Staff Nurse Empowerment and Effort–Reward Imbalance

Kinga M. Kluska, RN, MScN
Clinical Practice Manager, Windsor Regional Hospital
Sessional Instructor, School of Nursing, University of Windsor
Windsor, ON

Heather K. Spence Laschinger, PhD
Professor and Associate Director, Nursing Research
School of Nursing, University of Western Ontario
London, ON

Michael S. Kerr, PhD
Assistant Professor, School of Nursing
University of Western Ontario, London, ON
Scientist, Institute for Work and Health
Toronto, ON

Abstract

The purpose of this study was to test an expanded model of Rosabeth Moss Kanter's Structural Theory of Organizational Behaviour (Kanter 1977; Laschinger, Finegan, Shamian and Wilk 2001) by examining the relationship between nurses' empowerment and their perceptions of effort–reward imbalance (Siegrist 1996). A sample of 112 staff nurses employed in teaching hospitals in Ontario participated in this study (58% return rate). A descriptive correlational survey design was used to collect data by eliciting responses to five self-report instruments: the Conditions of Work Effectiveness II, the Job Activities Scale II, and the Organizational Relationships Scale II (Laschinger, Finegan, Shamian and Wilk 2001), the Effort–Reward Imbalance (ERI) scale (Siegrist and Peter 1999a) and a demographic questionnaire. Staff nurses were only moderately empowered, and 24.1% perceived their work to have more efforts than rewards, according to Siegrist's guidelines.

The final model revealed that structural empowerment had significant direct effects on both ERI and psychological empowerment (b=.46) and ERI (b=–.31). The path between

psychological empowerment and ERI was not significant (b=–.01), i.e., after the effects of structural empowerment were accounted for, psychological empowerment explained no additional variance in effort–reward imbalance. Overcommitment was also significantly related to ERI (0.35). Fit indices for this model met Bentler and Bonett's (1980) criteria, and the model explained 22% of variance in ERI. Contrary to Kanter's theory, both structural empowerment and a personal dispositional variable (overcommitment) were significant predictors of nurses' reports of ERI.

In the 1990s, healthcare restructuring was a popular strategy designed to increase productivity and minimize operating costs while maintaining quality of patient care (Aiken et al. 2000). However, studies have shown that these strategies have had extremely negative effects on nursing work environments (Shamian et al. 2002). Working with fewer resources and little opportunity for advancement has resulted in nurses' feeling devalued and exhausted, with many leaving the profession altogether (Laschinger, Sabiston, Finegan and Shamian 2001). O'Brien-Pallas and colleagues (2001) suggest that job stress in post-downsizing work environments is the result of understaffing and higher workloads, and that these conditions may have a negative impact on the health of nurses. Research has linked job stress resulting from lack of job control and resources to various mental health outcomes, such as burnout (Bourbonnais et al. 1998; Visser et al. 2003) and depression (Kitaoka-Higashiguchi et al. 2002; Larisch et al. 2002).

Job stress resulting from a perceived imbalance between effort expended at work and rewards received has also been linked to physical health outcomes, such as cardiovascular reactivity (Landsbergis et al. 1995), ischaemic heart disease, hypertension and higher atherogenic lipid levels (Siegrist et al. 1990) and coronary heart disease (Bosma et al. 1998). These studies have been conducted in primarily male populations, in non-medical work settings. In nursing, job stress has been associated with an increase in emotional exhaustion (Bourbonnais et al. 1998), lower vitality, poor mental health, less freedom from pain, increased risks of both physical and emotional role limitations (Amick et al. 1998) and increased incidence of missed shifts due to illness (O'Brien-Pallas et al. 2001). In addition, stressful job conditions can lead to increased voluntary turnover, work-related injuries (Hemingway and Smith 1999) and substance abuse (Trinkoff et al. 2000).

Clearly, stressful working conditions threaten the health of nurses and their well-being. Thus, ways must be found to lower the degree of job stress experienced by nurses. Rosabeth Moss Kanter's (1977) theory of organizational empowerment proposes that structures in the workplace can empower employees to accomplish their work in meaningful ways, thereby reducing the likelihood of occupational stress. Workplace empowerment of nurses has been shown to relate negatively to

burnout (Hatcher and Laschinger 1996), job tension (Laschinger et al. 1999) and job strain (Laschinger, Finegan, Shamian and Almost 2001). However, the conceptions of job stress used in this research are limited in that they typically focus on objective external characteristics of the job and fail to consider the impact of individual differences in responding to job demands. Siegrist's (1996) concept of effort–reward imbalance provides a more comprehensive view of job stress because it incorporates the influence of personal dispositional characteristics on perceptions of job stress. Given the strong link between effort–reward imbalance and negative physical and mental health outcomes, the authors chose to investigate the relationship between workplace empowerment factors and this phenomenon.

The purpose of this study was to test the applicability of Kanter's theory as a possible basis for reducing job stress in nursing work environments by examining the empirical relationship between nurses' perceptions of workplace empowerment and their experiences of effort–reward imbalance in their work setting.

Theoretical Framework and Related Research

Structural empowerment

In her Structural Theory of Organizational Behaviour, Kanter (1979) asserts that "the true sign of power is accomplishment." Conditions in the work environment influence how much productive power is available to employees. According to Kanter, formal and informal systemic structures are the sources of workplace empowerment. Job discretion, recognition and relevance to organizational goals are important dimensions of formal power. High levels of job discretion ensure that work is non-routinized and permits flexibility, adaptation and creativity. Recognition reflects visibility of an employee's accomplishments among peers and supervisors. Finally, relevance of job responsibilities and accomplishments to the organization's strategic plan or current problems is also important. Another key systemic structure is informal power, which comes from the employee's network of interpersonal alliances or relationships within and outside an organization. Relationships with people at higher hierarchical levels confer approval, prestige and backing, whereas peer networks provide reputation and "grapevine" information (Kanter 1979).

In Kanter's model, individuals with high levels of formal and informal power have access to structures of productive power within an organization. These structures include lines of information, lines of support and lines of resources/supply. The lines of information involve formal information that is necessary to carry out a job, as well as informal information that concerns the current state of affairs within an organization. Lines of support include positive feedback from superiors and important others, as well as support for job autonomy (Laschinger 1996). Lines of resources address the ability to obtain the materials, money and rewards necessary

for achieving job demands. Access to opportunity for professional growth and movement in the organization completes the necessary tools for success at work. Kanter claims that working in these conditions has a positive impact on employees, that is, increased feelings of self-efficacy and job satisfaction, higher motivation and less burnout. These empowering conditions create more productive work environments, since employees are highly effective and more satisfied with their jobs, more committed to organizational goals, more likely to try out innovative approaches to work and less likely to be stressed at work or to change jobs (Laschinger 1996).

Recently, Laschinger, Finegan, Shamian and Wilk (2001) expanded Kanter's model to include psychological empowerment as an outcome of access to structures of empowerment. They found that structural empowerment had a direct, positive effect on nurses' psychological empowerment. Psychological empowerment was also a mediator of the relationship between structural empowerment and job satisfaction, and between structural empowerment and job strain (Laschinger, Finegan, Shamian and Wilk 2001).

Kanter's theory has been tested extensively in nursing populations, who have been found to be only moderately empowered, with varying levels of access to information, support, opportunity and resources (Laschinger and Havens 1997; Laschinger, Finegan, Shamian and Wilk 2001). Higher levels of structural empowerment have been associated with higher levels of organizational commitment (Laschinger et al. 2000; McDermot et al. 1996; Wilson and Laschinger 1994), greater participation in organizational decision-making (Kutzscher 1994), an outcome of working in multidisciplinary teams (Kutzcher et al. 1997), higher levels of job autonomy (Sabiston and Laschinger 1995), higher levels of job satisfaction (Laschinger and Havens 1997; Laschinger et al. 1999; Laschinger, Finegan and Shamian 2001) and greater organizational trust (Laschinger et al. 2000). All these findings lend support to Kanter's theory.

Laschinger and Havens (1996, 1997) found that nurses with greater access to empowerment structures had higher levels of self-rated work effectiveness, control over nursing practice and job satisfaction. In a qualitative study of nurses' experiences of work in post-downsizing hospital settings, the most frequently identified sources of nurses' dissatisfaction with their work lives during this period were increased workload, uncertainty about the future, management's primary focus on the financial bottom line and a perceived lack of resources to provide high-quality patient care (Laschinger, Sabiston, Finegan and Shamian 2001). The nurses also identified lack of opportunities for learning as a source of distress. Their responses resembled Kanter's descriptions of the outcomes of powerlessness, such as job dissatisfaction, burnout, tension, worry, stress, decreased commitment and decreased morale (Kanter 1977).

Laschinger and Havens (1997) found that lack of access to empowerment structures in downsized hospital settings resulted in frustration and job tension among nurses. Recently, Laschinger, Finegan, Shamian and Wilk (2001) found that higher levels of structural and psychological empowerment were significantly related to lower levels of Karasek's (1979) notion of job strain (high demands/low job control). Other researchers have shown that job stress resulting from restructuring can be damaging to nurses' health. Maurier and Northcott (2000) found that having a co-worker laid off or bumped from the unit resulted in higher levels of depression and poor physical health. Woodward et al. (1999) also found that hospital employees reported higher depression, anxiety and emotional exhaustion one year after re-engineering strategies were introduced. The same employees reported progressively higher incidence of back and neck pain and declining general health (Shannon et al. 2001). These studies provide further evidence that organizational conditions can negatively affect nurses' health and suggest that creating environments that provide access to empowering work structures may be a way of ameliorating negative work conditions.

Psychological empowerment

Spreitzer (1995) defines "psychological empowerment" as a state that employees must experience if managerial interventions aimed at empowerment are to be successful. There are four dimensions to psychological empowerment (Spreitzer 1992). The Meaning dimension reflects the degree of fit between an employee's values and beliefs and job requirements. Competence reflects confidence in one's ability to perform a job well. Self-determination reflects feelings of personal control over the job. Impact describes feelings of being able to influence major decisions in an organization. Employees who are psychologically empowered value organizational structures that enable them to meet work demands (Spreitzer 1995). These conditions provide employees with a sense of satisfaction with a job well done, further motivation to achieve, recognition and commitment to the job and the organization.

Spreitzer et al. (1997) distinguished between affective outcomes and performance outcomes of psychological empowerment. They found that the Meaning and Self-determination dimensions were related to job satisfaction, an affective outcome, whereas Competence and Impact dimensions were related to work effectiveness, a performance outcome. In their study, job strain was significantly related to psychological empowerment dimensions that affect both affective and performance outcomes (Meaning and Competence). This finding suggests that employees who believe that their work activity is consistent with their value system, yet feel they do not have what it takes to do their job well, will experience high levels of job strain.

Effort–reward imbalance

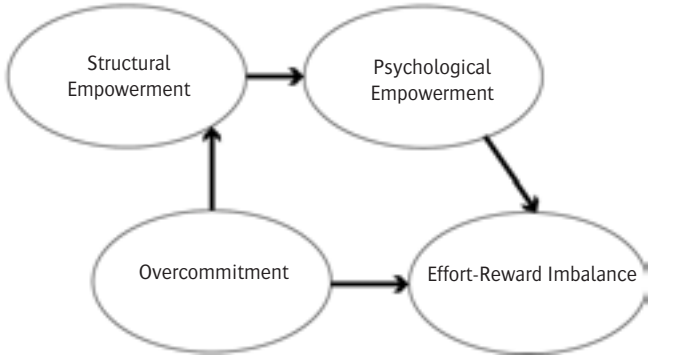
According to Siegrist (1996), effort at work should be matched by appropriate

rewards to promote feelings of self-efficacy and self-esteem among employees and to prevent distress. When this condition does not occur, there is an effort–reward imbalance (ERI), which Siegrist has linked to negative employee health outcomes. In his ERI model, extrinsic effort refers to situational job demands and obligations. Rewards for efforts spent at work consist of money, esteem and status control (including promotion prospects and job security). Siegrist argues that rewards are important factors in current work environments, since rewards in restructured work settings are constrained by job instability, underemployment, redundancy and forced occupational mobility (Siegrist 1996).

Siegrist emphasizes that assessment of ERI must also include intrinsic effort or overcommitment, an individual attribute reflecting an employee's characteristic pattern of coping with job demands. High levels of overcommitment are manifested by excessive job involvement motivated by strong needs for approval and control (Siegrist and Peter 1999a). Overly committed workers spend a lot of energy to meet work demands even under conditions of relatively low reward because the experience of being in control over a challenging situation is very satisfying to them. According to Siegrist and Peter (1999a), the degree of overcommitment influences perception of the balance of the efforts and rewards at work. Overcommitted employees tend to perceive greater ERI because of the pressure they have put on themselves by taking on unrealistic demands in their work. That is, in addition to effort expended to meet objective job demands (extrinsic effort), these individuals also expend inordinate amounts of intrinsic effort, as a result of their predisposition to coping with job demands by overcommitting themselves to extra tasks in their jobs. Tsutsumi et al. (2001) linked overcommitment to a higher prevalence of depression among blue-collar and white-collar factory workers. Bosma and colleagues (1998) found that overcommitment moderated the relationship between ERI and health outcomes, such as emotional exhaustion.

According to Siegrist (1996), an imbalance between efforts spent and rewards received results in a state of "emotional distress characterized by autonomic arousal and strain reactions, such as feelings of threat, anger, depression." This state is exacerbated when accompanied by job instability, forced occupational change, downward mobility or lack of promotion prospects. Thus, a demanding, unstable job, with high expectations for achievement and few promotion prospects, can have a negative effect on employees' mental and physical health, particularly for individuals with high levels of overcommitment. In his research, Siegrist and his colleagues have found strong associations between ERI and risk of cardiovascular disease (Siegrist, Bernard and Feng 1990; Siegrist and Peter 1996; Siegrist, Peter, Junge, Cremer and Seidel 1990). ERI has also been shown to be a significant predictor of poor well-being (de Jonge et al. 2000) and depression due to job loss prospects (Tsutsumi et al. 2001).

FIGURE 1. Hypothesized model



ERI research with the nursing population is limited. In a study of 204 German nurses, Bakker et al. (2000) found that nurses who experienced imbalance between efforts and rewards displayed significantly higher emotional exhaustion and reduced personal accomplishment than nurses who did not report ERI. Shamian et al. (2002) found a significant positive relationship between staff nurse ERI and self-reported burnout levels.

In summary, this review has shown that empowering working conditions are associated with less job stress and better organizational outcomes. However, no studies were found that linked workplace empowerment to effort–reward imbalance. Based on Kanter's theory, a model was proposed for testing in the study (see Figure 1).

Hypothesized model and rationale

We hypothesized that perceived access to structural empowerment would have a direct positive effect on psychological empowerment and an indirect negative effect on effort–reward imbalance through psychological empowerment. In addition, overcommitment was expected to have a direct positive effect on ERI, as well as an indirect effect through structural and psychological empowerment.

According to Kanter (1977), empowered individuals with access to information, support, opportunity and resources should be able to meet job demands and accomplish their work in an effective manner. This capacity should result in a sense of psychological empowerment, that is, feelings of competence, autonomy, job meaningfulness and an ability to have an impact in the organization Laschinger, Finegan, Shamian and Wilk (2001). Since effective work is usually rewarded in organizations, feelings of empowerment should result in a favourable match between self-appraised efforts and perceived rewards. Therefore, providing employees access to these organizational empowerment structures should ensure perceptions of a balance between efforts and rewards.

In addition, according to Siegrist (1996), high levels of overcommitment should have a direct effect on effort–reward imbalance. We also hypothesized that over-

commitment might influence employees' perceptions of access to empowerment structures needed to accomplish their work and, ultimately, how psychologically empowered they felt as a result. We reasoned that overly committed employees may be more likely to feel that their environment lacks the necessary resources to accomplish their work, given their propensity to take on unrealistic demands. This tendency, in turn, would indirectly affect the degree of effort–reward imbalance they experienced in their job.

Methods

Design and sample

A cross-sectional, correlational survey design was used to test the hypothesized model. An a priori sample size calculation revealed that a sample of 77 nurses would be adequate to achieve 80% power to detect a medium-effect size (0.15) for the regression of three independent variables on one dependent variable (Cohen 1988). A random sample of 200 staff nurses in critical care, medical–surgical, or maternal–child units from Ontario teaching hospitals was drawn from the registry list of the College of Nurses of Ontario. Of these, 193 nurses met the study's inclusion criteria of staff nurses working in teaching hospitals. After three mailings, 112 usable questionnaires were returned (response rate 58%).

Nurses were mostly female (98.2%), who worked full time (75.9%) in critical care (42.6%), medical–surgical (54.6%) or maternal–child units (2.8%). Nurses averaged 32.85 (SD = 8.64) years of age. These nurses were younger than both the Ontario average of 44.3 in 2000 (College of Nurses of Ontario 2002) and samples of nurses from previous empowerment studies. In addition, more nurses in this sample worked full time (75.9%) than the provincial average of 52.9% (College of Nurses of Ontario 2002). This is consistent with the findings of Shamian et al. (2002) that teaching hospitals had significantly fewer nurses working part time than nurses in community or small hospitals and greater proportions of younger nurses. Nurses were mostly married or cohabiting (59.8%), with no children under the age of five (83.2%). Thirty-six per cent had a nursing degree and 64% were diploma prepared. Nurses averaged 8.37 (SD = 7.89) years of experience in nursing and 1.93 (SD = 1.97) years on their present unit.

Instruments

Three instruments were used to measure structural empowerment. The Conditions of Work Effectiveness Questionnaire–II (CWEQ–II) consists of 12 items derived from Kanter's theory that measure perceived access to information, opportunity, support and resources. Items are summed and averaged to create four scores ranging from 1 to 5. The Job Activities Scale–II (JAS–II) measures staff nurses' perceptions of Kanter's concept of formal power. Three items are summed and averaged to provide scores ranging from 1 to 5, higher scores representing higher levels of

formal power. The Organizational Relationships Scale–II (ORS–II) measures staff perceptions of Kanter's informal power and consists of four items that are summed and averaged, with higher scores representing higher levels of informal power (Laschinger 2001). Cronbach's alpha reliabilities from previous studies ranged from 0.79 to 0.82 (Laschinger 2001). In this study, the range was 0.71 to 0.86. The construct validity of CWEQ–II was substantiated when it correlated highly with a measure of global empowerment ($r = 0.56$). Laschinger, Finegan, Shamian and Wilk (2001) recently validated the factor structure of these measures of empowerment. Based on these results, a total empowerment score was created in this study by summing the items from CWEQ–II, JAS–II and ORS–II (score range: 6–30). The Cronbach alpha for this scale was 0.84.

Spreitzer's (1995) Psychological Empowerment Scale was used to measure the four dimensions of her model: meaningful work, competence, autonomy and impact. Three Likert-scaled items ranging from 1 to 5 measured each dimension. Spreitzer (1995) established construct validity in a study among managers and non-managers. Laschinger, Finegan, Shamian and Wilk (2001) further validated the proposed factor structure ($C2/df = 2.39$, CFI = 0.996, IFI = 0.996, RMSEA = 0.059). Cronbach alpha reliabilities from previous studies ranged from 0.87 to 0.92 (Laschinger, Finegan, Shamian and Wilk 2001). In this study, the range was from 0.82 and 0.91.

The Effort–Reward Imbalance (ERI) Questionnaire, consisting of 23 two-stage Likert-scaled items, was designed to tap the three major components of Siegrist's model: extrinsic effort, reward and overcommitment (intrinsic effort). Extrinsic effort is measured by six items, which are summed to create an index ranging from 6 to 30, a high score reflecting high effort. Reward is measured by 11 items designed to tap the three dimensions of reward: monetary gratification, status control and esteem reward. Items are summed to create scale scores ranging from 11 to 55. Tsutsumi and colleagues (2001) report alpha coefficients of 0.85 and 0.84 for effort and reward, respectively. In this study, the Cronbach alpha coefficients were 0.82 for effort and 0.74 for reward.

ERI is calculated by creating a ratio between extrinsic effort index and reversed reward score (weighted by a correction factor) (Siegrist and Peter 1999b). A higher ratio reflects a larger ERI. Recently, Siegrist advocated the logarithmic transformation of the ERI ratio to adjust the characteristically skewed distribution of scores (Siegrist and Peter 1999b). In previous studies, a dichotomous ERI measure has been used whereby individuals with a ratio above 1 were deemed to be at high risk for job stress, while those below 1 were considered at low risk (Peter and Siegrist 1997). In this study, both measures of ERI were used (log of the ERI ratio and dichotomous ERI).

Overcommitment was measured by the revised (abbreviated) version of the scale, with six items rated on a 4-point Likert scale summed to create a scale ranging from 6 to 24. Tsutsumi and colleagues (2001) report an alpha reliability coefficient of 0.65 for this scale. In this study, the Cronbach alpha coefficient was 0.78.

Data analysis

The model was analyzed using path analysis procedures in the AMOS statistical package used within SPSS (Arbuckle 1999). Descriptive statistics and correlational analyses were also conducted.

Results

The means and standard deviations of scales and subscales used in this study are presented in Table 1. Overall, nurses were moderately empowered (M = 18.48, SD = 3.00). They had highest access to opportunity (M = 4.14, SD = 0.70) and lowest access to formal power (M = 2.56, SD = 0.83). These results are consistent with findings of previous research (Laschinger et al. 2000). Nurses in this study reported that they spent moderate amounts of effort (M = 18.52, SD = 3.73) and received high to moderate levels of rewards (M = 42.88, SD = 7.35). On average, nurses perceived some degree of effort–reward imbalance (mean ERI ratio = 0.82), although the average ratio was less than 1.0, Siegrist's balance point. This figure was somewhat higher than that of teaching hospital nurses in the study by Shamian et al. (2002) (ERI= 0.69). In the current study, 24.1% nurses had an ERI score above 1.0, indicative of a job with greater efforts than rewards. This figure is higher than the proportion reported in a general survey of the Canadian working population (10.6%) (Kerr et al. 2000) and a Dutch study (de

TABLE 1. Observed means and standard deviations of major study variables

Scale	Mean	Standard deviation	Score range
Structural empowerment:			
Opportunity	4.14	0.69	1–5
Information	2.74	0.91	1–5
Support	2.68	0.92	1–5
Resources	2.91	0.81	1–5
Formal power	2.56	0.83	1–5
Informal power	3.47	0.73	1–5
Structural Empowerment	18.48	3.00	6–30
Psychological empowerment:			
Meaning	4.29	0.67	1–5
Confidence	3.99	0.61	1–5
Autonomy	0.67	0.68	1–5
Impact	2.31	0.89	1–5
Psychological Empowerment	3.57	0.49	1–5
Global empowerment	2.96	0.88	1–5
Effort–reward imbalance:			
Effort	18.52*	3.75	6–30
Reward	42.88*	7.35	11–55
Imbalance (efforts/rewards)	0.82**	0.37	0.20–2.42
Imbalance % distressed	24.1%		
Overcommitment			
Short overcommitment (6 items)	14.28	3.29	

Note: *unweighted scores; ** weighted ratio

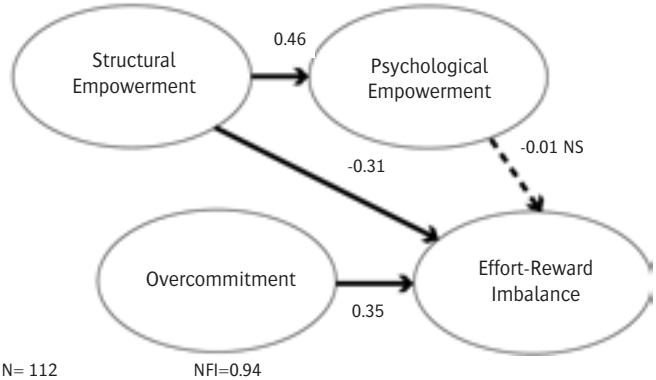
Jonge et al. 2000) in which 9.9% of the general population were in this high-risk group. Overcommitment reached a moderate value for nurses in this sample (M = 14.35, SD = 3.23).

Testing the hypothesized model

The fit statistics for the hypothesized model did not meet Bentler and Bonett's (1980) criteria for good fit of the model to the data (GFI = 0.95, IFI = 0.77, NFI = 0.79, RMSEA = 0.21). In this model, structural empowerment was a significant predictor of psychological empowerment (C = 0.37, p<.05), which in turn had a significant negative relationship with ERI (C = –0.16, p<.05). Although overcommitment had a significant direct effect on ERI (C = 0.34, p<.05), it did not have an indirect effect on ERI through empowerment as expected. In fact, there was essentially no relationship between overcommitment and structural empowerment (C = –0.01). Thus, the hypothesized model was not wholly supported by the data.

Based on the results of this analysis, a revised model was tested. First, we eliminated the path between overcommitment and structural empowerment, since this path was essentially zero. Then, based on modification indices from the initial analysis suggesting the addition of a path between structural empowerment and ERI to improve the fit of the model, this path was added. We considered this path to be theoretically plausible and therefore a justifiable addition. This revised model did meet the fit criteria (GFI = 0.98, IFI = 0.97, NFI = 0.94, RMSEA = 0.09). Structural empowerment had a strong significant effect on both psychological empowerment (C = 0.46, p<.05) and ERI (C = –0.31, p<.05) (see Figure 2). However, in this model, the path between psychological empowerment and ERI decreased to C = 0.01 (NS), suggesting that after the effects of structural empowerment on ERI were accounted for, psychological empowerment did not add further explained variance for ERI. Overcommitment had a significant effect on ERI (C = 0.35, p<.05). The revised model accounted for 22% of the variance in ERI. The results suggest that both structural empowerment and overcommitment contribute comparably to the degree of ERI experienced by nurses.

FIGURE 2. Final Model



To examine how different components of empowerment affected ERI, further bivariate correlational analyses were performed. Not surprisingly, access to resources was most strongly related to extrinsic effort ($r = –0.47$, $p<0.001$) and effort–reward imbalance ($r = –0.43$, $p<0.001$). Perceived lack of access to resources was also significantly related to overcommitment ($r = –0.22$, $p = 0.02$). Perceived rewards were significantly related to all empowerment variables, most strongly with formal power ($r = 0.38$, $p<0.001$) and the degree of autonomy nurses experienced in their jobs ($r = 0.28$, $p = 0.001$).

Few significant relationships were found between major study variables and the demographic variables. Diploma nurses were significantly less empowered than degree nurses ($t(110) = 2.00$, $p = 0.049$).

Discussion

This study further contributes to the body of knowledge related to empowerment and job stress in nursing settings. The results validated Laschinger, Finegan, Shamian and Wilk's (2001) expanded model of empowerment in that higher access to empowerment structures resulted in greater feelings of psychological empowerment. Our results are in general agreement with previous studies linking empowerment to other conceptualizations of job stress in nursing settings. This study is the first to establish a link between nurses' workplace empowerment and effort–reward imbalance at work. That is, having access to information, support, opportunity and resources may result in a more favourable match between self-appraised efforts and perceived rewards and prevent this imbalance. Our results suggest that organizational empowerment may be a useful strategy for reducing this source of job stress.

Nurses' perceptions of access to resources played an important role in the amount of effort–reward imbalance experienced by these nurses. Lack of resources increases workload and the amount of effort exerted at work. On the other hand, greater access to resources was related to higher perceived rewards. Nurses may feel that when the organization provides them with the necessary supplies for getting the work done, their work is valued, and thus they feel rewarded for their efforts. While most healthcare institutions highlight the value of high-quality care in their mission statements, few offer the environment to achieve this goal. Our results suggest that providing access to empowerment structures in the workplace, particularly appropriate resources, allows nurses directly involved in client care to feel that their efforts can be successfully realized and appropriately rewarded. This perception reduces the likelihood of emotional distress at work.

Nurses felt more rewarded if they had flexibility and discretion in their work and when their jobs had a high degree of autonomy, suggesting that they valued oppor-

tunities to make decisions based on their expertise and clinical judgment. This finding is not surprising given the professional nature of nurses' roles. For professionals, the ability to practise based on one's knowledge and expertise is an important component of the role, and environments that facilitate this practice are rewarding. When nurses are unable to act based on their professional expertise, they may feel that their knowledge is not respected. This feeling could influence their perceptions of rewards for their efforts in the organization. Thus, adequate resources and autonomous practice appear to be particularly important for preventing job stress stemming from effort–reward imbalance.

However, overcommitment also influenced nurses' perceptions of effort–reward imbalance. While consistent with Siegrist's theory, this result would not be expected in Kanter's situationally based empowerment theory. In previous research, other personal disposition variables, such as the need for achievement, have not been shown to be important predictors of outcomes beyond that explained by empowerment (Laschinger and Havens 1996; Manojlovich and Laschinger 2002). However, our results are somewhat consistent with those of de Vries-Rizzo (2001), who found that Type A personality pattern explained a small but significant amount of variance in work effectiveness beyond that explained by structural empowerment. Overcommitment is conceptually similar to the concept of Type A behaviour. The extent to which this personal dispositional variable consistently predicts other organizational attitudes and behaviours beyond those predicted by structural empowerment should be tested in future research. If so, Kanter's theory may require refinement to include personal dispositional variables.

Nurses' feelings of psychological empowerment (job meaning, confidence, autonomy and impact) did not add to the explanation of ERI beyond that explained by structural empowerment and overcommitment. This finding may mean that access to structures within the workplace and low levels of overcommitment are more important for nurses than are feelings of psychological empowerment in their assessment of job stress. It is possible that effort–reward imbalance depends more on the structures present in the working environment, or that employees' responses to these structures (psychological empowerment) are already captured in their assessment of structural empowerment. Also, overcommitment reflects dispositional tendencies to deal with job demands in specific ways, such as taking on additional opportunities to experience success and dominance. These are similar to the self-determination and impact dimensions of psychological empowerment. It is possible that measures of these two concepts contained items that were semantically similar and resulted in conceptual overlap between these measures. The correlations between ERI and these two predictors were of similar magnitude. This overlap may have prevented psychological empowerment from entering the prediction equation.

Limitations

The modest response rate in this study may be a limitation to some extent. A larger representative sample of Ontario nurses would increase the generalizability of the findings. Given the cross-sectional nature of this study, it is not possible to make strong cause-and-effect statements. However, support for theory-driven a priori predictions somewhat offsets this limitation (Serlin 1987). Finally, the small number of nurses classified as being at high risk for negative health outcomes based on their ERI scores limited our exploration of this important subgroup. Further research with large samples would allow for subgroup analyses to determine the impact of empowerment on nurses with a more severe effort–reward imbalance.

Implications for nursing management

Given the accumulated empirical support for Kanter's theory in nursing populations, we suggest theory-driven strategies for creating less stressful nursing work environments. Providing access to technical expertise and informal information about the organization is necessary in an empowering workplace, as is support from superiors in terms of positive feedback and discretion in the job role. Increased access to opportunity allows employees to develop new professional knowledge and skills and to actualize their potential (Kanter 1977). Participating in change projects within the organization increases employees' knowledge of the system and enlarges their social networks. These outcomes can result in greater awareness of sources of power in the organization and foster increased commitment and motivation to succeed (Laschinger 1996). Finally, to be fully empowered, employees need access to adequate resources to accomplish the work to be done. That is, both financial and human capital are needed to accomplish the tasks at hand. Work redesign efforts that include these empowering structures are more likely to increase productivity and lessen employees' job stress.

Our results also suggest that employees' individual ways of coping with job demands, particularly the tendency to take on extra work in response to high needs for control and approval, should be considered by administrators when creating healthy work environments. Stress prevention strategies should include staff support and feedback. Involving nurses in decisions about organizational changes may increase the sense of control over work, particularly for employees with high levels of overcommittment. In addition, establishing meaningful rewards, such as career ladders with salary differentials, may increase feelings of self-esteem and communicate value for nurses' professional growth and development. Providing organization-wide recognition for staff achievements can also help increase self-esteem and fulfill overly committed employees' needs for approval, thereby reducing the degree of intrinsic effort experienced and perceptions of effort–reward imbalance in their workplace.

Conclusion

Our results suggest that empowering work environments may play a protective role in terms of nurses' health by reducing the likelihood of effort–reward imbalance, a phenomenon consistently linked to negative physical and emotional health. When professional nurses, educated to provide the best possible care for their patients, are empowered to do so, they are more likely to feel that their efforts at work are sufficiently rewarded. Given the negative health effects that result from stress associated with an effort–reward imbalance at work, every effort must be made to implement strategies that prevent this phenomenon. Our results suggest that strategies recommended by Kanter may be part of the solution.

Funded by Social Sciences and Humanities Research Council of Canada: Extramural Grants Program Grants #410-99-0377; Eldon House Chapter IODE Nursing Grant 2002; Registered Nurses Association of Ontario, Nursing Research Interest Group Research Grant 2002; Sigma Theta Tau, Iota Omicron Chapter, Joan Gilchrist Research Grant 2001.

References

Aiken, L.H., S.P. Clarke and D.M. Sloane. 2000. "Hospital Restructuring: Does It Adversely Affect Care and Outcomes?" *Journal of Nursing Administration* 30(10): 457–65.

Amick, III, B.C., I. Kawachi, E.H. Coakley, D. Lerner, S. Levine and G.A. Colditz. 1998. "Relationship of Job Strain and Iso-strain to Health Status in a Cohort of Women in the United States." *Scandinavian Journal of Work, Environment and Health* 24(1): 54–61.

Arbuckle, J.L. and W. Wothke. 1999. AMOS 4.0 User's Guide, Chicago: SPSS Inc.

Bakker, A.B., C.H. Killmer, J. Siegrist and W.B. Schaufeli. 2000. "Effort–Reward Imbalance and Burnout Among Nurses." *Journal of Advanced Nursing* 31(4): 884–91.

Bentler, P.M. and D.G. Bonett. 1980. "Significance Tests and Goodness-of-Fit in the Analysis of Covariance Structures." *Psychological Bulletin* 88: 588–606.

Bosma, H., R. Peter, J. Siegrist and M. Marmot. 1998. "Two Alternative Job Stress Models and the Risk of Coronary Heart Disease." *American Journal of Public Health* 88(1): 68–74.

Bourbonnais, R., M. Comeau, M. Vezina and G. Dion. 1998. "Job Strain, Psychological Distress and Burnout in Nurses." *American Journal of Industrial Medicine* 34: 20–28.

Cohen, J. 1988. *Statistical Power Analysis for the Behavioral Sciences*. Hillside, NJ: Lawrence Erlbaum Associates.

College of Nurses of Ontario. 2002. "CNO Membership Statistics 2002." Retrieved February 25, 2004. <http://www.cno.org/docs/general/43069_stats2002.pdf>

de Jonge, J., H. Bosma, R. Peter and J. Siegrist. 2000. "Job Strain, Effort–Reward Imbalance and Employee Well-being: A Large-Scale Cross-sectional Study." *Social Science and Medicine* 50: 1317–27.

de Vries-Rizzo, M. 2001. Critical Care Nurses' Work Empowerment and Work Effectiveness. The Moderating Role of Type A Personality. Unpublished master's thesis, University of Western Ontario, London, Ontario, Canada.

Hatcher, S. and H.K.S. Laschinger. 1996. "Staff Nurses' Perceptions of Job Empowerment and Level of Burnout: A Test of Kanter's Theory of Structural Power in Organizations." *Canadian Journal of Nursing Administration* 9(2): 74–94.

Hemingway, M.A. and C.S. Smith. 1999. "Organizational Climate and Occupational Stressors as Predictors of Withdrawal Behaviours and Injuries in Nurses." *Journal of Occupational and Organizational Psychology* 72: 285–99.

Kanter, R.M. 1977. *Men and Women of the Corporation.* New York: Basic Books.

Kanter, R.M. 1979. "Power Failure in Management Circuits." *Harvard Business Review* 57(4): 65–75.

Karasek, R. 1979. "Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign." *Administrative Science Quarterly* 24: 285–302.

Kerr, M.S., S. Ibrahim, R. Peter and T.J. Sullivan. 2000. The Effort–Reward Imbalance Model: Descriptive Results from a Nationally Representative Sample of the Canadian Working Population. Sixth International Congress of Behavioural Medicine. Brisbane, Australia, November 15–18.

Kitaoka-Higashiguchi K., H. Nakagawa, Y. Morikawa, M. Ishizaki, K. Miura, Y. Naruse and T. Kido. 2002. "The Association Between Job Demand, Control and Depression in Workplaces in Japan." *Journal of Occupational Health* 44(6): 427–28.

Kutzscher, L. 1994. Staff Nurses' Perceptions of Power and Degree of Participative Management: A Test of Kanter's Structural Theory of Power. Unpublished master's thesis, University of Western Ontario, London, Ontario, Canada.

Kutzscher, L.I.T., J.A. Sabiston, H.K.S. Laschinger and M. Nish. 1997. "The Effects of Teamwork on Staff Perception of Empowerment and Job Satisfaction." *Healthcare Management Forum* 10(2): 12–17.

Landsbergis, P.A., P.L. Schnall, J.E. Schwartz, K. Warren and T.G. Pickering. 1995. "Job Strain, Hypertension, and Cardiovascular Disease: Empirical Evidence, Methodological Issues, and Recommendations for Future Research." In S.L. Sauter and L.R. Murphy, eds., *Organizational Risk Factors for Job Stress.* Washington, DC: American Psychological Association.

Larisch, M., L. Joksimovic, O.V.D. Knesebeck, D. Starke and J. Siegrist. 2002. Effort–Reward Imbalance at Work and Depressive Symptoms: A Study of Public Transport Employees. Third International Conference on Work Environment and Cardiovascular Diseases. Düsseldorf, Germany, March 20–22.

Laschinger, H.K.S. 1996. "A Theoretical Approach to Studying Work Empowerment in Nursing: A Review of Studies Testing Kanter's Theory of Structural Power in Organizations." *Nursing Administration Quarterly* 20(2): 25–41.

Laschinger, H.K.S. 2001. "Scoring of Empowerment Scales." Retrieved February 25, 2004. <http://www.uwo.ca/fhs/nursing/laschinger/scoring.html>

Laschinger, H.K.S, J. Finegan and J. Shamian. 2001. "Promoting Nurses' Health: Effect of Empowerment on Job Strain and Work Satisfaction." *Nursing Economics* 19(2): 42–52.

Laschinger, H.K.S., J. Finegan, J. Shamian and J. Almost. 2001. "Testing Karasek's Demands-Control Model in Restructured Healthcare Settings." *Journal of Nursing Administration* 31(5): 233–43.

Laschinger, H.K.S., J. Finegan, J. Shamian and S. Casier. 2000. "Organizational Trust and Empowerment in Restructured Healthcare Settings: Effects on Staff Nurse Commitment." *Journal of Nursing Administration* 30(9): 413–25.

Laschinger, H.K.S., J. Finegan, J. Shamian and P. Wilk. 2001. "Impact of Structural and Psychological Empowerment on Job Strain in Nursing Work Settings." *Journal of Nursing Administration* 31(5): 260–72.

Laschinger, H.K.S. and D.S. Havens. 1996. "Staff Nurse Work Empowerment and Perceived Control Over Nursing Practice, Work Satisfaction and Work Effectiveness." *Journal of Nursing Administration* 26(9): 23–75.

Laschinger, H.K.S. and D.S. Havens. 1997. "The Effect of Workplace Empowerment on Staff Nurses' Occupational Mental Health and Work Effectiveness." *Journal of Nursing Administration* 27(6): 42–50.

Laschinger, H.K.S., J.A. Sabiston, J. Finegan and J. Shamian. 2001. "Voices from the Trenches: Nurses' Experiences of Hospital Restructuring in Ontario." *Canadian Journal of Nursing Leadership* 14(1): 6–13.

Laschinger, H.K.S., C. Wong, L. McMahon and C. Kaufmann. 1999. "Leader Behaviour Impact on Staff Nurse Empowerment, Job Tension and Work Effectiveness." *Journal of Nursing Administration* 29(5): 28–39.

Manojlovich, M. and H.K.S. Laschinger. 2002. "The Relationship of Empowerment and Selected Personality Characteristics to Nursing Job Satisfaction." *Journal of Nursing Administration* 32(11): 586–95.

Maurier, W.L. and H.C. Northcott. 2000. "Job Uncertainty and Health Status for Nurses During Restructuring of healthcare in Alberta." *Western Journal of Nursing Research* 22(5): 623–41.

McDermott, K., H.K.S. Laschinger and J. Shamian. 1996. "Work Empowerment and Organizational Commitment." *Nursing Management* 27(5): 44–47.

O'Brien-Pallas, L., D. Thomson, C. Alksnis and S. Bruce. 2001. "The Economic Impact of Nurse Staffing Decisions: Time to Turn Down Another Road?" *Hospital Quarterly* (*Spring*): 42–50.

Peter, R. and J. Siegrist. 1997. "Chronic Work Stress, Sickness, Absence, and Hypertension in Middle Managers: General or Specific Explanations." *Social Science and Medicine* 4(7): 1111–20.

Sabiston, J.A. and H.K.S. Laschinger. 1995. "Staff Nurse Work Empowerment and Perceived Autonomy: Testing Kanter's Theory of Structural Power in Organizations." *Journal of Nursing Administration* 2(9): 42–49.

Serlin, R. 1987. "Hypothesis Testing, Theory Building and the Philosophy of Science." *Journal of Counselling Psychology* 34(4): 365–71.

Shamian, J., M. Kerr, H.K.S. Laschinger and D. Thomson. 2002. "A Hospital-Level Analysis of the Work Environment and Workforce Health Indicators for Registered Nurses in Ontario's Acute Care Hospitals." *Canadian Journal of Nursing Research* 33(4): 35–50.

Shannon, H.S., C.A. Woodward, C.E. Cunningham, J. McIntosh, B. Lendrum, J. Brown and D. Rosenbloom. 2001. "Changes in General Health and Musculo-skeletal Outcomes in the Workforce of a Hospital Undergoing Rapid Change: A Longitudinal Study." Journal of Occupational Health Psychology 6(1): 3–14.

Siegrist, J. 1996. "Adverse Health Effects of High Effort/Low Reward Conditions." *Journal of Occupational Health Psychology* 1(1): 27–41.

Siegrist, J., R. Bernhardt and Z. Feng. 1990. "Socio-economic Differences in Cardiovascular Risk Factors in China." *International Journal of Epidemiology* 19: 905–10.

Siegrist, J. and R. Peter. 1996. "Threat to Occupational Status Control and Cardiovascular Risk." *Israel Journal of Medical Science* 32: 179–84.

Siegrist, J. and R. Peter. 1999a. "The model of effort–reward imbalance. Short description of the model." Retrieved February 25, 2004. <http://www.uni-duesseldorf.de/MedicalSociology/eri/theorie.htm>

Siegrist, J. and R. Peter. 1999b. "The Model of Effort–Reward Imbalance. *Statistical* Information." Retrieved February 25, 2004. <http://www.uni-duesseldorf.de/MedicalSociology/eri/eri-save/statistical_information.htm>

Siegrist, J., R. Peter, A. Junge, P. Cremer and D. Seidel. 1990. "Low Status Control, High Effort at Work and Ischemic Heart Disease: Prospective Evidence from Blue-Collar Men." *Social Science and Medicine* 31(10): 1127–34.

Spreitzer, G.M. 1992. When Organizations Dare: The Dynamics of Individual Empowerment in the Workplace. Unpublished doctoral dissertation, University of Michigan, Ann Arbor, Michigan.

Spreitzer, G.M. 1995. "Psychological Empowerment in the Workplace: Dimensions, Measurement, and Validation." *Academy of Management Journal* 38: 1442–65.

Spreitzer, G.M., M.A. Kizilos and S.W. Nason. 1997. "A Dimensional Analysis of the Relationship Between Psychological Empowerment and Effectiveness, Satisfaction and Strain." J*ournal of Management* 23(5): 679–704.

Trinkoff, A.M., Q. Zhou, C.L. Storr and K.L. Soeken. 2000. "Workplace Access, Negative Proscriptions, Job Strain, and Substance Use in Registered Nurses." *Nursing Research* 49(2): 83–90.

Tsutsumi, A., K. Kayaba, T. Theorell and J. Siegrist. 2001. "Association Between Job Stress and Depression Among Japanese Employees Threatened by Job Loss in a Comparison Between Two Complementary Job-Stress Models." *Scandinavian Journal of Work, Environment and Health* 27(2): 146–53.

Visser M.R.M., E.M.A. Smets, F.J. Oort and H.C.J.M. de Haes. 2003. "Stress, Satisfaction and Burnout Among Dutch Medical Specialists." *Canadian Medical Association Journal* 168(3): 271–75.

Wilson, B. and H.K.S. Laschinger. 1994. "Staff Nurse Perception of Job Empowerment and Organizational Commitment: A Test of Kanter's Theory of Structural Power in Organizations." *Journal of Nursing Administration* 24(4S): 39–47.

Woodward, C.A., H.S. Shannon, C. Cunningham, J. McIntosh, B. Lendrum, D. Rosenbloom and J. Brown. 1999. "The Impact of Re-engineering and Other Cost Reduction Strategies on the Staff of a Large Teaching Hospital. A Longitudinal Study." *Medical Care* 37(6): 556–69.

IT spending to grow

IT spending is forecast to grow at its fastest pace in more than three years. IDC estimates a 6–8% growth; Gartner calculates the growth rate at 5%; and Forrester predicts a 4% growth. Data center improvements, security, and disaster recovery are the top areas for this additional spending.
(Source: HIS Insider Weekly)

Forty-two per cent of Americans believe that drug companies' "excessive" profits are the primary reason for the high cost of prescription drugs in the U.S.
(Source: PharmaLive, February 11, 2004)