The influence of personal dispositional factors and organizational resources on workplace violence, burnout, and health outcomes in new graduate nurses: A cross-sectional study

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Abstract

Background: The alarmingly high rate of illness-related absenteeism among nurses and recent reports of workplace violence and burnout are problematic for both the current workforce shortage and the recruitment and retention of **new nurses.**

Objectives: To test a model derived from Leiter and Maslach's (2004) Six Areas of Worklife Model linking workplace factors (six areas of worklife, experiences of bullying and burnout) and a personal dispositional factor (psychological capital) to new graduates mental and physical health in their first year of practice.

Methods: A cross-sectional survey design was utilized to survey 165 Ontario nurses with one year or less experience in nursing. Participants completed measures of nurses' work environment quality, psychological capital, bullying exposure, burnout, and physical and mental health. Structural equation modelling was used to test the hypothesized model.

Results: The fit indices suggested a reasonably adequate fit of the data to the hypothesized model ($x2 = 27.75$, df = 12, CFI = .97, IFI = .97, RMSEA = .09), however an additional direct path from psychological capital to emotional exhaustion substantially improved the model fit ($x2 = 17.94$, df = 11, CFI = .99, IFI = .99, RMSEA = .06). Increased psychological capital positively influenced nurses' perceived person-job fit, which in turn was negatively related to bullying exposure and emotional exhaustion, and ultimately influenced their physical and mental health.

Conclusions: The findings suggest that psychological capital and perceived person-job fit are key variables in new graduate nurses' worklife, which may contribute to decreased nurses' burnout and increased physical and mental well-being. The results support an expanded conceptualization of the Areas of Worklife Model.

What is already known about the topic?

- Rates of illness-related absenteeism are startlingly high among nursing professionals, which further complicates the issues of short staffing and the workforce shortage, and ultimately decreases the quality of patient care provided in hospitals.
- Empowering work environments and supportive colleague relationships are important factors for organizational productivity and retention outcomes.
- Personal resources such as, self-efficacy, hope, optimism, and resilience, affect the way nurses interact with their work environment and can help buffer the development of burnout, physical and mental health complaints, and turnover in stressful working conditions.

What this paper adds

- This study found that nurses with higher levels of psychological capital (a personal resource), experienced a better fit between their expectations of and the actual reality of their working conditions, which was related to decreased experiences of bullying, burnout and physical and mental health problems.
- This model suggests that personal resources may be a valuable addition to Leiter and Maslach's (2004) Areas of Worklife Model.
- These results stress the importance of nurse managers fostering supportive, conflict-free working environments in order to recruit and retain the next generation of nursing professionals.

1. Introduction

In 2005 the illness-related absenteeism rate for nurses was 58% higher than that of the overall Canadian labour force (Canadian Institute for Health Information [CIHI], 2007). This absenteeism translated to a total work-time loss of 340,000 h each week, the equivalent of 9754 full- time nursing jobs (CIHI, 2007). Given the current nursing shortage worldwide and the aging of the nursing work- force, the recruitment and retention of new nurses has become a high priority. However new graduate nurses' experiences of their transitions into the workforce has been described as a 'reality shock' (Kramer, 1974), or a 'transition shock (Boychuk Duchscher, 2009) as a result of unsupportive work environments. These conditions could lead to a significant attrition of new nurses and threaten the stability of the nursing workforce.

Supportive supervisor and co-worker relationships have been found to be particularly important to new graduate nurses' job satisfaction, work stress, turnover intentions and burnout (Casey et al., 2004; Halfer and Graf, 2006; Roberts et al., 2004). Thus, one would expect that hospitals would be striving to provide supportive work environments to help compensate for new graduates' uneasy transition into the workforce. However, 33% of new graduate nurses report exposure to bullying behaviours weekly or daily (Laschinger et al., 2010). Workplace bullying and workplace incivility have been linked to detrimental organizational outcomes including increased emotional exhaustion and decreased organizational commitment (Laschinger et al., 2010; Smith et al., 2010). Furthermore, burnout has been associated with negative physical and emotional health (Schaufeli and Buunk, 2003).Clearly, if new graduate nurses find themselves in stressful, unsupportive work environments, not only their successful transition to the workplace is threatened, but also their health and subsequent retention. While nume ous studies in the general nursing population have linked poor physical and mental health to work environment quality, burnout, and nonsupportive working relationships (Lambert et al., 2004; Laschinger et al., 2004; Lee and Brotheridge, 2006), the well-being of new graduate nurses has received little attention to date.

Personal resources such as high self-esteem and self- efficacy have been found to be protective factors for mental health (Boey, 1999) and to influence work engagement and burnout (Xanthopoulou et al., 2007). However, few studies have included both personal and workplace influences on employee health. Therefore, the purpose of this study was to test a model derived from Leiter and Maslach's (2004) Six Areas of Worklife Model linking workplace factors (six areas of worklife, experiences of bullying and burnout) and a personal dispositional factor (psychological capital) to new graduates mental and physical health.

1.1. Theoretical framework

We expand Leiter and Maslach's (2004) original Six Areas of Worklife Model to include a personal dispositional factor, psychological capital, to propose a compre- hensive model of new nurses' workplace health. Maslach and Leiter (1997) describe six areas of worklife that have been consistently shown to be organizational antecedents of work engagement and burnout across a wide variety of studies: manageable workload, control, reward, community, fairness, and values. They argue that when an employee experiences high levels on some or all of these areas it reflects a high person-job match and thus they are more likely to be engaged in their work and less burned out. Manageable workload refers to the time and resources allocated to meet job demands, control is the degree of role clarity and governance over how people do their job, reward reflects the relationship between effort and recognition, community refers to the quality of social relationships in the organization, fairness relates to the level of justice and managerial support in the organiza- tion, and finally values represents the congruence between the ideals and beliefs of the employee and the organization. According to Maslach and Leiter (1997) these components are all interrelated, and improvement on any one factor may lead to improvement in others, making these worklife factors ideal target variables for workplace interventions.

2. Related research

2.1. Areas of worklife

Leiter and Maslach (2004) found that the six areas of worklife were significantly related to the three components of burnout, most strongly to emotional exhaustion and cynicism. A causal model revealed that manageable workload and control played important roles in predicting burnout – manageable workload having a strong direct effect on emotional exhaustion and control influencing burnout factors indirectly through reward, community, fairness and value congruence. In a study of Canadian new graduate nurses, Cho et al. (2006) found that fit with the six areas of worklife was related to lower emotional exhaus- tion, and had a positive indirect effect on organizational commitment. The results were consistent with Greco et al.'s (2006) finding in a more representative sample of nurses. The Areas of Worklife Model focuses on workplace factors that shape employees' relationships with their work but does not address personal or intra-individual factors that may influence this relationship.

2.2. Psychological capital

While organizational conditions play an important role in employees' worklife experiences, recent research has investigated the role of personal dispositional factors, such as psychological capital. Psychological capital is a personal resource factor, comprised of self-efficacy, hope, optimism, and resilience, that has been shown to influence employees' responses to their work (Luthans et al., 2004). Self- efficacy is an individual's belief in their ability to

mobilize the resources to successfully execute a task (Stajkovic and Luthans, 1998). Hope is defined as having both a sense of successful, goal-directed behaviour and a way of meeting those goals (Snyder et al., 1991). Optimism refers to an individual's outlook on life events, whether they attribute the source of good events as permanent and universal (optimistic) or temporary and situation-specific (pessi- mistic) (Luthans et al., 2004). Resilience reflects an individual's ability to 'bounce back' from adversity and is commonly found in people who feel that life is meaningful and have a high capacity for improvisation and adaptation (Luthans et al., 2004).

Psychological capital and comparable personal resources have been linked to organizational outcomes such as, decreased burnout, role stress, and turnover intentions (Cowin and Hengstberger-Sims, 2006; Garrosa et al., 2011; Luthans and Jensen, 2005), as well as increased engagement, commitment, proactive coping behaviours, job satisfaction and performance, and physical and mental well-being (Avey et al., 2010; Garrosa et al., 2011; Judge and Bono, 2001; Lo, 2002; Luthans and Jensen, 2005). Xanthopoulou et al. (2007) found that organizational- based self-esteem, optimism and self-efficacy (concepts similar to psychological capital) functioned as mechanisms through which access to job resources influenced work engagement.

According to Luthans et al. (2004), employees with high psychological capital are more likely to have a positive perspective, accept challenges, identify goals, and ascer- tain the pathways to achieving them. Furthermore, they are more apt to expend the required effort to meeting those goals, recover from set-backs, and develop con-tingency plans to overcome obstacles that may arise. Employees with high levels of self-efficacy, hope, opti- mism, and resilience will manifest these strengths through their cognitions, motivation, and, ultimately, their beha- viour. Employees with these personal resources are more likely to interpret their work situation more positively, respond to challenges in their work environment, and demonstrate an increased capacity for adaptation to their organizational climate. Thus, it is ogical to expect that psychological capital would be positively related to fit in the six areas of worklife, helping to foster a positive work environment and create high quality relationships among colleagues.

2.3. Workplace bullying

Constructive relationships among nursing colleagues are critical for quality patient care and nurse retention (Schmid and Svarstad, 2002; Chiaburu and Harrison, 2008). However, worklife factors common in nursing environments such as role conflict, role ambiguity, role overload, work constraints and autonomy, have all been found to be antecedents of workplace harassment (Bowl- ing and Beehr, 2006). Positive work environments in combination with collegial relationships have been shown to be associated with lower levels of burnout, job dissatisfaction, organizational commitment and turnover intentions (Laschinger et al., 2009).

One form of workplace harassment, bullying, involves intentionally targeting a colleague or employee and systematically creating a negative work environment for them through degradation, social exclusion and other negative acts aimed at tormenting or frustrating the victim (Kivimaki et al., 2000). Einersen and Hoel (2001) outline three forms of workplace bullying: (1) work-related bullying, such as, withholding information or imposing unreasonable deadlines; (2) personal bullying, such as, gossiping or spreading rumours; and (3) physical bullying, such as being shouted at or threatened with physical abuse. To be considered bullying the behaviour must occur a minimum of once a week over a period of approximately six months, and the instigating party must have power over the intended target (Mikkelsen and Einarsen, 2001). Zapf et al. (2011) propose that European rates of severe bullying are between 3% and 4%, and less severe bullying rates of between 10% and 15%. In the US, Johnson and Rea (2009) found a bullying prevalence of 27.3%, alarmingly higher than previous studies. Moreover, they found that nurses labelled as bullied were twice as likely to want to leave their current position, and three times more likely to want to leave the profession.

Johnson and Rea's (2009) results are consistent with other studies conducted with North American nurses. Simons (2006) found that 31% of newly licensed nurses were victims of bullying and that greater bullying exposure

predicted their intention to leave their job. Laschinger et al. (2010) found that exposure to bullying was significantly related to emotional exhaustion. In a comprehensive review of workplace victimization literature Aquino and Thau (2009) found overwhelming support that victims of aggression experienced increased depression, anxiety, job stress, posttraumatic stress, negative somatic symptoms, emotional exhaustion, fatigue, and sickness, as well as decreased job and life satisfaction, mental health, and emotional well-being. Zapf et al. (2011) noted that while a

4% prevalence of bullying may seem like an insignificant number, that in an organization of 1000 employees that translates to 40 individuals experiencing severe bullying behaviours. The dramatically higher rates of bullying reported among nurses in North America suggests that further attention be given to this threat to nurse retention and well-being.

2.4 Burnout and employee health and wellbeing

Leiter and Maslach (2004) describe a process theory of burnout that begins with emotional exhaustion, the core component of burnout. Emotional exhaustion is considered to be the stress component of burnout syndrome, in that it consists of ‘‘feelings of being overextended and depleted of one’s emotional and physical resources’’ (Halbesleben and Demerouti, 2005, p. 208). When this state of emotional exhaustion is sustained over time it may lead to increased feelings of cynicism. The cynicism component of burnout involves negative or inappropriate attitudes toward colleagues and patients and is considered to be the attitudinal component of burnout (Maslach et al., 2001).

Burnout has been correlated with increased role ambiguity and workload, and decreased hardiness, active coping, social support and age (Duquette et al., 1994). Furthermore, emotional exhaustion has been shown to decrease when work environment conditions such as staffing adequacy, administrative support and relations between physicians and nurses are improved (Vahey et al., 2004). A workforce of burned out nurses has been linked to numerous detrimental organizational outcomes including reduced job and patient satisfaction (Aiken et al., 2002; Leiter et al., 1998), poorer job performance, increased sick leave and absenteeism due to mental health issues, and higher intentions to leave their current position (Parker and Kulik, 1995; Rudman and Gustavsson, 2011). Finally, a longitudinal study with nurses found that one out of every five nurses will have extremely high levels of burnout within their first three years of nursing, and that the highest level of burnout occurs during the second year of practice (Rudman and Gustavsson, 2011). Burnout syn- drome has also been linked to adverse health outcomes such as depression (Baba et al., 1999; Peterson et al., 2008) anxiety, neck and back pain, poor self-rated health, sleep disturbance and perceived memory impairment (Peterson et al., 2008). In light of this knowledge, reports of burnout rates among new graduates as high as 50% are particularly troubling (Laschinger et al., 2010).

Several studies that have found that physical disease can cause the development of depressive disorders. For example, in the absence of depressive symptomatology at baseline, 2.7% of a population with physical disease had developed depression one year after (Smit et al., 2004), and
3.5% of a physically ill population had developed a major depressive disorder after two years (Patten, 2001). Poor physical and mental health among nurses is directly responsible for illness-related absenteeism, which may ultimately decrease the quality of patient care remaining nurses are able to provide due to increased workload and stress (Michie and Williams, 2003). These higher stress levels on nursing units may result in tension among nursing staff, and increase the incidence of bullying, particularly toward new graduate nurses, who may require more time and support as they adjust to the graduate role.

Based on the findings in the literature reported above, we proposed a model describing relationships between dispositional and situational factors and the physical and mental health of newly graduated nurses. Our hypothesized model was derived from an expanded version of Leiter and Maslach’s Six Areas of Worklife Model.

2.5. Hypothesized model

Our hypothesized model suggests that personal dis- positional factors (psychological capital) influence nurses' perceptions of their work environment (experiences of bullying through areas of worklife) which then influence burnout (emotional exhaustion and cynicism) and ultimately physical and mental health (see Fig. 1). Based on theory and research linking psychological capita to increased coping behaviours and feelings of control within the work environment (Lo, 2002; Xanthopoulou et al.,2007), we predicted that individuals with a higher psychological capital would also experience greater person-job fit with Leiter and Maslach's (2004) areas of worklife. Their increased ability to adapt would allow them to make the required personal adjustments in order to align their expectations of their job with their current job reality, even where dissonance might exist. Based on the Areas of Worklife Model (Leiter and Maslach, 2004), we expected that perceived fit with these areas of worklife would have a direct influence on the core component of burnout, emotional exhaustion. Given the findings of Bowling and Beehr (2006), person-job fit was predicted to influence experiences of bullying, such that an environment where employees feel they have a manageable workload and control over their work, in addition to a strong sense of community, rewards, fairness and values would be less likely to support the development of a culture of bullying and victimization. We hypothesized that bullying would increase employee levels of emotional exhaustion an cynicism based on the premise that frequent exposure to hostile working conditions would compound the already high demands placed on nurses, resulting in higher emotional exhaustion. Based on Leiter and Maslach's (2004) process theory of burnout, emotional exhaustion was expected to predict cynicism. Finally, we hypothesized that the sustained state of emotional exhaustion would lead to increased strain on one's body, eventually manifesting in poor physical health, and through this growing physical deterioration and state of cynicism it would ultimately result in poor mental health as well. The link between physical and mental health is supported by several studies that have found a relationship between physical health and depressive symptomatology (Patten, 2001; Smit et al., 2004).

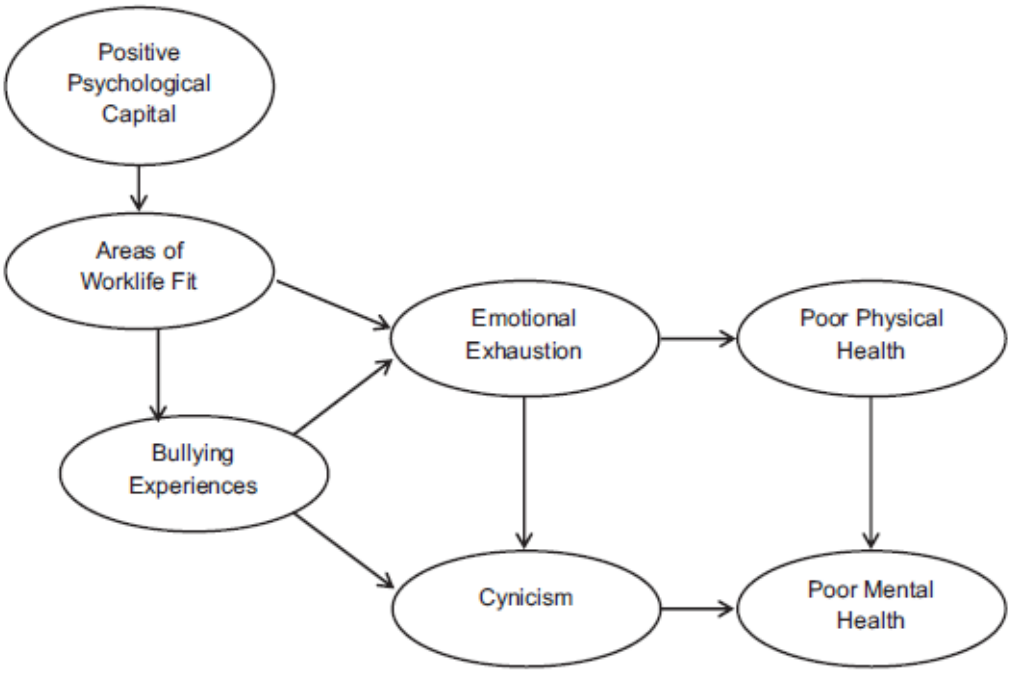

Fig. 1. Hypothesized model.

3. Method

3.1. Design and sample

We tested the model using data from a larger study of new graduate nurse worklife well-being. In the larger study, a census of all registered nurses practicing in Ontario with less than two years of experience was drawn from the College of Nurses of Ontario's participant registry. Of the 907 surveys sent out, 365 (40.2%) met study inclusion criteria. A modified version of the Total Design Metho (Dillman, 2000) was used as a technique for increasing survey response rates. Nurses received a survey package mailed to their home that included a letter explaining the study, a questionnaire, a stamped researcher-addressed return envelope, and a coffee vou- cher as a token of appreciation for their time. A follow-up reminder letter was sent 4 weeks after the initial mailing, and 4 weeks later, a replacement questionnaire package was sent to all nonresponders. This study reports on a subset of the data, the 165 participants with between one and twelve months of experience in nursing. Data for this study were collected from July to October of 2010. The Research Ethics Board at the University of Western Ontario granted approval to conduct the study.

3.2. Measures

Table 2 presents the means, standard deviations and Cronbach's alpha reliability coefficients for the study measures. For all of the instruments described below a higher score reflects a higher perception or experience of the construct. Subscale scores were created by summing and averaging the component items, which were used to form a total score when applicable. All measures in the study were standardized questionnaires with acceptable psychometric properties and demonstrated construct validity (Einarsen et al., 2009; Friedman et al., 2005; Leiter and Maslach, 2004; Luthans et al., 2007; Schaufeli et al., 1996; Williams and Cooper, 1998).

Psychological capital was measured using the Psycho- logical Capital Questionnaire (PCQ) (Luthans et al., 2007). The PCQ consists of 24 items measuring the four subscales: self-efficacy, hope, optimism and resilience (6 items per subscale) and are rated on a 6-point Likert scale ranging from 1 'strongly disagree' to 6 'strongly agree'. Acceptable reliabilities of .88–.89 have been found in previous studies (Luthans et al., 2007). Subscale reliabilities in the present study were .88, .84, .75, and .70 respectively.

The Areas of Worklife Scale (AWS) (Leiter and Maslach,2004) was used as the measure of nurses fit with their worklife, specifically it assesses how nurses' expectations of their job match with the reality of their job. The instrument consists of 20 items measuring the six areas of worklife: manageable workload (3 items), control (5 items), reward (3 items), community (3 items), fairness (3 items), and values (3 items). Items are rated on a 5-point Likert scale ranging from 1 'strongly disagree' to 5 'strongly agree'. Subscale reliability coefficients have been reported as .72, .62, .78, .70, .83, .74, respectively and a total alpha of .88 in a previous nursing sample (Greco et al., 2006). Subscale reliabilities in the present study were .61, .79, .78, .80, .37, and .48 respectively.

Bullying was measured using the Negative Acts Ques- tionnaire-Revised (NAQ-R), the gold standard instrument for measuring perceived exposure to bullying in the workplace. The scale consists of 22 items rated on a 5- point Likert scale ranging from 1 'never' to 5 'daily'. The instrument measures three inter-related components of bullying: person-related (12 items), work-related (7 items) and physical (3 items). A Cronbach's alpha of .92 hasbeen previously reported (Einersen and Hoel, 2001). Subscale reliabilities in the present study were .94, 83, and .53 respectively.

The emotional exhaustion and cynicism subscales from the Maslach Burnout Inventory-General Scale (Schaufeli et al., 1996) were used as indicators of burnout. Each subscale consists of 5 items rated on a 7-point Likert scale ranging from 1 'never' to 7 'daily'. In a previous study with Ontario new graduate nurses acceptable Cronbach's alpha coefficients of .94 (emotional exhaustion) and .86 (cynicism) were found (Laschinger et al., 2010).

The physical symptoms (3 items) and the energy levels (4 items) subscales of the Pressure Management Indicator (PMI) (Williams and Cooper, 1998) were used as an assessment of poor physical health. Items were rated on a6-point Likert scale from 1 ‘never’ to 6 ‘very frequently’. Previous alpha coefficient for these subscales have been acceptable (physical symptoms a = .72, energy levels a = .79) (Williams and Cooper, 1998). Mental health was measured by the Mental Health Index (MHI-5) scale from the SF-36 (Ware et al., 2000). The MHI-5 taps the presence of depressive symptoms and consists of five items rated on a 6-point Likert scale (1 ‘all of the time’ to 6 ‘none of the time’). Items are reverse scored to create a score that reflects poor mental health. Previous internal consistency estimates for this subscale have been acceptable (a = .78 .83) (Friedman et al., 2005).

3.3. Data analysis

Descriptive statistics for the major study variables, demographics, and Cronbach alpha reliability estimates were conducted using the Statistical Package for the Social Sciences (SPSS) (version 18.0). The hypothesized model in this study was analysed using path analysis within structural equation modelling (SEM) procedures using the Analysis of Moment Structures (AMOS) statistical software program (version 17.0). In order to have confidence is the goodness of fit tests, a sample size of 100–200 is recommended (Hoyle, 1995). In general a model should contain 10–20 times as many observations as variables (Mitchell, 1993). Thus, our sample size of 165 participants for the seven variables in our model was considered to be of sufficient size to detect significant effects.

We used Hoyle’s (1995) criteria to evaluate model fit, including omnibus fit indices such as the Chi-square (x2) and the Chi-square/degrees of freedom ratio (x2/df) (Jo¨ reskog and So¨ rbom, 1989) and incremental fit indices such as the Comparative Fit Index (CFI) (Bentler and Bonett, 1980), and the Incremental Fit Index (IFI) (Bollen,1989). In addition, the Root Mean Square Error of Approximation (RMSEA) advocated by Browne and Cudeck (1989) was used. While a low nonsignificant value for x2 is desired to suggest a nonsignificant difference between the hypothesized model and the just identified version of the model (Kline, 1998), the high sensitivity of x2 to sample size means that a model with a relatively large sample size will likely be rejected almost all of the time, leaving the x2 as a means to evaluate the relative differences in fit among competing models only. Incremental fit indices indicate the proportion of improvement of the hypothesized model relative to a null model, typically one assuming no relationship among observed variables. The generally agreed upon critical value for the CFI and IFI is .90 or higher (Kline, 1998). The RMSEA is the standardized summary of the average covariance residuals and is thus a measure of the lack of fit between the data and the model (Kline, 1998). Low values (between 0 and .06) indicate a good fitting model (Hu and Bentler, 1999).

4. Results

4.1. Descriptive statistics and correlations

The full demographic profile for the final sample is presented in Table 1. Participants were predominantly female (93.2%), working on medical–surgical units (51.9%). The average age was 28 years old, with ten months experience in nursing, nine months in their organization and eight months on their current unit, working full-time (57.4%). Although the majority (53.1%) intend to stay in their current position less than three years, approximately

80% intend to stay active as a nurse for more than 10 years.

Means, standard deviations, and alphas for the major study variables are displayed in Table 2. Overall, first year nurses experienced a relatively good fit between their

Table 1
Demographics of sample by year of experience in nursing.

Demographics		Mean	SD
Age		28.28	6.78
Years as RN		.84	.19
Years at current organization		.77	.26
Years on unit		.67	.30
Frequencies		Count	%
Gender	Female	151	93.2
	Male	11	6.8
Unit specialty	Medical-surgery	84	51.9
	Critical care	29	17.9
	Maternal-child	16	9.9
	Mental health	12	7.4
Current employment status	Full-time	93	57.4
	Part-time	52	32.1
	Casual	14	8.6
Hours per week	19 or less	10	6.2
	20–39	98	60.5
	40 or more	48	29.6
Most common reason for missing work in past year	Physical illness	86	53.1
	Injury (work-related)	5	3.1
	Family situation	23	14.2
	Mental health day	18	11.1
Expect to stay active in current position	Less than 3 years	86	53.1
	3–10 years	53	32.7
	More than 10 years	17	10.5
Expect to stay active as a nurse	Less than 3 years	5	3.1
	3–10 years	23	14.2
	More than 10 years	128	79.0

Table 2
Means, standard deviations, Cronbach's alphas and correlations of variables.

	Scale	M	SD	Alpha	1	2	3	4	5	6	7
Areas of worklife	1–5	3.19	.55	.86	–						
Psychological capital	1–7	4.98	.75	.90	.44	–					
Negative Acts Questionnaire	1–5	1.57	.62	.93	−.56	−.20	–				
Emotional exhaustion	0–6	2.82	1.64	.94	−.47	−.38	.46	–			
Cynicism	0–6	1.84	1.41	.85	−.43	−.32	.44	.62	–		
Physical health	1–6	2.65	1.04	.88	−.43	−.41	.41	.78	.52	–	
Mental health	1–6	2.48	.95	.83	−.37	−.34	.28	.44	.44	.52	–

Note: All correlations were significant at the 0.01 level (2-tailed).

expectations for and the reality of the six areas of worklife in their work environments (M = 3.19, SD = .55). Their perception of experienced community had the best fit with their expectations (M = 3.64, SD = .94), while manageable workload and fairness were the farthest from their expectations (M = 2.69, SD = .85; M = 2.90, SD = .66, respec- tively). The nurses in our sample reported high levels of psychological capital (M = 4.98, SD = 75) and moderate level of physical (M = 2.65, SD = 1.04) and mental (M = 2.48, SD = .95) health problems.

The mean score for experiences of bullying behaviours was low at 1.57 (SD = .62) with work-related bullying reported with the greatest frequency (M = 1.85, SD = .75). However, using Mikkelsen and Einarsen's (2001) criteria that a person is bullied if they are exposed to at least two negatively defined acts a week for a period of at least 6 months, we found that 26.4% of the nurses in our sample were classified as bullied, similar to previous prevalence rates. In terms of the different forms of bullying, the personal bullying prevalence was 10.1%, work-related bullying prevalence 23.3%, and physical bullying preva- lence 3.1%.

The average scores for emotional exhaustion were relatively high (M = 2.82, SD = 1.64), suggesting that the average nurse in their first year of nursing is just under the cut-off of being classified as severely burned out (score > 3.0, Maslach et al., 1996). Rates of cynicism were relatively low (M = 1.84, SD = 1.41), however Leiter and

Maslach's (2004) process theory of burnout would predict that these rates of cynicism will continue to rise as the state of emotional exhaustion is sustained. Using Maslach et al.'s (1996) criteria for burnout 39.6% of nurses in this sample were experiencing severe levels of emotional exhaustion, and 19.5% reported severe levels of cynicism (score > 3.0).

4.2. Test of the hypothesized model

The fit indices suggested that the hypothesized model had a reasonably adequate fit to the data (x2 = 27.75, df = 12, CFI = .97, IFI = .97, RMSEA = .09). Based on theoretical considerations, empirical research, and modification indices, a direct path was added from psychological capital to emotional exhaustion to improve the model fit. This

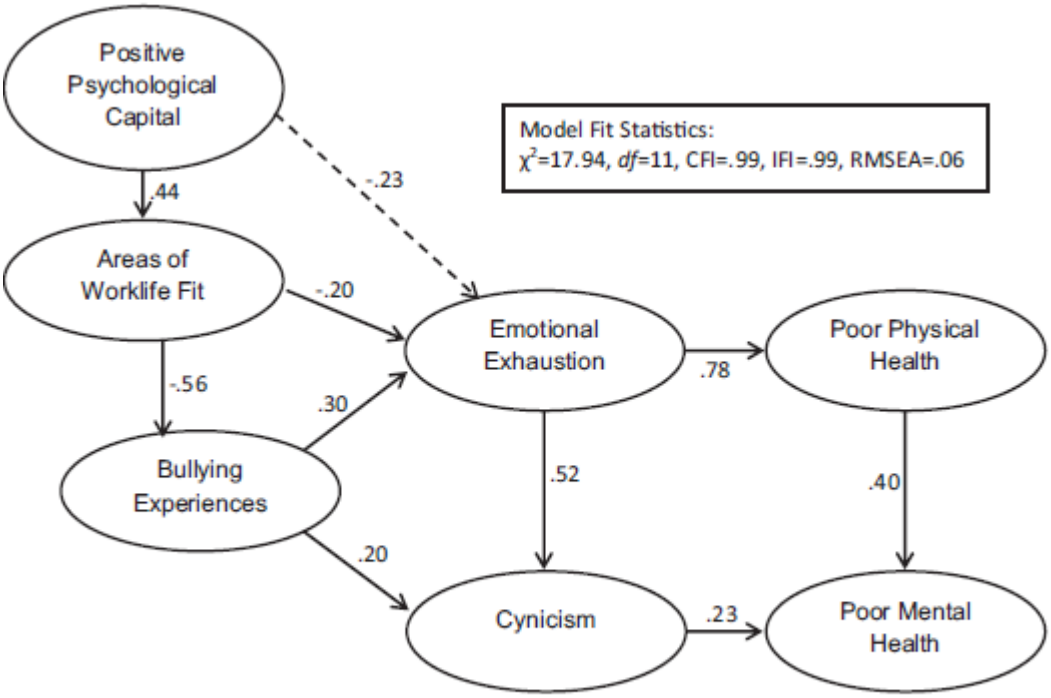

Fig. 2. Final study model.

model had a substantially better fit with the data (x2 = 17.94, df = 11, CFI = .99, IFI = .99, RMSEA = .06) and did not dramatically alter the parameters estimated in the original model. All hypothesized paths were significant at the p < .05 level (see Fig. 2). In the final model, nurses'psychological capital was positively related to their overall fit on areas of worklife (b = .44), and negatively related to emotional exhaustion (b = .23). Overall fit with the areas of worklife was negatively related to bullying exposure (b = .56) and emotional exhaustion (b = .20), and bullying exposure was in turn positively related to both emotional exhaustion (b = .30) and cynicism (b = .20). Emotional exhaustion had a positive relationship with both cynicism (b = .52) and poor physical health (b = .78). Both cynicism and negative physical health symptoms also had a positive direct effect on poor mental health (b = .23 and b = .40, respectively). However, the effect of cynicism and negative physical health on poor mental health seems to be better accounted for by the indirect effect of emotional exhaustion on mental health through these two constructs (b = .44).

5. Discussion and implications for management

The results support a model that highlights the role of both personal and organizational factors that influence newly graduated nurses' mental and physical health. As well, they add to Leiter and Maslach's process model by identifying the additional role of personal resources as an important influence in employees' fit with their work, as well as the role played by workplace bullying as an intervening mechanism in the development of burnout. Psychological capital, a personal resource, influenced new graduate nurses' sense of fit between their job expectations and their actual working conditions, which in turn influenced the extent to which they reported experiencing bullying in the workplace. This is consistent with the notion that psychological capital may be a protective factor in employees' experiences at work and is consistent with previous research supporting this phenomenon (Lo, 2002). The direct effect of psychological capital on emotional exhaustion suggests that this personal resource may also protect nurses from emotional exhaustion to some extent, as suggested by Xanthopoulou et al.'s (2007) findings.

Support for the predicted link between areas of worklife fit and bullying is a new finding but not surprising. We could find no previous research that had shown this relationship. When employees feel as a group that conditions in their work environment meet their expecta- tions, there is a greater sense of community and less reason for conflict, as they go about accomplishing their work in support of organizational goals.

Furthermore, when workloads are not excessive, employees are less time pressured to accomplish their work and therefore unlikely to engage in negative interactions with colleagues (Pearson and Porath, 2004). Supportive work environments are less likely to fuel emotional exhaustion and subsequent feelings of cynicism in employees (Leiter and Maslach, 2004). As a result employees may not suffer poor physical and mental health. The link between emotional exhaustion and poor physical

health is consistent with previous research (Parker and Kulik, 1995; Peterson et al., 2008) and the indirect effect of emotional exhaustion on mental health through cynicism and poor physical health is consistent with Leiter and Maslach's (2004) burnout process theory and numerous studies of the negative health effects of burnout (Baba et al., 1999; Peterson et al., 2008; Rudman and Gustavsson,

2011).

In our sample new graduate nurses reported the worst fit between their expectations and their actual experience of manageable workload and fairness. Nurse managers have the capacity to bring together new graduates on their unit and discuss what specific components of their workload they are finding unmanageable and specific practices they perceive as being unfair. Working collec- tively to ensure uptake, staff nurses and managers can develop strategies to address identified issues, for example ensuring adequate staffing to address workload challenges and arranging schedules that do not give shifts based on seniority to address fairness. It seems reasonable that the manager addressing workload and fairness concerns would increase new graduate perceptions of community on their unit and their sense that the organization values similar goals to them, such as having a fair workplace that recognizes the needs of their employees. This process is within the managers' control and may prove to be a simple and effective way of identifying and addressing new graduate worklife issues.

Overall the level of bullying exposure was relatively low for new graduate nurses in this study. However, if our findings were applied to an organization of 1000 staff nurses this would amount to 260 nurses being classified as bullied, 230 of whom would experience work-related bullying, 100 who would experience personal bullying and 30 nurses being physically bullied. Compounded with the detrimental effects of bullying exposure to organizational productivity and personal well-being, these results high- light the need for developing workplace cultures with a zero tolerance policy for workplace violence. Nurse managers are in a position to advocate and to enforce anti-

harassment policies and to educate their staff on how to effectively deal with bullying. By encouraging new graduate nurses to report incidences of bullying, and then dealing with them in a serious, thorough and time sensitive manner, they can set the tone for fair, equitable, civil treatment of new nurses. New graduate nurses need to be shown that bullying is not a component of the job they need to learn to cope with. Breaking the cycle of workplace violence rather than introducing new graduates into hostile work conditions they may one day perpetuate themselves is an important responsibility of nurse managers.

Although personal resources may be less amenable to change by managerial strategies there is evidence that self- efficacy beliefs can be increased through the intentional exposure to various sources of efficacy information in the environment (Bandura, 2005). Creating positive learning experiences related to professional nursing practice, providing effective role modelling in a variety of practice situation, and offering encouraging verbal support for a positive effort are ways that new graduate nurses can strengthen their efficacy expectations for professional practice. It is reasonable to think that as they accumulate more experiences in a supportive environment they may develop greater optimism, resilience and a sense of hopefulness about their career as a nurse. Luthans et al. (2008) demonstrated the success of an online, cost- effective, intervention strategy aimed at developing the four core components of psychological capital. By strengthening this personal resource in combination with ensuring that positive, supportive working conditions are in place, new graduate nurses are less likely to experience burnout and poor health. As a result, the nursing workforce will develop new graduates with high levels of engage- ment and commitment to their work, which will feed back into creating positive, supportive work environments.

6. Limitations

The cross-sectional nature of the study design pre- cludes our ability to make statements of cause and effect regarding our findings (Pedhazur and Schmelkin, 1991), therefore the results must be interpreted with caution. Furthermore, since the same individual completed all measures common method variance is also a concern, although Spector (2006) has argued that this issue may be overstated, especially when well established validated questionnaires are used. A longitudinal study is recommended to validate the model over time. However, empirical support for an a priori specified model offsets these issues to some extent (Serlin, 1987).

7. Conclusion

In conclusion, the results of this study demonstrated the importance of both personal and situational factors that influence new graduate nurses' health and well-being, many of which are permeable to change. Thus, the onus is on nursing management to ensure that conditions in nursing work environments are welcoming and supportive of new graduate nurses, not only to prevent burnout and poor health, but also to ensure that new nurses want to remain in the profession, thereby sustaining the nursing workforce.

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