ORIGINAL ARTICLE

Work-related factors, job satisfaction and intent to leave the current job among United States nurses

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Aims and objectives. To examine the relationships of work-related factors (e.g. autonomy, work schedule, supervisory and peer support) to nurses' job satisfaction and intent to leave their current position.

Background. Low job satisfaction and high turnover of nurses are major problems for health care. To improve nurse retention, work-related factors associated with job satisfaction and intent to leave should be investigated.

Design. A cross-sectional secondary data analysis.

Methods. Data were obtained in 2004 from Wave 3 of the Nurses' Worklife and Health Study. A random sample of 5000 actively licenced nurses in Illinois and North Carolina (two US states) were sent the survey in wave 1, of which 1641 actively working bedside nurses participated in wave 3. We examined associations of various work-related factors with job satisfaction and intent to leave the current position.

Results. Nurses who were dissatisfied with their job reported significantly higher psychological demands and lower autonomy than nurses who were satisfied. Nurses were significantly less satisfied with their jobs when they worked longer hours with inadequate breaks or sick days. Lack of support from peers and supervisors was also related to significantly lower odds of job satisfaction. For intention to leave, nurses who said they planned to leave their current job reported significantly lower autonomy and less support from their peers than nurses who intended to stay.

Conclusion. A variety of modifiable work-related factors were significantly related to job satisfaction and intention to leave the current job among nurses. Future research should focus on developing interventions that could mitigate these factors (e.g. by improving work schedules, increasing autonomy and/or nurse support). The impact of such interventions on job satisfaction and intention to leave the current position could then be evaluated.

Relevance to clinical practice. To increase nurse retention, improved schedules, autonomy and supportive work environments should be promoted.

> **What does this study contribute to the wider global clinical community?**
>
> - Job satisfaction was significantly associated with psychological demands, autonomy, supervisor or peer support, and work hours among nurses.
> - Intent to leave the job was significantly related to job autonomy and peer support among nurses.
> - A variety of modifiable working conditions could improve nurses' job satisfaction and intention to leave, and might ultimately improve nursing job retention.

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Introduction

High turnover rates and low retention of nurses are major problems of the US health care system (Carter & Tourangeau 2012, Hayes *et al.* 2012). The 2013 National Health Care and registered nurse (RN) retention report by Nursing Solutions Inc. (2013) indicated that the turnover rate for bedside RNs continued to increase from 11% in 2012 to 13% in 2013; and is projected to exceed 14% in 2014. High turnover rates are costly; it is estimated that it costs twice the annual salary of a nurse to replace them with a new one (HSM Group, 2002). Given the increasing health care needs of the ageing US population and relatively high nursing turnover rates, there is a pressing need to understand why nurses are not satisfied or are intending to leave their jobs—as these are important precursors of turnover.

Background

The two variables that have been shown to predict actual nursing turnover and retention rates are nurses' satisfaction with their jobs and their intent to leave their current position (Price & Mueller 1981, Castle *et al.* 2007). A variety of factors in nurses' working environment may have an impact on job satisfaction and intent to leave, and as a result the job retention rates. A recent meta-analysis of 62 studies from 10 countries between 1980 and 2009 found important predictors of job satisfaction among frontline RNs, such as job autonomy, RN/physician relationship and leadership support (Saber 2014). Similarly a descriptive study from Canada using data collected from focus groups, revealed that seven factors can potentially impact nurses' retention: relationships with peers, condition of the work environment, relationship with and support from one's supervisor, reward mechanisms at work, organisational support and practices, physical and psychological responses to work, patient relationships and other job content, and external factors (Tourangeau *et al.* 2010).

However, previous studies have investigated the impact of at most a few work-related factors on job satisfaction and nurses' intention to leave simultaneously, without examining the joint effect of a more comprehensive list of factors on these outcome variables (HSM Group, 2002; Tourangeau *et al.* 2010). Furthermore, most of the previous studies did not conceptualise and measure work factors at a level detailed enough to be modifiable or propose reengineering solutions.

This study presents findings from an investigation of the direct and indirect effects of nine potentially modifiable factors in nurses' work environment on their job satisfaction and intent to leave their job. Based on a secondary analysis of the cross-sectional data from wave 3 of the Nurses' Worklife and Health Study (NWHS), a 3-wave longitudinal survey of nurses' working conditions and related outcomes (Trinkoff *et al.* 2006, 2007), we investigated the relationships of the nine work environment factors (each related to one of four working condition elements including job demands, autonomy at work, supportive work environment, and work schedules) with nurses' job satisfaction and intent to leave their job.

Methods

Sample and data collection

This study was a cross-sectional secondary data analysis using data from the Nurses Worklife and Health Study (NWHS), a 3-wave longitudinal survey of nurses. The NWHS randomly selected 5000 actively licenced registered nurses (RN) in two US states (Illinois and North Carolina) and mailed the survey to 4229 nurses (138 had invalid addresses and 633 declined to enroll). The details of the overall methodology for all 3 waves of the study including the data collection process can be found elsewhere (Trinkoff *et al.* 2006). Briefly, this study analysed data from 2168 nurses who returned the Wave 3 survey between January and August 2004 (follow-up response rate for wave 3 was 86%). As our goal was to identify factors related to job satisfaction and intent to leave among nurses who are currently working, we excluded nurses who were retired (*n* = 221) or did not have any patient contact (*n* = 306) within the last six months. Seventeen surveys were further excluded for inconsistent responses, which resulted in a sample size for this analysis of 1641 nurses. The characteristics of the sample (average age = 46·4 years with standard deviation of 10·4 years, 86% white, 95% female) were similar to the 2004 US nurse population (Health Resources and Service Administration, 2006).

Study variables

Four elements of nursing working conditions were assessed: job demands (physical and psychological), autonomy at work, support (supervisor and peer) and work schedule (long work hours, weekly burden, required on-call/overtime and lack of breaks) (Han *et al.* 2011).

To measure job demands, we used seven psychological demand items adapted from the Job Content Questionnaire (JCQ) (Karasek 1985) plus 12 items assessing physical demands (Trinkoff *et al.* 2003). Autonomy, which can be

defined as the amount of decision-making authority (Karasek 1985), was measured using three items from the Nursing Work Index-Revised (NWI-R) (Lake 2002): e.g. my job allows me to (1) participate in controlling costs and (2) in selecting equipment and (3) requires me to do things against my judgment. Supervisor and peer support was assessed with six items from the Job Content Questionnaire (JCQ) supervisor/peer support domain (Karasek 1985). All items had Likert-type response categories, ranging from strongly disagree (1) to strongly agree (4). For each construct, item scores were then averaged and categorised into high (>3), medium (2–3), versus low (<2) i.e., to reflect high support and autonomy scores and lower job demands scores as better conditions.

Work schedule measures included long work hours, weekly burden, required on-call/overtime and lack of breaks. For long work hours, a 3-level categorical variable was created using the average score of four items (e.g. hours worked per day, and working 13 hours or more at a stretch): very long work hours (>3 average score across the items), long (2–3), vs. normal schedule (<2). Weekly burden was measured using one item asking 'hours worked per week' (continuous measure). Required on-call/overtime was measured by a categorical variable derived from two binary measures (required on-call and mandatory overtime): both on-call and overtime required, either on-call or overtime required, vs. neither on-call nor overtime required. Similarly, lack of breaks was assessed using two items (2 or more breaks in each shift [i.e. mini breaks including meal breaks] and sick days) and scored ranging from 0–2, such that 0 = no breaks or sick days taken, 1 = either breaks or sick days taken vs. 2 = both breaks and sick days taken.

The two outcome variables, each measured using a single Likert-type item, were job satisfaction ('I am very satisfied with my workplace') and intent to leave the current job ('I plan on staying for the next year'). Single item measures of job satisfaction have been shown to highly correlate with multiple item measures (Wanous *et al.* 1997). Responses ranged from strongly disagree (1) to strongly agree (4) and were dichotomised into strongly disagree and disagree (representing dissatisfaction with the job and intention to leave the current job) vs. agree and strongly agree (representing job satisfaction and intention to stay).

Potential confounders of the relationship between working conditions and the outcome variables were demographics (age, gender, race/ethnicity, education), workplace type (e.g. hospital vs. nursing home) and home demands (caring for children, caring for other dependents such as elder people, time spent on housework/chores).

Statistical analyses

Data analysis was performed using STATA statistical software version 12 (StataCorp LP., College Station, TX, USA). Exploratory data analyses were conducted to obtain descriptive data on the variables, and the distribution of each variable was assessed with histograms (for continuous variables) or tables (for categorical variables). Summary statistics for continuous variables were calculated including mean, median, range and standard deviation. Internal consistency for each scale (in its original form) was evaluated with Cronbach's alpha.

First, simple binary logistic regression analyses were conducted to describe the unadjusted relations (total effects) between each outcome and explanatory variable pair. Then, multiple binary logistic regression analyses were conducted separately for each outcome. Working conditions variables were included as potential explanatory variables and confounding variables as covariates. We checked multicollinearity and found no concern once years of experience was removed due to its high correlation with age ($r = 0.74$). Hosmer–Lemeshow goodness-of-fit tests indicated adequate fit for both models. We conducted sensitivity analyses using the robust variance estimation method for the multiple logistic regression analyses of both outcomes, which indicated similar findings to the original analyses. Interactions between physical demands and job autonomy and psychological demands and job autonomy were investigated for each outcome (job satisfaction and intent to leave) separately, and no significant interactions were found. The original NWHS and the present study protocols were approved by the Institutional Review Board of University of Maryland, Baltimore.

Results

Sample description

Sampled nurses were 95% female and 86% White with an average age of 46 years, and 51% had Bachelor's degrees or higher. Sixty per cent reported working in hospitals. Almost half (48%) cared for a child and 12% for other dependents (e.g. elders) on a regular basis, with over two-thirds (69%) spending at least 10 hours on housework per week.

Most nurses were satisfied with their jobs (75%) and did not intend to leave their current position in the next year (90%) (Table 1). Nurses did not differ with respect to demographic and background variables by job satisfaction level except for workplace type ($p = 0.02$); a higher propor-

Table 1 Sample characteristics by job satisfaction and intent to leave the current job

	Job satisfaction			Intent to Leave		
	Satisfied with job n = 1149	Dissatisfied with job n = 374	p-value*	Intent to stay n = 1367	Intent to leave n = 157	p-value*
Age, yrs, mean ± SD	46·2 ± 0·3	45·6 ± 0·53	0·50	44·25 ± 0·3	44·3 ± 0·9	0·19
Race/ethnicity, %						
White	87·3	84·3	0·34	86·6	85·1	0·15
African–American	5·9	7·9		6·8	5·2	
Asian/Pacific Islander	5·3	5·4		5·1	5·9	
Other	1·5	2·4		1·5	3·9	
Gender, %						
Female	95·3	93·1	0·09	95·7	88·5	<0·01
Education, %						
Diploma/associate	49·8	47·7	0·48	50·4	39·7	0·01
Time spent on domestic chores, %						
≥10 hours/week	68·8	70·1	0·66	69·5	69·2	0·95
Caring for any children, %						
Yes	49·5	46·6	0·34	49·1	48·4	0·87
Caring for any other dependents (e.g. elders), %						
Yes	10·6	14·3	0·05	11·1	14·7	0·18
Workplace type, %						
Hospital	59·3	64·1	0·02	61·2	58·6	0·13
Nursing Home	5·7	8·8		6·1	8·9	
Ambulatory Clinic/Office	15·4	10·9		14·8	10·8	
Home Health Agency/Hospice/Assisted Living	6·6	6·1		6·1	10·2	
Other	13.0	10·1		11·9	11·5	

*Chi-square test was used for comparing percentages (categorical variables) and *t*-test was used for comparing means (continuous variables) across outcomes of job satisfaction and intent to leave.

tion of nurses working in ambulatory clinics or home health agencies/hospice/assisted living facilities tended to be satisfied with their jobs compared to nurses working in hospitals. Compared to nurses who intended to stay in their current position, those who intended to leave were more likely to be male ($p < 0.01$) and have higher education ($p = 0.01$).

Job satisfaction

Simple logistic regression analyses revealed that all working conditions variables (e.g. jobs demands, long work hours, etc.) were significantly related to job satisfaction (Table 2, left column). The adjusted model indicated that nurses with medium levels of psychological job demands were two times more likely to be dissatisfied with their job (adj. Odds Ratio [OR] = 2·42, 95% Confidence Interval [CI] = 1·03–5·69); nurses in jobs with high psychological demands were over four times more likely to be dissatisfied compared to those in jobs with low demands (adj. OR = 4·56, 95% CI = 1·85–11·25) (Table 3, Model 1; Fig. 1a). For autonomy, nurses who were dissatisfied were significantly less

likely to have jobs with high autonomy (high levels of autonomy vs. low [adj. OR = 0·07, 95% CI = 0·04–0·14]; or medium levels of autonomy vs. low [adj. OR = 0·31, 95% CI = 0·19–0·48]) than satisfied nurses. Dissatisfied nurses had 49% higher odds of working long hours compared to satisfied nurses (adj. OR [long vs. normal hours] = 1·49, 95% CI = 1·05–2·11). As far as support from supervisor or peers, dissatisfied nurses were less likely to report having supportive peers and supervisors compared to satisfied nurses. Only one demographic variable, education level, was statistically significant in the adjusted model such that nurses with Bachelor's degrees or higher were dissatisfied with their job compared to those with less education (adj. OR = 1·41, 95% CI = 1·02–1·95).

Nurses who reported that they intend to leave their current positions were significantly more likely to have jobs with greater physical and psychological demands, longer hours, less autonomy and lower supervisor and peer support than those who did not intend to leave (Table 2, right column). Relationships were unchanged after adjustment for all remaining work-related factors and demographics (Table 3, Model 2; Fig. 1b).

Table 2 Bivariate associations of nursing working conditions with job dissatisfaction/intent to leave

	Dissatisfied with jobs			Intent to leave		
	OR	95% CI of OR		*p*	OR	95% CI of OR		*p*
Physical demands								
High	3·85	2·69	5·52	<0·01	2·51	1·55	4·05	<0·01
Medium	1·69	1·24	2·32	<0·01	1·19	0·77	1·84	0·43
Low	1·00				1·00			
Psychological demands								
High	19·13	9·14	40·01	<0·01	4·36	2·03	9·34	<0·01
Medium	5·84	2·83	12·06	<0·01	2·24	1·07	4·70	0·03
Low	1·00				1·00			
Autonomy at work								
High	0·03	0·02	0·05	<0·01	0·07	0·04	0·12	<0·01
Medium	0·18	0·13	0·26	<0·01	0·23	0·16	0·34	<0·01
Low	1·00				1·00			
Supportive supervisor								
Very supportive	0·05	0·03	0·07	<0·01	0·13	0·07	0·24	<0·01
Somewhat supportive	0·19	0·14	0·26	<0·01	0·39	0·26	0·58	<0·01
Unsupportive	1·00				1·00			
Supportive peer								
Very supportive	0·08	0·05	0·12	<0·01	0·10	0·05	0·17	<0·01
Somewhat supportive	0·20	0·13	0·32	<0·01	0·27	0·17	0·43	<0·01
Unsupportive	1·00				1·00			
Long work hours								
Very long	3·06	2·09	4·48	<0·01	2·17	1·31	3·58	<0·01
Long	1·98	1·53	2·57	<0·01	1·32	0·91	1·92	0·14
Normal	1·00				1·00			
Weekly burden (continuous)	1·02	1·01	1·03	<0·01	1·00	0·99	1·02	0·91
Required on-call/overtime								
Both on-call and overtime required	1·68	1·11	2·56	0·02	1·21	0·66	2·20	0·54
Either on-call or overtime required	1·16	0·90	1·50	0·24	0·95	0·67	1·37	0·80
Neither on-call nor overtime required	1·00				1·00			
Lack of breaks								
No mini breaks or sick days taken	2·25	1·36	3·72	<0·01	1·46	0·74	2·90	0·28
Either mini breaks or sick days taken	1·23	0·73	2·06	0·45	1·18	0·58	2·39	0·65
Both mini breaks and sick days taken	1·00				1·00			

Discussion

The innovative aspect of our study was the investigation of the independent and dependent relationships of a variety of potentially modifiable work-related factors to nurses' job satisfaction and intent to leave their job. Using two separate statistical models, for (1) job satisfaction and (2) intent to leave the current job, we also found different perspectives. Furthermore, another contribution of this study was controlling for external factors such as number of hours spent on housework and caring for a child or other dependents in addition to demographic factors (age, gender, race/ethnicity, etc.) and workplace type. Although these variables may have an impact on the outcome variables, particularly intent to leave, previous studies have not taken their impact into account.

Our findings indicate that nurses who were not satisfied with their jobs were more likely to experience higher psychological demands at work, have lower autonomy in their jobs, work with relatively less supportive peers or supervisors, work longer hours, with fewer breaks during the work day and were more likely to work while sick. Similar to the findings of other studies (Tourangeau *et al.* 2010), this study provides further evidence of the relationships of psychological demands, autonomy, supervisor or peer support and work hours to job satisfaction, even after controlling for demographic, workplace and external (e.g. housework) factors. The finding that job autonomy and peer support were significantly related to intent to leave in the adjusted model is also important. Although the demands and work hours relate to satisfaction, autonomy and support were most connected to intent to leave. Similarly, in a recent

**Table 3** Adjusted odds ratios* of job dissatisfaction/intent to leave by nursing working conditions

	Model 1: Dissatisfied with jobs				Model 2: Intent to leave			
	OR	95% CI of OR		*p*	OR	95% CI of OR		*p*
Physical demands								
High	1·22	0·71	2·12	0·47	1·42	0·71	2·82	0·32
Medium	0·85	0·55	1·32	0·47	0·80	0·46	1·39	0·42
Low	1·00				1·00			
Psychological demands								
High	4·56	1·85	11·25	<0·01	2·56	0·85	7·66	0·09
Medium	2·42	1·03	5·69	0·04	2·42	0·87	6·71	0·09
Low	1·00				1·00			
Autonomy at work								
High	0·07	0·04	0·14	<0·01	0·12	0·06	0·26	<0·01
Medium	0·31	0·19	0·48	<0·01	0·31	0·19	0·51	<0·01
Low	1·00				1·00			
Supportive supervisor								
Very supportive	0·15	0·08	0·26	<0·01	0·50	0·24	1·03	0·06
Somewhat supportive	0·31	0·20	0·47	<0·01	0·71	0·43	1·18	0·19
Unsupportive	1·00				1·00			
Supportive peer								
Very supportive	0·25	0·13	0·48	<0·01	0·17	0·08	0·36	<0·01
Somewhat supportive	0·37	0·21	0·67	<0·01	0·39	0·21	0·70	<0·01
Unsupportive	1·00				1·00			
Long work hours								
Very long	1·59	0·87	2·92	0·13	1·46	0·70	3·08	0·32
Long	1·49	1·05	2·11	0·03	1·06	0·67	1·70	0·80
Normal	1·00				1·00			
Weekly burden (continuous)	1·00	0·99	1·02	0·55	0·99	0·97	1·01	0·17
Required on-call/overtime								
Both on-call and overtime required	1·23	0·69	2·21	0·48	0·89	0·41	1·93	0·77
Either on-call or overtime required	1·00	0·72	1·41	0·98	0·86	0·56	1·33	0·50
Neither on-call nor overtime required	1·00				1·00			
Lack of breaks								
No mini breaks or sick days taken	1·84	0·88	3·87	0·11	0·75	0·32	1·76	0·51
Either mini breaks or sick days taken	1·22	0·58	2·59	0·60	0·83	0·35	1·96	0·68
Both mini breaks and sick days taken	1·00				1·00			
Gender								
Male	1·05	0·52	2·12	0·89	2·45	1·17	5·14	0·02
Female	1·00				1·00			
Education								
Bachelor's or higher	1·41	1·02	1·95	0·04	1·61	1·06	2·44	0·03
Diploma or associates	1·00				1·00			
Workplace type								
Other	0·82	0·46	1·45	0·49	1·44	0·71	2·91	0·31
Home health agency/hospice/assisted living	1·28	0·65	2·51	0·48	3·41	1·65	7·01	<0·01
Ambulatory clinic/office	1·02	0·61	1·69	0·96	1·40	0·73	2·67	0·31
Nursing home	1·43	0·75	2·75	0·28	1·84	0·85	3·99	0·12
Hospital	1·00				1·00			

*Models adjusted for age, race/ethnicity, caring for kids, caring for other dependents (e.g. elders), time spent on domestic chores in addition to all the other variables shown in the table.

systematic review, Cicolini *et al.* (2014) reviewed 12 studies from countries including China, Canada, Malaysia and Italy. They concluded that psychological empowerment in the workplace, such as job autonomy/influence, and structural empowerment including feedback, leadership and guidance received from superiors and peers were important contributors to nurses' job satisfaction. Our findings can help organisations that are struggling with nurse retention
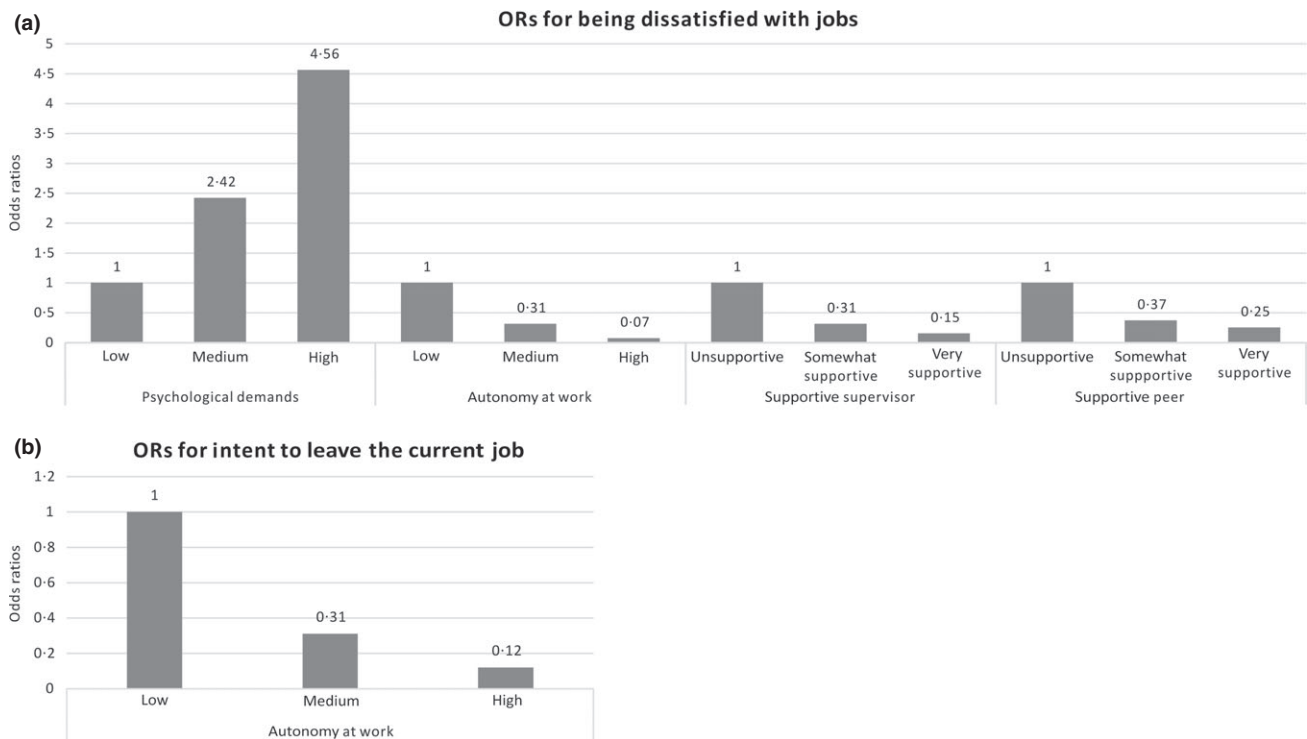
Figure 1 Odds ratios for being dissatisfied with jobs (a) and intent to leave the current job (b). For (b) the higher the odds ratios, the lower the intent to leave.

to focus their efforts on improving autonomy and support, given that attention is paid to the other factors that relate to job satisfaction as well (e.g. work schedule).

In this study, nurses' professional autonomy refers to their organisational freedom to make decisions about patients' care process (Varjus *et al.* 2003). This included decisions about equipment and cost containment—along with their freedom to avoid practices that go against their professional judgement. Therefore, to increase both organisational policy to support nurses' freedom to implement safe care and make decisions could be important for promoting patient safety (Curley 2002, Luyt *et al.* 2002). In our study, we did not directly measure individual-level professional accountability and responsibility, or how organisational and professional cultures act as a dynamic on nurses in clinical practice. We did find that autonomy was significant even after controlling for age (which was highly correlated with years of RN experience) and education. Experience and education are two important factors for promoting individual nursing accountability and responsibility (Iliopoulou & While 2010), suggesting that organisational support for nurses' freedom to make decisions in their jobs is important for nurse retention. Dynamics of workplace cultures should also be evaluated to ensure nurses' professional rights and responsibility are sup-

ported, both for nurse retention and for impact on patient outcomes.

One factor that has not been investigated by previous studies that was a significant contributor to outcomes was the lack of breaks taken during work and breaks from work when sick. Nurses with less than two 10-minute breaks per shift and those who had to work while sick reported lower job satisfaction compared to their colleagues. This is an important finding that needs to be further explored, as adding short breaks and giving nurses time off while they are sick are relatively modifiable factors that demonstrate respect for nurses' own care needs. Interestingly, nurses with more education had lower satisfaction, perhaps because they expect to have more autonomy or they perceive more options for obtaining alternative positions, given their education.

Although previous studies considered job satisfaction as one of the strongest predictors of intent to leave, we did not include job satisfaction as an independent variable in the model with intent to leave as the outcome variable. This is because job satisfaction by itself, is a complex and multidimensional phenomenon that can potentially be affected by multiple factors. Instead, in this study, our goal was to identify factors in the nursing work environment

that can be improved or re-engineered to reduce the percentage of nurses who intend to leave their current job.

This study has several limitations. Our study was cross-sectional so we cannot draw causal inferences. Future studies using a longitudinal or quasi-experimental design to evaluate changes to the work environment (e.g. increasing breaks within shifts) are recommended. Data were based on nurses' self-report, and thus can be biased due to recall or denial. Although self-reported data are a concern, previous work indicated a high correlation between self-reported and rater-assessed job demands (Muntaner & Schoenbach 1994). This study used secondary data analysis, which limits the analysis to the variables included in the original survey. Though the survey measures were previously tested and validated, variables were categorised based on the exploratory data analysis and lowess plots (i.e. number of categories, cut-off points) which could have impacted the findings. Although we conducted sensitivity analyses using different scale choices, future research using different measurement scales and scale choices is needed.

Conclusion

Findings suggest a variety of working conditions that if modified, could improve nurse satisfaction and ultimately improve job retention. Compared to nurses who were satisfied with their jobs, dissatisfied nurses reported significantly higher psychological demands, lower autonomy and lack of support from peers and their supervisor, and worked longer hours with inadequate breaks or sick days. Nurses who said they planned to leave their jobs reported significantly less autonomy and peer support than nurses who did not intend to leave. To improve retention in the nursing profession, nurses themselves should try to construct and facilitate supportive work climates. Such a climate would encourage collaborative relations among co-workers, provide opportunities for autonomy, and facilitate healthy schedules with support for work breaks and sick time, to encourage nurses

to remain in their jobs. Improvement in scheduling work hours might have similar impact, and is possible with collaborative efforts. Future research should focus on developing interventions that mitigate undesirable working conditions and evaluate their impact on nurses' job satisfaction and intention to leave.

Relevance to clinical practice

Job dissatisfaction and intention to leave are known as the most direct predictors of actual turnover (i.e. actually leaving the job) (Price & Mueller 1981, Castle *et al.* 2007), which is a substantial expense for health care systems (Jones & Gates 2007) and a threat to patient care quality (Leiter *et al.* 1998, Aiken *et al.* 2002, Trinkoff *et al.* 2013). A favourable organisational climate that supports nurse involvement in patient care decisions can improve job satisfaction and nurse retention (Jones & Gates 2007). In addition, interventions to promote collaborative relationships among nurses, reduced job demands and improved work hours could enhance supportive work environments and ultimately prevent nurse turnover.

Contributions

Study design: AMT, APG; Data collection and analysis: KH, AMT, APG; Manuscript preparation: KH, AMT, APG.

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Conflict of interest

None declared.

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