chenevert, 2010). The first step was to conduct a confirmatory factor analysis with a measurement model, which was followed by testing the structural paths in a full structural model. The third step was to estimate the mediating effects and corresponding confidence intervals by using 'bootstrapping' (Cheung & Lau, 2007; Shrout & Bolger, 2002) based on resampling from the original dataset 2000 times.

7. Validity

Validity was ensured by generating survey items based on the literature, testing a measurement model before the structural model in the SEM analysis, achieving standardised factor loadings higher than 0.5 (convergent validity) and correlation coefficients among the constructs lower than 0.85 (discriminant validity) (Kline, 2016; Steenkamp & van Trijp, 1991). In the first step of the SEM process, a measurement model was estimated, with each item loading onto its respective latent variable. All latent variables were allowed to intercorrelate. The results showed that the measurement model satisfactorily fitted the data ($\chi^2 = 14909.20$, $df = 2288$, $RMSEA = 0.04$, $SRMR = 0.05$, $CFI = 0.91$).

8. RESULTS

8.1 Total, direct and indirect effects

The results showed that the structural model satisfactorily fitted the data ($\chi^2 = 15119.75$, $df = 2315$, $RMSEA = 0.04$, $SRMR = 0.05$, $CFI = 0.90$). The standardised path coefficients of the model are shown in Figure 1. Table 1 shows the total and indirect effects of the independent variables on ITLO and Table 2 shows the total and indirect effects of the independent variables on ITLP.

With the exception of the relationship between professional development and ITLO/ITLP through burnout (H10a) and through engagement (H10b), as well as the relationship between value congruence and ITLO/ITLP through engagement (H12b), all the hypotheses are supported in the directions expected. This vindicates the complex model of mediating links from demand and resource predictors to ITLO and ITLP via burnout and engagement. The model explains 62% of the variance in burnout, 56% of the variance in engagement, 36% of the variance in ITLO and 45% of the variance in ITLP. The results show that work-life interference ($\beta = 0.37$), workload ($\beta = 0.27$) and emotional demands - hindrances ($\beta = 0.14$) have the largest effects on burnout while burnout ($\beta = -0.49$), emotional demands - challenges ($\beta = 0.18$), self-efficacy ($\beta = 0.15$) and colleague support ($\beta = 0.13$) have the largest effects on engagement. Burnout ($\beta = 0.35$), engagement ($\beta = -0.14$) and rewards ($\beta = -0.21$) are related to ITLO while only burnout ($\beta = 0.24$) and engagement ($\beta = -0.45$) are related to ITLP, suggesting that better rewards are a motive for mobility between healthcare organisations but not for departures from the profession itself. Preventing burnout is more important for reducing ITLO while enhancing engagement is more important for reducing ITLP. Work-life interference ($\beta = 0.15$; $\beta = 0.17$) and workload ($\beta =$

0.11; $\beta = 0.13$) stand out as having the largest effects on ITLO and ITLP. In addition, emotional demands - challenge ($\beta = -0.11$) and self-efficacy ($\beta = -0.11$) have the largest negative effects on ITLP. That said, all forms of support (supervisor, colleague and organisation) show an impact in reducing burnout and enhancing engagement, as do autonomy and value congruence.

9. DISCUSSION

The results of this study support a comprehensive JD-R model (Bakker & Demerouti, 2007; Demerouti et al., 2001) of RN ITLO and ITLP via the impacts of job demands, job resources and personal resources on burnout and engagement. The model highlights the impact on burnout among New Zealand RNs of work-life interference, workload and emotional demands that act as hindrances. Work-life interference and workload exercise the largest effects on both ITLO and ITLP, revealing their power to undermine the retention of RNs. On the other hand, work engagement improves when emotional demands act as challenges, when RNs have higher levels of self-efficacy and when they enjoy good levels of support, particularly from colleagues. In turn, challenge demands and the self-efficacy component of psychological capital contribute significantly to reducing RN ITLP.

The results provide strong support for the argument that it is important to distinguish between hindrance and challenge demands (Bakker & Sanz-Vergel, 2013; LePine, Podsakoff, & Lepine, 2005). In our study, exposure to death, illness and human suffering was considered by RNs as an emotional work demand that challenged them in a positive way, decreasing feelings of burnout, increasing feelings of engagement and decreasing ITLO and ITLP. However, exposure to emotional demands linked to aggressive and troublesome patients acted as a hindrance, resulting in increases in burnout and intention to leave. These results are similar to those of a

study in a Dutch healthcare organisation, which found that RNs perceive work pressure as a hindrance job demand and emotional demands as a challenge demand (Bakker & Sanz-Vergel, 2013).

The finding that challenge demands increase RN work engagement and decrease intention to leave is in line with the suggestion that a sense of altruism is associated with RNs choosing to stay in the profession (Dotson et al., 2014). Many RNs choose nursing because of the opportunity to help others. A sense of altruism in the nursing environment may help to deal with other factors that drive stress and intention to leave (Mitchell et al., 2001).

The findings on self-efficacy are also important, confirming research that shows that improving the psychological capital of RNs can have a positive impact on their job performance and retention intention (Sun et al., 2012). They support the view that strategies aimed at enhancing employees' psychological capital can lead to a reduction in stress and the impact of stress on intention to leave (Avey, Luthans, & Jensen, 2009).

Unlike most of the other factors examined in this study that affect engagement both directly and indirectly through burnout, the effects of value congruence on engagement are fully mediated through burnout. That is, burnout fully explained the relationship between value congruence and engagement. One unexpected result is that professional development is not significantly related to either ITLO or ITLP. Turnover intentions among RNs in New Zealand are much more driven by the actual experience of the work itself, the level of work pressure and the supportiveness of leaders and colleagues. Professional development activities may be too remotely related to immediate job demands to have much beneficial effect on these intentions.

10. Limitations

The findings come from a cross-sectional design, limiting assertions about cause-effect relationships. Although the study identifies RNs' intentions, it does not follow up these same RNs to assess actual turnover behaviour. Precautions taken to minimise the potential for common-method bias included using measures with well-established construct validity and internal reliability, structuring the questionnaire to separate the predictors and criterion variables and using reverse-coded items.

11. CONCLUSIONS

Deploying the JD-R model as its theoretical framework and structural equation modeling as its method, this study has highlighted the roles that RNs' burnout and work engagement play in transmitting the impacts of job demands, job resources, personal demands and personal resources into ITLO and ITLP. Our results show that in New Zealand, steps to reduce work-life interference and to better manage workloads will have the greatest effects on lowering burnout and subsequently lowering ITLO and ITLP. The results also show that it is important to distinguish the effects of emotional hindrance demands, which threaten RN well-being, from emotional challenge demands, which foster it. Previously apparent in a Dutch healthcare organisation (Bakker & Sanz-Vergel, 2013), the value of this distinction is confirmed in this large-scale study across a range of organisations.

The results suggest that dealing with death and suffering is not something that turns RNs away from their profession: quite the contrary. What alienates them is a greater exposure to aggressive or troublesome patients. Realistically, such patients are not going to disappear from the health system, which suggests that institutions and managers need to develop educational

interventions and support strategies that help RNs to deal more effectively with such patients if they are to retain them in the profession.

Finally, we found that greater emotional challenge demands and self-efficacy lead to higher work engagement and subsequently to lower ITLP. Hence, it is important for nursing schools to identify and recruit individuals with a strong desire to offer patient-centred care and then provide appropriate training to enhance their confidence in taking on challenging tasks in their work.

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. Standardised total and indirect effects - Intention to leave organisation

Independent variables	Mediating variables – indirect effects			Total effect
	Burnout - Engagement	Engagement	Burnout	
Workload	0.018*** [0.008, 0.031]		0.095*** [0.063, 0.133]	0.114*** [0.078, 0.153]
Emotional demands (hindrances)	0.009*** [0.004, 0.018]		0.048*** [0.027, 0.077]	0.058*** [0.033, 0.088]
Emotional demands (challenges)	-0.005* [-0.012, -0.000]	-0.024*** [-0.043, -0.011]	-0.025* [-0.056, -0.000]	-0.055** [-0.092, -0.020]
Work-life interference	0.025*** [0.012, 0.040]		0.130*** [0.095, 0.166]	0.154*** [0.120, 0.190]
Supervisor support	-0.005** [-0.011, -0.002]	-0.009* [-.021, -0.001]	-0.026** [-0.048, -0.008]	-0.040*** [-0.068, -0.017]
Colleague support	-0.003 [-0.007, 0.001]	-0.018*** [-0.033, -0.008]	-0.013* [-0.031, -0.004]	-0.034*** [-0.058, -0.011]
Organisational support	-0.004* [-0.011, -0.000]	-0.015** [-0.026, -0.007]	-0.020* [-0.044, -0.002]	-0.039*** [-0.072, -0.009]
Autonomy	-0.005** [-0.011, -0.001]	-0.009* [-0.021, -0.000]	-0.025** [-0.047, -0.006]	-0.038*** [-0.064, -0.014]
Professional development	-0.002 [-0.008, 0.002]	-0.002 [-0.012, 0.007]	-0.010 [-0.035, 0.013]	-0.014 [-0.043, 0.014]
Psy Capital (self-efficacy)	-0.007*** [-0.013, -0.002]	-0.020*** [-0.034, -0.010]	-0.034*** [-0.056, -0.015]	-0.061*** [-0.090, -0.036]
Value congruence	-0.005* [-0.013, -0.001]	-0.007 [-0.021, 0.002]	-0.028** [-0.054, -0.004]	-0.040** [-0.075, -0.010]

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, 95% Confidence Intervals in square brackets.

Table 2. Standardised total and indirect effects - Intention to leave profession

Independent variables	Mediating variables – indirect effects			Total effect
	Burnout - Engagement	Engagement	Burnout	
Workload	0.060*** [0.041, 0.083]		0.065*** [0.035, 0.099]	0.125*** [0.086, 0.171]
Emotional demands (hindrances)	0.031*** [0.017, 0.049]		0.033*** [0.017, 0.055]	0.064*** [0.036, 0.096]
Emotional demands (challenges)	-0.016** [-0.035, -0.000]	-0.080*** [-0.112, -0.054]	-0.018* [-0.039, -0.000]	-0.114*** [-0.162, -0.064]
Work-life interference	0.082*** [0.061, 0.107]		0.089*** [0.052, 0.123]	0.170*** [0.131, 0.210]
Supervisor support	-0.017*** [-0.031, -0.006]	-0.029** [-0.054, -0.002]	-0.018*** [-0.033, -0.005]	-0.063*** [-0.099, -0.027]
Colleague support	-0.008* [-0.020, 0.002]	-0.060*** [-0.088, -0.036]	-0.009 [-0.023, 0.003]	-0.077*** [-0.112, -0.043]
Organisational support	-0.013* [-0.029, -0.001]	-0.049*** [-0.082, -0.019]	-0.014* [-0.033, -0.001]	-0.075*** [-0.123, -0.031]
Autonomy	-0.015** [-0.031, -0.004]	-0.028*** [-0.059, -0.000]	-0.017** [-0.035, -0.004]	-0.060*** [-0.097, -0.036]
Professional development	-0.006 [-0.021, 0.008]	-0.005 [-0.037, 0.021]	-0.007 [-0.025, 0.009]	-0.019 [-0.063, 0.021]
Psy Capital (self-efficacy)	-0.022*** [-0.036, -0.009]	-0.067*** [-0.098, -0.040]	-0.023*** [-0.041, -0.009]	-0.112*** [-0.152, -0.076]
Value congruence	-0.017** [-0.036, -0.003]	-0.022 [-0.057, 0.010]	-0.019** [-0.041, -0.003]	-0.058** [-0.112, 0.012]

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, 95% Confidence Intervals in square brackets.

Figure 1. Extended Job Demands-Resources Model Hypothesised in This Study

