Why Do Nurses Change Jobs? (An Empirical Test of Determinants of Specific Nurse's Post-Exit Destinations)

Word count: (excluding references and appendix, including tables): 4932

Beatrice I.J.M. Van der Heijden, MA, PhD, *

Vincent Homburg, MSc, PhD, *

Lukas Valkenburg, BBA, MSc, ***

* Professor Radboud University Nijmegen, Institute for Management Research, the Netherlands; Open Universiteit in the Netherlands; University of Twente, the Netherlands

** Associate Professor Public Administration, Faculty of Social Science, Erasmus University Rotterdam

*** Health Care Consultant at Studelta

Correspondence: Vincent Homburg, homburg@fsw.eur.nl

[Abstract: 216 words]

Aim: The aims of this paper are to identify the determinants of the 'intention to leave' (ITL) of nurses working at a general hospital, and to provide recommendations for various hospital stakeholders to prevent premature leave to various post-exit destinations.

Background: Nurse turnover is a serious problem, especially given the increased need for professional medical care due to demographic changes, and puts pressure on health care management. In order to meet future requirements for nursing staff , it is of utmost importance to empirically study nurses' intention to leave either their department or hospital, and to identify the determinants of these various intentions to leave.

Methods: A cross-sectional survey was completed by 318 nurses working at various departments at a general hospital in Eindhoven, the Netherlands. Data were collected in May 2011. Using binary regression analysis, various determinants of nurses' reported post-exit career choices could be identified.

Conclusions: Nurses' intention to leave is determined by the nurse's general satisfaction with management and leadership quality, pay and benefits, job satisfaction and work-to-home interference issues, but not by (career) development opportunities. However, various post-exit choices are influenced by various determinants.

Implications for nursing management: Preventing nurses from leaving their department or hospital requires careful attention for management and leadership quality, pay and benefits, job satisfaction, and home-work balance issues, especially for line managers that actually supervise nurses on a day-to-day basis.

Introduction

Both the professional and academic nursing literature, report a high and rising shortage of nurses throughout the world (Chan, 2008; Sawatzky & Enns, 2012). The problem is one of both supply and demand: increasing patient loads (particularly induced by baby boomer patients; North, Erasmussen, Hughes, Finlayson, Ashton, & Campbell, 2005), decreasing enrolment in nursing education programs (Buerhaus, Auerbach, & Staicher, 2007) and high turnover (Van der Heijden, Van Dam, & Hasselhorn, 2009) all contribute to the serious shortage in the nursing sector.

Shortage of nurses negatively affects patient outcomes and cost containment in health care (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Patient outcomes are affected because of higher patient-to-nurse ratios, longer waiting times, and inability for nurses to administer appropriate care; cost containment is negatively affected because of initial decreases in new employee productivity and diminished morale of retaining nurses (Rivers, Tsai, & Munchus, 2005; Sawatzky & Enns, 2012).

Of the determinants of nurse shortage, turnover is supposed to be more amenable to managerial and administrative action than demographic developments and young professional's career choices are. Therefore, various authors have explored the determinants of turnover (Brown, Fraser, Wong, Muise, & Cummings, 2012; Derycke, Vlerick, Burnay, Decleire, D'Hoore, & Hasselhorn, 2010; Sawatzky & Enns, 2012; Van der Heijden, Van Dam, & Hasselhorn, 2009). However, a full understanding of the phenomenon of nurse turnover, both in terms of determinants, as well as in terms of explanations of nurses' choices for specific post-exit choices, is lacking. Some studies emphasize occupational turnover (attempting to explain why nurses decide to leave their profession), other studies attempt to explain nurses' choice to change jobs within the same profession, but a more rigorous explanation of how various post-exit destinations are related, and, more importantly, how to explain nurses' choices for various post-exit destinations, is lacking. This study tries to fill this gap in the literature.

In this contribution, we aim to explain nurse turnover by analyzing underlying nurses' intentions to leave as immediate determinants of actual 'exit' behavior (Liou, 2009; Mobley, 1979). The data that is used in the analysis is perceptual in nature: it was gathered using a survey among nurses working at a specific hospital, Catharina Hospital in Eindhoven, the Netherlands. Reason for using

perceptual data (as opposed to, for instance, an analysis of motivations of nurses that have actually changed jobs) is that, from a amangerial point of view, it may be more interesting to assess intentions as opposed to post-hoc reasons as the former are amenable to change whereas the latter are not. Moreover, empirical studies have reported, in line with Fishbein (1979) and Ajzen & Fishbein (1980) theoretical claims, that an intention to perform a specific behavior is an immediate determinant of actually performing an action the intention refers to (Hasselhorn, Muller, & Tackenberg, 2005).

More specifically, we have empirically investigated nurses' intention to leave to various post-exit choices using a sample of nurses from a specific general hospital. Our objective is to empirically test a number of hypotheses based upon existing literature; moreover, in this study we attempt to explain not only the intention to leave itself, but also the choice for specific post-exit choices, for instance, to switch jobs within one and the same hospital, to try to find a new employer, such as a medical practitioner practice or community care, just to mention a few examples.

Intention to leave: literature review, conceptual framework and hypotheses

Introduction

Critical conditions of an ageing workforce and increased competition among employers for talented professionals have resulted in, what some authors have entitled 'a war for talent' (Michaels, Handfield-Jones, & Axelrod, 1997). Especially in the public sector, a sector that in the industrialized world has been confronted both with an aging work force as well as with a series of public management reforms (Pollitt, Van Thiel & Homburg, 2007), various scholars have analyzed (1) the motivations for people to join public sector organizations (cf. public service motivation literature, Steijn (2003)) and (2) retention and intention to leave organizations.

Management and leadership quality

With respect to determinants of nurse turnover in particular, various studies, (Flinkman, Leino-Kilpi, & Salanterä, 2010; Hayes, O'Brien-Pallas, Duffield, Shamian, Buchan, Hughes, Laschinger, North, & Stone, 2005; Parry, 2008; Price, 2004) have associated nurses' intention to leave with components of nurse management, such as nurses' (dis)satisfaction with their supervisors (Larrabee, 2003; Yin & Yang, 2002), social support by supervisors (Van der Heijden, Van Dam, & Hasselhorn, 2009) and supervisors' leadership quality (Van der Heijden, Van Dam, & Hasselhorn, 2009). As such the conceptualization and operationalization of management and leadership heavily borrows from notions of perceived organizational support (see for instance Eisenberger, Huntington, Hutchison & Sowa, 1986)), and, more specifically, leader-member exchange (Wayne, Shore, Bommer & Tetrick, 2002). In the literature, perceived organizational support and leader-member exchange have been identified as being associated with employees' morale and mood, which impacts on attitudes and behaviours that are associated with organizational commitment (Aselage &

Eisenberger, 2003; Eisenberger, Armeli, Rexwinkel, Lynch & Rhoades, 2001), which can be interpreted as being the inverse of intention to leave.

Taken together, these studies suggest that nurses' satisfaction with management is negatively associated with their intention to leave.

H1: Satisfaction with management and leadership quality is negatively related to intention to leave.

Pay and benefits

A second cluster of determinants that can be identified in the literature comprises nurses' satisfaction with pay and benefits. Previous studies have shown that nurses' satisfaction with salary is negatively related to nurses' intention to leave (Gardulf, Söderström, Orton, Eriksson, Arnetz, & Nordström, 2005).

H2: Satisfaction with pay and benefits is negatively related to intention to leave.

Job satisfaction

Recently, authors have suggested that, generally, job satisfaction and work situation is likely to affect intention to leave (Chan, 2008; Ingersol Olsan, Drew-Cates, DeVinney, & Davis, 2002; Van der Heijden, Van Dam & Hasselhorn, 2009). In our study, job satisfaction refers to worker autonomy (Larrabee, 2003), appraisal, challenges encountered, and variety in tasks.

H3: Job satisfaction is negatively related to intention to leave.

Work-home interference

Work-home interference is also reported in the literature as an important determinant of nurses' consideration to leave their job (Van der Heijden, Van Dam, & Hasselhorn, 2009). Work-home interference is defined as a form of a role-conflict in which work and family pose different demands on a nurse. Based on findings by Van der Heijden, Van Dam & Hasselhorn (2009), we expect that work-home interference is positively associated with intention to leave.

H4: Work-home interference is positively related to intention to leave.

Development opportunities

Various authors have stipulated that another determinant of intention to leave could be the perceived possibilities for nurses to learn new skills, and their career development opportunities in general (Coomber & Barribal, 2007; Gardulf, Söderström, Orton, Eriksson, Arnetz, & Nordström, 2005).

H5: Perceived career development opportunities are negatively related to intention to leave.

Methods and measurement

Procedure and Sample

The data for the current study was gathered using an on-line questionnaire. The questionnaire was first pre-tested and discussed with various hospital stakeholders, such as departmental nurse managers and human resource managers. Subsequently, in May 2011, 675 nurses from various disciplines (see Table 2 for a list of involved departments) of a general Dutch hospital (Catherina Hospital Eindhoven, the Netherlands) were invited to fill out the questionnaire. The response rate was 47%, varying from 23.6% (general surgery) to 73.0% (orthopedics). Most nurses (91.8%) were female, and their mean age was 35.6 (males, SD = 12,1) and 36.5 (female, SD = 11.3). The vast majority of nurses were (general) registered nurses (55.7%), whereas 32.7% obtained a specialized qualification in for instance, pediatrics or geriatrics. In the sample, 3.1% of the respondents were assistant nurses[1].

In order to assess the internal consistency of the scores, we used the Guttman Lambda six in stead of the arguably more widely used Cronbach's alpha because the latter underestimates the reliability of scores and over estimates first factor saturation; Guttman's Lambda six displays a better performance in these respects (Revelle, 1979). As a rule of thumb, 0.70 as a minimum score is used.

Measurement of intention to leave

In this article, we define intention to leave as an employee's dissatisfaction with their job that may or may not urge the employee to change jobs. In quantitative research, intention to leave is often assessed using a single-item Likert scale (see Table 1 for an overview in this regard). Operationalizations in existing studies varied with respect to the use of a specific rating scale (levels of certainty of intention versus frequency of thinking about leaving), and with respect to the envisaged post-exit choice (see also Flinkman, Leino-Kilpi, & Salanterä, 2010).

Survey question (item)	Scale	Used in
Do you intend to change your job?	1 = yes 2 = no 3 =not sure	Chan (2008)
Do you intend to leave <u>your current position</u> in [*specific time period*]?	1 = definitely will not leave to 5 = definitely will leave	Price & Mueller (1981), Laczo & Hanisch (1999), Hopkins & Cohen-Callow (2007), Sawatzky & Enns (2012), Fakunmoju, Woodruff, Kim, LeFevre, Hong (2010)
Do you intend to leave <u>the profession</u> in the coming year?	1 = definitely will not leave to 5 = definitely will leave	Sawatzky & Enns (2012)
<u>How often</u> do you think about leaving the profession?	1 = never to 5 = every day	Van der Heijden, Van Dam & Hasselhorn (2009)
<u>How likely</u> is it that [*within specific time*	1 = not at all likely to 5 = very likely	Tham (2007)

---

[1] The 'other' category was 8.5%.

period] you will be looking for a new job?		
How often do you think about <u>leaving the current institution</u>	1 = never to 5 = everyday	Derycke, Vlerick, Burnay, Decleire, D'Hoore, & Hasselhorn (2010), Kinnunen, Feldt, & Makikangas (2008)

Table 1: Existing operationalizations of intention to leave in quantitative studies (underlined elements indicate distinct features)

In the present study, it has been our aim to assess both the intention to leave as well as the post-exit choice. As the existing literature did not provide an existing operationalization of post-exit destinations (and post-exit destinations may be highly country- or region specific), we identified various possible post-exit destinations based on exploratory interviews with the hospital's human resource management staff and analyzed notes of exit interviews with nurses that had already left the hospital. Consequently, intention to leave was measured using a series of five items, asking for how often the respondents thought about leaving their current position and pursue a career: (1) in another department in the same institution (2) in another institution (3) in domiciled/community care (4) in a medical practitioner's office, and (5) as a self-employed nurse, each measured using a rating scale (1 = never to 4 = various times per week). For the eventual analysis, the scales were recoded into binary variables (0 = never, 1 = at least once a year).

Measurement of dissatisfaction with management and leadership quality

Dissatisfaction with management was measured using a twelve-item scale (main questions 18-21 in the questionnaire, see Appendix 1) with items taken from the international NEXT study survey, and more specifically, developed by Van der Heijden, Van Dam & Hasselhorn (2009) and by Kristensen (2000).

A sample item (translated-backtranslated from Dutch into English) was: "Is your manager in generally willing to help you with the performance of your tasks?". Responses were made on a five-point rating scale. Consistency of the scale was assessed and resulted in satisfactory results (Guttman's Lambda six = 0.84).

Measurement of satisfaction with pay and benefits

Dissatisfaction with pay and benefits was measured by means of 20 items (main questions 22-39) taken from Hasselhorn, Tackenberg, & Müller (2003). Reponses ware made on a five-item rating scale. A sample item (translated from Dutch into English) was: "How satisfied are you with your current salary in relation to other professions?" Guttman's Lambda six for the scale was 0.85.

Measurement of job satisfaction

Job dissatisfaction was measured using 12 items adapted from Kristensen (2000) and Allen and Meyer (1990). A sample item (back-translated from Dutch into English) was: "I really feel that I belong in this healthcare institution". Guttman's Lambda six for this scale was 0.72.

Measurement of work-to-home interference

Work-to-home interference was measured using existing scales on work-family conflicts and family-work conflicts (Netemeyer, Boles, & McMurrian, 1996), resulting in a ten-item scale (question 41). Responses ware made using five-point rating scales, with low scores indicating a higher amount of interference and high scores absence of interference. Guttman's Lambda six for this scale was 0,91.

Measurement of career development opportunities

Career development opportunities was assessed using a six-item rating scale, constructed based on Kristenson (2000). A sample item (translated from English into Dutch, and back-translated in English) was: "Do you feel that the work you do is important?" Guttman's Lambda six for this scale was 0.79.

Results

Preliminary analyses and model fit assumptions

In order to explain the dichotomous dependent variable (ITL), we used binary logistic regression analysis. In general, logistic regression models predict the probability of an event Y_i (in this case, the probability of a nurse reporting his or her intention to leave) by means of independent variables that are binary, categorical or continuous (Pampel, 2000). Logistic regression requires the absence of multi-collinearity. Multi-collinearity was inspected using collinearity diagnostics, and since all tolerance statistics are above 0.1 and all VIF values are smaller than 10 – even smaller than 4, being a threshold value used by Garson (2009) – multi-collinearity is a non-issue in this data set.

Furthermore, the data were analyzed for auto-correlation using the Durbin-Watson (D-W) test. All D-W statistics resulted in scores above 1, indicating absence of auto-correlation.

Finally, measuring various (dependent and independent) variables in one questionnaire makes the analysis vulnerable to common method bias, defined as variance attributed to the measurement method rather than to the constructs the measures represent (Podsakoff, Mackenzie, Lee & Podsakoff, 2003). According to Podsakoff et al. (2003), common method bias may stem from ways in which items are presented to respondents, and (common) contexts or processes for measurement. Although common method bias can not be ruled out in studies were one questionnaire is used to assess various variables in a population of respondents, common method bias was both prevented on beforehand as well as checked statistically in the data analysis phase. The questionnaire was pre-tested in order to prevent ambiguities and unintended effects of question order, taking into account best-practice recommendations presented by Podsakoff et al (2003). Furthermore, as a statistical remedy, all variables in the study were loaded into an exploratory factor analysis (EFA) and the unrotated factor solution was inspected. The results of the unrotated factor analysis did not show a single factor, nor did a general factor emerge that accounted for the majority of the covariances among the measures (again

following the procedures proposed by Podsakoff et al (2003)). Consequently, it was concluded that common method bias was not likely to influence the outcomes of the analysis.

Descriptive findings

Table 2 lists the scores for the ITL scores for various post-exit choices. Looking at the percentages, moving to another department or to another hospital appear to be the most favorite post-exit choices, with domicile/community care and self-employed being the least favorite post-exit choices.

How often did you think about a transfer to….	*Never*	*Several times per year*	*Several times per month*	*Several times per week*
another department	50.3%	33.0%	11.6%	5.0%
another hospital	47.8%	36.5%	10.7%	5.0%
domicile/community care	80.5%	14.8%	4.1%	0.6%
a medical practitioner's practice	69.6%	22.5%	6.3%	1.6%
a self-employed status	79.2%	15.7%	3.5%	1.6%

Table 2: Frequencies of Intention to Leave Scores for Various Post-exit Choices (ITL)

In Table 3, the various independent variables are reported in terms of their mean and standard deviation.

Variable	Mean	SD
Satisfaction with management and leadership	3.3	0.49
Satisfaction with pay and benefit	4.0	0.40
Career development opportunities	4.1	0.51
Work-to-home interference	4.0[2]	0.69
Job satisfaction	2.4	0.29

Table 3: Descriptives for Determinants of Intent to Leave

Hypotheses testing

Hypotheses were tested for the various post-exit choices, allowing for an explanation of various post-exit career choices.

Post-exit choice	Determinant (hypothesized sign)[3]	B	Wald	Exp(B)
Department[4]	Management satisfaction (-)	0.06	0.06	1.06
	Pay and benefit satisfaction (-)	-0.84	5.33	0.43*

[2] Note the interpretation that a low score indicates a higher amount of interference and high scores indicates absence of interference.
[3] Determinants with a significant Exp(B) are printed in bold.
[4] Nagelkerke R^2 = 0.082; the Hosmer and Lemeshow test of significance of the whole model resulted in a non-significant value (Chi-square.=.15,304; d.f..=.8; p.=.0.053), indicating that the model fits the data adequately.

	Career development (-)	0.03	0.01	1.03
	Work-to-home interference (-)	-0.26	2.13	0.77
	Job satisfaction (-)	-0.65	1.95	0.51
Hospital[5]	**Management satisfaction (-)**	-0.64	5.18	0.52*
	Pay and benefit satisfaction (-)	-0.86	5.14	0.42*
	Career development (-)	0.33	1.57	1.39
	Work-to-home interference (-)	-0.10	.32	0.90
	Job satisfaction (-)	-1.15	5.36	0.31*
Domicile/ community care[6]	Management satisfaction (-)	-0.63	3.41	0.53
	Pay and benefit satisfaction (-)	-0.582	2.003	0.559
	Career development (-)	0.23	0.47	1.26
	Work-to-home interference (-)	-0.54	6.14	0.57*
	Job satisfaction(-)	-0.78	1.86	0.45
Medical practitioner's practice[7]	**Management satisfaction (-)**	-0.79	7.15	0.45**
	Pay and benefit satisfaction (-)	-0.45	1.50	0.63
	Career development (-)	0.08	0.09	1.08
	Work-to-home interference (-)	-0.10	0.30	0.89
	Job satisfaction (-)	-0.97	3.71	0.37
Self-employed[8]	Management satisfaction (-)	-0.13	0.18	0.87
	Pay and benefit satisfaction (-)	-0.38	0.92	0.68
	Career development (-)	0.27	0.70	1.31
	Work-to-home interference (-)	-0.10	0.25	0.89

[5] Nagelkerke R^2 = 0.150; the Hosmer and Lemeshow test of significance of the whole model resulted in a non-significant value (Chi-square = 9.245; d.f. = 8; p = 0.322), indicating that the model fits the data adequately.

[6] Nagelkerke R^2 = 0.132; the Hosmer and Lemeshow test of significance of the whole model resulted in a non-significant value (Chi-square = 10.146; d.f. = 8; p = 0.255), indicating that the model fits the data adequately.

[7] Nagelkerke R^2 = 0.126; the Hosmer and Lemeshow test of significance of the whole model resulted in a non-significant value (Chi-square = 4.908; d.f. = 8; p = 0.767), indicating that the model fits the data adequately.

[8] Nagelkerke R^2 = 0.058; the Hosmer and Lemeshow test of significance of the whole model resulted in a non-significant value (Chi-square=3.286; d.f. = 8; p = 0.915), indicating that the model fits the data adequately.

Job satisfaction (-)	-1.17	4.55	0.30*

Note: * p<0,05; ** p<0,01; *** p<0,001.

Discussion

Given the current serious shortages of nurses in the Western world and beyond, it is of utmost importance to study nurses' intention to pursue a specific career (inside or outside of the hospital). Whereas previous studies have focused on nurses' intention to leave their employer, or to leave the profession, the research that is reported in this article has paid attention to and attempted to explain various post-exit choices that nurses can pursue.

In this study, nurses' decision to leave their current organizational position and/or occupation was analyzed. Using a survey among 318 nurses in a general hospital situated in the Netherlands, various post-exit choices were identified. Furthermore, for each post-exit choice, various determinants were identified.

The most popular post-exit choice is a career move to another hospital. A nurse's decision to pursue another career is associated with dissatisfaction with management, dissatisfaction with pays and benefits, and (low) job satisfaction. The second most popular post-exit choice is moving to another department, a move that is solely explained by dissatisfaction with pay and benefits. Extramural choices, such as (in reverse order of popularity) community care, a self-employed status and a medical practitioner's practice, are associated with work-to-home interference, job satisfaction, and management dissatisfaction, respectively.

One question that comes to mind is how to interpret this variety of findings. In order to do so, it may be helpful to use Morell's (2005) concept of the so-called *ITL withdrawal process*: these authors suggested that if dissatisfaction evolves and nurses start thinking about leaving their current position, they may first leave their department, then the hospital and finally leave the nursing profession as a whole. If we review the findings of the study, it is possible to conjecture that dissatisfaction first emerges in terms of dissatisfaction over (1) pay and benefits and (2) management. Dissatisfaction here urges nurses to change jobs but within a hospital setting. However, as dissatisfaction with management grows, nurses opt for an extramural choice such as a medical practitioner's practice. On top of these, diminished job satisfaction and work-to-home interference seems to drive nurses away to even more distant choices like a self-employed status or domicile/community care. If we follow Morell's (2005) line of reasoning (see also Krausz, Koslowsky, Shalom, & Elyakim's (1995)), and if we take the position of a hospital that, given demographic developments, intends to reduce their turnover rate, it may be recommended to stop the nursing staff withdrawal process (leaving the department and/or leaving the hospital for another hospital) by focusing on pay and benefits, and, arguably more importantly by stressing quality of nurse leadership, general management skills and social support of nurses as provided by nurse managers.

The issue of management and leadership skills, which is identified as a one of the important determinants of job changes to other hospitals and to a general practitioner's practice, is interesting to note from a more practical point of view,

as management and leadership skills may be more malleable in the short term than pay and benefits. After all, changes in salaries in the hospital under study are restricted by overarching agreements as agreed upon in negotiations between employer associations and trade unions. However, the issue of improving quality of nurse leadership by no means is a trivial exercise. Van der Heijden, Van Dam & Hasselhorn (2009) argued that nurses that are promoted to nurse managers are not always promoted based on their management skills and leadership abilities, but rather on the basis of their professional proficiency. Furthermore, it must be stressed that in the hospital under study, management had already acknowledged the need to develop management skills; however, management development programs were typically geared toward the needs of more senior management levels, and were not offered to nurse managers that are tasked with the day-to-day supervision and support of nurses actually delivering care at the shop floor of hospitals. Obviously, there are ample opportunities to improve this situation regarding management and supervisory skills.

Perhaps surprisingly, given the existing literature on nurses' ITL, we did not find empirical support for an effect of (perceptions of) career development on either of the identified post-exit choices. Possibly, given the rather high mean score for this determinant (M = 4.10; S.D. = .51), nurses working in the participating hospital take their ample career opportunities for granted, herewith weakening its predictive power for intent to leave. Although we used existing measures both for satisfaction with pay and benefis on the one hand and career development on the other hand, perhaps respondents in the questionnaire expressed concerns over career development in terms of dissatisfaction with pay and benefits. Furthermore, perhaps career development issues are, more than other hypothesized determinants, highly situational. In that case, the specifics of the hospital under study (and, more specifically, possible more-than-average altruistic working ethics given the denomination of the hospital under study) may have played a role in the refutation of the career-development hypothesis in this study. However, further research is required to substantiate these issues more fully.

The findings reported in this article should be understood in the light of a number of limitations.

First, although the response rate was satisfactory and the sample size was sufficient to allow for the used regression techniques, the sample was taken from one hospital only. This implies that we cannot exclude the possibility that there are site-specific circumstances that may have affected and/or confounded our results. To say the least, generalization to nurses on other health care organizations should only be carried out with great care. However, in defense of the design to study nurse's intentions to leave one specific hospital site, it must be stressed that the (institutional) context is constant, thus excluding a number of typical confounders such as plans for reorganization that may affect some hospitals but not other ones, variations in regional labor markets, et cetera, and therefore, generalization may be more valid than is apparent at first sight.

Second, using the survey, we assessed nurses' self reported intentions to leave, not the actual exit behavior of nurses. Turnover research (e.g. Adams & Beehr, 1998; Griffeth, Hom & Gaertner, 2000; Lee, Carswell & Allen, 2000) corroborates that turnover intention is a stronger predictor of actual turnover than other variables (Blau and Lunz, 1998). Furthermore, intention to leave the profession can be considered an indicator of peoples' tendency to withdraw from a specific career situation (Hanisch and Hulin, 1990), and helps to overcome the fact that actual occupational turnover is a low base rate event. In addition, the intention to change one's profession has been identified as an important outcome variable for its own sake (Blau & Lunz, 1998) since it represents the conscious decision component of change (Rhodes & Doering, 1993). For organizations, turnover intention is a more useful variable than actual turnover because it enables organizations to take action in order to retain employees for the organization. Still, future research is needed to establish the predictive validity of our research model for actual turnover.

Third, in line with much previous research, this study has emphasized the importance of management skills and leadership quality. However trivial this may seem, the adequacy of leadership and management activities may be highly situational, depending on site characteristics, the issues at hand, person-organization and person-task fit, et cetera. After all, if management skills and leadership quality are found to be crucial in preventing turnover of nurses in an ageing population with more challenging demands, we should deepen our understanding of the very concept of nurse leadership and typical nurse management skills, in order to eventually guarantee the quality of care that is delivered to patients now and in the future.

The abovementioned findings, interpretations and limitations can also be used to formulate an agenda for further research. A first direction for research activities is to study the careers of both nurses that have chosen to pursue a career in the same setting, as well as nurses that have chosen to change jobs, either within the same hospital, to extramural destinations, or even to other occupations. In doing so, it may be possible to analyze whether the determinants that can are supposed to affect nurse behavior actually change over time. Such a prospective design of course does not change the predictive nature of the determinants of the *intention* to leave, but rather may inform whether, seen from the point of view of the nurses under study, the determinants are (after-the-fact) credible reasons for changing jobs.

A second direction for research is to push for more methodological rigor in analyzing determinants of intention to leave by acknowledging a hierarchical structure in determinants. In most studies, as in this one, intention to leave is supposed to be determined by individual-level determinants, such as satisfaction with pay and benefits. However, it may be possible to hypothesize that there is a hierarchical structure in determinants of intention to leave. Some of the determinants may indeed be of an individual level, but other determinants may refer to an above-individual, group level, such as work atmosphere at a specific department, or to an organization level, such as hospital's professional code of conduct, ethical principles adhered to, or general organizational strategy. A multilevel regression analysis of more elaborate data might be suitable to flesh

out the various levels of determinants, and in so doing, provide a more thorough and rigorous explanation of the intriguing phenomenon of nurse's intention to leave.

Conclusion

This research has contributed to our understanding of nurses' intention to leave (ITL). More specifically, the empirical evidence presented in this paper reveals key determinants of nurses' intentions to leave to specific post-exit destiations, and, by doing so, contributes to a better understanding of the possible implications of perceived poor job satisfaction, poor pay and benefit satisfaction, less than optimal satisfaction with management and leadership, and work-to-home interference. As such, the paper provides empirical insights of why nurses display various reactions to work dissatisfaction, and adds empirical evidence to the 'ITL withdrawal process', that, until now has only scarcely been studied ampirically.

By identifying key determinants of various ITL post-exit destinations, specific management concerns and issues for general hospital's human resource management practices are identified, enabling both nurse managers as well as human resource managers to address the issue of nurse turnover and by doing so, improve quality of care and nursing outcomes.

Author contributions

LV and VH were responsible for the research conception and design. BvdH supplied important methodological content to the design of the study. Data was gathered and analyzed by LV. LV was responsible for the production of a thesis (supervised by VH) which was the basis for this article. VH was responsible for the drafting of this paper. LV and BvdH co-authored the paper, and made critical comments and revisions to the paper.

Funding

References

Aiken L.H., Clarke S.P., Sloane D.M., Sochalski J. & Silber J.H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *The Journal of the American Medical Association*, *288(16)*, 1987–1993.

Ajzen I. & Fishbein M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, N.J.: Prentice-Hall.

Allen, N., & Meyer, J. (1990). The measurement and antecedents of affective continuance and normative commitment to the organization. *Journal of Occupational Psychology: 63(1)*, 1-18.

Aselage, J, & Eisenberger, R (2003) Perceived organizational support and Psychological contracts: A theoretical integration. *Journal of Organizational Behavior*, 24(5), 491-509

Blau, G.J., Lunz, M.E. (1998). Testing the incremental effect of professional commitment on intent to leave one's profession beyond the effects of external, personal, and work-related variables. *Journal of Vocational Behavior*, *52*, 260-269.

Brown P., Fraser K., Wong C.A., Muise M., Cummings G.G. (2012). Factors influencing retention of nurse managers: A systematic review. *Journal of Nursing Management*. 7 MAR 2012 | DOI: 10.1111/j.1365-2834.2012.01352.x

Buerhaus, P.I., Auerbach, D.I., & Staicher, D.O. (2007). Recent trends in the registered nurse labor market in the U.S.: short-run swings on top of long-term trends. *Nursing Economics, 18(3),* 111-116.

Chan, M. F. (2008). Factors influencing Macao nurses' intentions to leave current employment. *Journal of Clinical Nursing*, *18(6)*, 893-901.

Coomber, B. & Barriball, K.L. (2007). Impact of job satisfaction components on intent to leave and turnover for hospital-based nurses: a review of the research literature. *International Journal of Nursing Studies, 44(2),* 297-314.

Derycke, H., Vlerick, P., Burnay, N., Decleire, C., D'Hoore, W., Hasselhorn, H.-M., (2010). Impact of the effort-reward imbalance model on intent to leave among Belgian health care workers: A prospective study. *Journal of Occupational and Organizational Psychology*, *83(4)*, 879-893.

Eisenberger, R, Huntington, R, Hutchison, S, & Sowa, D (1986) Perceived organizational support. *Journal of Applied Psychology, 71(3)*, 500-507.

Eisenberger, R, Armeli, S, Rexwinkel, B, Lynch, P, & Rhoades, L (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, 86(1): 42-51.

Fakunmoju S., Woodruff K., Kim H. H., LeFevre A., Hong M. (2010). Intention to leave a job: The role of individual factors, job tension, and supervisory support. *Administration in Social Work*, *34(4)*, 313-328.

Fishbein M. (1979). A Theory of Reasoned Action: Some Applications and Implications in H. Howe & M. Page. eds. *Nebraska Symposium on Motivation* Lincoln: University of Nebraska Press.

Flinkman, M., Leino-Kilpi, H., & Salanterä, S. (2010). Nurses' intention to leave the profession: Integrative review. Journal of Advanced Nursing, 66(7), 1422-1434.

Gardulf A., Söderström I.L., Orton M.L., Eriksson L.E., Arnetz B., Nordström G. (2005). Why do nurses at a university hospital want to quit their jobs? *Journal of Nursing Management, 13(4)*, 329-337.

Griffeth, R.W., Hom, P.W. & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: update, moderator test, and research implications for the next millennium. *Journal of Management. 26*, 463-88.

Hanisch, K.A., Hulin, C.L. (1990). Job attitudes and organizational withdrawal: an examination of retirement and other voluntary withdrawal behaviours. *Journal of Vocational Behavior*, *37*, 60-78.

Hasselhorn H.-M., Muller B.H. & Tackenberg P. (ed.) (2005) NEXT Scientific Report July 2005. Retrieved from http://www.next.uni-wuppertal.de/download/NEXTscientificreportjuly2005.pdf on September 2012.

Hasselhorn, H.-M., Tackenberg, P., & Müller, B. H. (2003). *Work Conditions and Intent to Leave the Profession Among Nursing Staff in Europe.* Wuppertal Germany: A research project initiated by SALTSA (joint Program for Working Life Research in Europe) and funded by the European Committee.

Hayes J.L., O'Brien-Pallas L., Duffield C., Shamian J., Buchan J., Hughes F., Laschinger H.K.S., North N. & Stone P.W. (2006). Nurse turnover: a literature review. *International Journal of Nursing Studies, 43(2),* 237–263.

Hopkins, K. M., & Cohen-Callow, A. (2007). *Maryland Child Welfare Workforce Recruitment, Selection and Retention Study.* Baltimore: University of Maryland School of Social Work.

Ingersoll G.L., Olsan T., Drew-Cates J., DeVinney B.C., Davies J. (2002). Nurses' job satisfaction, organizational commitment, and career intent. *Journal of Nursing Administration, 32(5)*, 250-263.

Kinnunen, U., Feldt, T., & Makikangas, A. (2008). Testing the effort-reward inbalance model among Finnish managers: The role of perceived organizational support. *Journal of Occupational Health Psychology, 13(2)*, 114- 127.

Krausz M., Koslowsky M., Shalom N. & Elyakim N. (1995) Predictors of intentions to leave the ward, the hospital, and the nursing profession: a longitudinal study. *Journal of Organizational Behaviour 16(3)*, 277–288.

Kristensen, T. (2000). *A new tool for assessing psychosocial factors at work: The Copenhagen Psychosocial Questionnaire.* Copenhagen: National Institute of Health.

Laczo, R. M., & Hanisch, K. A. (1999). An examination of behavioral families of Organizational withdrawal in volunteer workers and paid employees. *Human Resource Management Review, 9(4),* 453-477.

Larrabee, J., Janney, M., Ostrow, C., Withrow, M. Hobbs, G., Burant, C. (2003). Predicting registered nurse job satisfaction and intent to leave. *Journal of Nursing Administration, 33(5)*, 271-283.

Lee, K., Carswell, J.J., Allen, N. (2000). A meta-analytic review of occupational commitment: relations with person- and work-related variables. *Journal of Applied Psychology, 8,* 799-811

Liou, S. (2009). Nurses' intention to leave: critically analyse the theory of reasoned action and organizational commitment model. *Journal of Nursing Management, 17(1)*, 92-99.

Michaels, E., Handfield-Jones, H. and Axelrod, B. (2001) *The War for Talent*, Boston, Harvard Business School Press.

Mobley, W., R. Griffeth, H. Hand, B. Meglino, (1979). Review and conceptual analysis of the employee turnover process. *Psychological bulletin, 86(3)*, 493-522.

Morrell K. (2005) Towards a typology of nursing turnover: the role of shocks in nurses' decision to leave. *Journal of Advanced Nursing 49(3),* 315–322.

Netemeyer, R., Boles, J., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology, 81(4)*, 400-410.

North, N., Erasmussen, E., Hughes, F., Finlayson, F., Ashton, M., Campbell, T., (2005). Turnover amongst nurses in New Zealand's district health boards: A national survey of nursing turnover costs. *New Zealand Journal of Employment Relations, 30(1)*, 49-62.

Pampel, F. (2000). *Logistic regression: A primer*. Thousand Oaks CA: SAGE.

Parry J. (2008) Intention to leave the profession: antecedents and role in nurse turnover. *Journal of Advanced Nursing, 64(2),* 157–167.

Podsakoff, P. M., & MacKenzie, S. B. (1994). An examination of the psychometric properties and nomological validity of some revised and reduced substitutes for leadership scales. *Journal of Applied Psychology*, 79, 702-713.

Pollitt, C., S. van Thiel & V. Homburg. (eds.). (2007). *New Public Management in Europe: adaptations and alternatives.* Basingstoke, Palgrave MacMillan.

Price J.L. (2004) The development of a causal model of voluntary turnover. In *Innovative Theory and Empirical Research on Employee Turnover* (Griffeth R. & Hom P., eds), Information Age Publishing, CT, USA, pp. 3–32.

Price, J.L., Mueller C.W. (1981). A causal model of turnover for nurses. *Academy of Management Journal. 24(3),* 543-565.

Revelle, W. (1979). Hierarchical Cluster Analysis and the Internal Structure of Tests. *Multivariate Behavioral Research. 14*, 57-74.

Rhodes, S., Doering, M. (1993). Intention to change careers: determinants and process. *Career Development Quarterly, 42*, 76-92.

Rivers P.A., Tsai K.-L. & Munchus G. (2005) The financial impacts of the nursing shortage. *Journal of Health Care Finance, 31(3)*, 52–64.

Sawatzky, J.V., C.L. Enns. (2012). Exploring the key predictors of retention in emergency nurses. *Journal of Nursing Management. 20(5),* 696-707

Steijn, A.J. (2003). *De rol van het management bij arbeidssatisfactie en mobiliteit, Personeels- en mobiliteitsonderzoek.* Den Haag: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties.

Tham, P. (2007). Why Are They Leaving? Factors Affecting Intention to Leave among Social Workers in Child Welfare. *British Journal of Social Work*, *37(7),* 1225-1246.

Van der Heijden, B.I.J.M., Dam, K. v., & Hasselhorn, H. (2009). Intention to leave nursing. *Career Development International, 14(7),* 616-635.

Wayne, S, Shore, L, Bommer, W, & Tetrick, L (2002). The role of fair treatment and rewards in perceptions of organizational support and leader-member exchange. *Journal of Applied Psychology*, 87(3), 590-598.

Yin, J.C., K.P. Yang (2002). Nursing turnover in Taiwan: a meta-analysis of related factors. *International Journal of Nursing Studies*, *39(6)*, 573-581.

Appendix A: Questionnaire

Part A: **Questions about the healthcare institution you work in and about your personal situation.**

1. What is your main work department?

Cardiology

Cardiothoracic surgery

Geriatrics

Neurology

Psychiatry

Shortstay and day care

Dialysis

Internal medicine

Lung

Oncology

Gynecology and obstetrics

In vitro fertilization

Pediatrics

Orthopedics

2. Do you always work in the same department?

1 no, I move between departments a lot

2 no, I occasionally move between departments

3 yes, fixed department

3. What is your present position at work?

1 sister/charge nurse

2 deputy sister/ deputy charge nurse

3 other nursing staff

4. How many nursing colleagues (including aids) do you usually work with?

I usually work

1 alone

2 with one colleague

3 with 2 to 4 colleagues

4 with 5 or more colleagues

5. How many patients do you work with during one shift?

approximately _____ patients

6. Are there any vacant nursing posts in your work place at present?

1 no

2 yes

3 don't know

7. Number of your work hours per week (on average):

a. according to work contract _____ hours per week

b. overtime: paid _____ hours per week

c. overtime: compensated by leave _____ hours per week

d. overtime: neither paid nor compensated by leave _____ hours per week

8. Do you have a permanent employment contract?

1 yes

2 no this ends: _____

9. What is your highest leaving certificate or diploma before nursing education?

1 no leaving certificate

2 GCSE or equivalent

3 A levels

4 NVQ

10. How many years did you study nursing? (in total)

1 less than 1 year

2 1 year

3 2 years

4 3 years

5 4 years

6 over 4 years

11. Which type of health care training do you have?

1 no health care training

2 nursing aid / assistant paediatric nurse

3 qualified nurse

4 specialist nurse

5 assistant old people's nurse

6 old people's nurse

7 paediatric nurse

8 midwife

9 other:_____

12. How many days did you participate in continuing professional development during the last 12 months?

_____ days

13. For how long have you worked in the nursing profession? (Please do not include your training)
_____ years

14. In how many different hospitals or other health care institutions have you worked so far?
_____ institutions

15. How long have you been working for your present employer?

1 less than 6 months

2 6 to 12 months

3 1 – 2 years

4 3 – 5 years

5 more than 5 years

16. What is your age in years?

_____ years

17. Your gender:

1 Male
2 Female

Part B: Management

18.   To what extent would you say that your immediate superior (e. g. ward sister)...

		To a very small extend	Not very much	Somewhat	To some extent	To a large extent
A	makes sure that the individual member of staff has good development opportunities?					
B	gives high priority to job satisfaction?					
C	Is good at work planning?					
D	Is good at solving conflicts					

19. Please answer the following questions concerning your work environment.

		Not at all				Very much
A	Is your immediate supervisor able to appreciate the value of your work and its results?					
B	Are **your colleagues** able to appreciate the value of your work and its results?					
C	Does your **immediate supervisor** express an opinion on your work?					
D	Does your **immediate supervisor** give you supportive advice?					
E	Do your colleagues express an opinion on your work?					
F	Do your colleagues give you supportive advice?					

20. In general, is your immediate supervisor ready to help you with the

performance of your tasks?

	shows little willingness to help me…				… is very willing to help me…
In my opinion he or she	1	2	3	4	5

21. In general, are your near colleagues ready to help you with the performance of your tasks?

	show little willingness to help me…				… are very willing to help me…
In my opinion they	1	2	3	4	5

Part C: Reward

22.   How satisfied are you with you pay… ?

	Not at all				Very Much
a. in relation to your need for income	1	2	3	4	5
b. considering the pay of other comparable professions	1	2	3	4	5
c. considering the pay of nurses in other institutions	1	2	3	4	5

23.   I receive the respect I deserve from my superiors.

1 yes

2 no, and this distresses me →   2 not at all

3 moderately

4 considerably

5 very much

24.   I receive the respect I deserve from my colleagues.

1 yes

2 no, and this distresses me →   2 not at all

3 moderately

4 considerably

5 very much

25.   I experience adequate support in difficult situations.

1 yes

₂ no, and this distresses me →   ₂ not at all

₃ moderately

₄ considerably

₅ very much

26.   I am treated unfairly at work.

₁ no

₂ yes, and this distresses me →   ₂ not at all

₃ moderately

₄ considerably

₅ very much

27. My job promotion prospects are poor.

1 no

2 yes, and this distresses me → 2 not at all

3 moderately

4 considerably

5 very much

28. I have experienced or I expect to experience an undesirable change in my work situation.

1 no

2 yes, and this distresses me → 2 not at all

3 moderately

4 considerably

5 very much

29. My job security is poor.

1 no

2 yes, and this distresses me → 2 not at all

3 moderately

4 considerably

5 very much

30. My current occupational position adequately reflects my education and training.

1 yes

2 no, and this distresses me → 2 not at all

3 moderately

4 considerably

5 very much

31.   Considering all my efforts and achievements, I receive the respect and prestige I deserve at work.

1 yes

2 no, and this distresses me →   2 not at all

3 moderately

4 considerably

5 very much

32.   Considering all my efforts and achievements, my work prospects are adequate.

1 yes

2 no, and this distresses me →   2 not at all

3 moderately

4 considerably

5 very much

33.   Considering all my efforts and achievements, my salary / income is adequate.

1 yes

2 no, and this distresses me →   2 not at all

3 moderately

4 considerably

5 very much

34.   I am under constant time pressure due to the heavy work load.

1 no

2 yes, and this distresses me →   2 not at all

3 moderately

4 considerably

5 very much

35. I have many interruptions and disturbances in my job.

₁ no

₂ yes, and this distresses me → ₂ not at all

₃ moderately

₄ considerably

₅ very much

36. I have a lot of responsibility in my job.

₁ no

₂ yes, and this distresses me → ₂ not at all

₃ moderately

₄ considerably

₅ very much

37. I am often pressured to work overtime.

₁ no

₂ yes, and this distresses me → ₂ not at all

₃ moderately

₄ considerably

₅ very much

38. My job is physically demanding.

₁ no

₂ yes, and this distresses me → ₂ not at all

₃ moderately

₄ considerably

₅ very much

39. Over the past few years, my job has become more and more demanding.

₁ no

₂ yes, and this distresses me →   ₂ not at all

                                             ₃ moderately

                                               ₄ considerably

                                               ₅ very much

Part D: Growth opportunities

40.   Please answer the following questions:

		To a very small extent	Not very much	Somewhat	To some extent	To a large extent
A.	Does your work require you to take the initiative?					
B.	Do you have the possibility of learning new things through your work?					
C.	Can you use your skills or expertise in your work?					
D.	Is your work meaningful?					
E.	Do you feel that the work you do is important?					
F.	Do you feel motivated and involved in your work?					

Part E: Relationship work – private

41. How accurate are the following statements with relation to your personal occupational situation?

	Totally dis-agree				Totally agree
a. The demands of work interfere with my home and family life.	1	2	3	4	5
b. The amount of time my job takes makes it difficult to fulfil family responsibilities.	1	2	3	4	5
c. Things I want to do at home do not get done because of the demands of my job.	1	2	3	4	5
d. My job produces strain that makes it difficult to fulfill family duties.	1	2	3	4	5
e. Due to work-related duties, I have to make changes to my plans for family activities.	1	2	3	4	5
f. The demands of my family or spouse/ partner interfere with work related activities.	1	2	3	4	5
g. I have to put off doing things at work because of demands on my time at home.	1	2	3	4	5
h. Things I want to do at work do not get done because of the demands of my family or spouse / partner.	1	2	3	4	5
i. My home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks and working overtime.	1	2	3	4	5
j. Family-related strain interferes with my ability to perform job-related duties.	1	2	3	4	5

Part F: Job satisfaction

42.   How pleased are you with…

	Very highly un-un-satisfied satisfied	unsatisfied un-satisfied	satisfied	
a. your work prospects?	1	2	3	4
b. the physical working conditions?	1	2	3	4
c. the way your abilities are used?	1	2	3	4
d. your job as a whole, everything taken into consideration?	1	2	3	4

43.   Below you will find a set of statements expressing a relationship to

your organization. Please mark how much you agree with them.

	No, totally inaccurate			Fairly accurate
a. I really feel that I belong to this institution.	1	2	3	4
b. This institution has a great deal of personal meaning for me.	1	2	3	4
c. I am proud to belong to this institution.	1	2	3	4
d. I do not feel like a part of the family among this institution.	1	2	3	4
e. I really feel that I belong to the nursing				

profession. 1 2 3 4

f. Nursing profession has a great deal of
personal meaning for me. 1 2 3 4

g. I am proud to belong to the nursing
profession. 1 2 3 4

h. I do not feel like part of the nursing
profession. 1 2 3 4

44. How often during the course of the past year have you thought about ...

	Never	Some times a year	Some times a week	Some times a month	a
a. changing to a different location location or another ward?	1	2		3	4
b. changing to another hospital?	1	2		3	4
c. changing to work in a the home-care?	1	2		3	4
e. changing to general practice?	1	2		3	4
f. self-employment?	1	2		3	4