A longitudinal analysis of the impact of workplace empowerment on work satisfaction

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Summary

A longitudinal predictive design was used to test a model linking changes in structural and psychological empowerment to changes in job satisfaction. Structural equation modeling analyses revealed a good fit of the data from 185 randomly selected staff nurses to the hypothesized model. Changes in perceived structural empowerment had direct effects on changes in psychological empowerment and job satisfaction. Changes in psychological empowerment did not explain additional variance in job satisfaction beyond that explained by structural empowerment. The results suggest that fostering environments that enhance perceptions of empowerment can have enduring positive effects on employees. Copyright © 2004 John Wiley & Sons, Ltd.

Introduction

Empowerment in the workplace is a popular idea that has permeated both the popular and scientific literature. Practitioners view empowerment as a tool to encourage workers to think for themselves about the requirements of the job, and to move beyond blindly doing what they are told (Thorlakson & Murray, 1996). Empowerment involves learning how to take the initiative and to respond creatively to the challenges of the job (Quinn & Spreitzer, 1997). One of the earliest proponents of empowerment was Kanter. In her seminal book, Men and Women of the Corporation (1977), she argued that characteristics of the organization determine empowerment. More specifically, she argued that both formal job characteristics and informal alliances affect the ability of employees to accomplish their work. Similarly, organizational mobility and the possibility for personal growth influence job accomplishment. These factors together determine the degree to which a person feels empowered. Empowered employees are generally more satisfied with their job.

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While much of Kanter’s original work was based on participant observations, empirical studies have found the expected relationship between empowerment and job satisfaction (e.g., Laschinger, Finegan, Shamian, & Wilk, 2001b). The difficulty with much of this research is that it is cross-sectional and, of course, it is difficult to make definitive cause-and-effect statements with this type of design. It is possible that empowerment leads to job satisfaction as expected, but it is also possible that people who are satisfied with their job have a positive ‘glow’ about other aspects of their job, while those who are dissatisfied might evaluate all other aspects negatively. Employees might respond to the questionnaire items so that they ‘look good’ or, at the very least, appear consistent across measures. One way to reduce the likelihood of these biases operating is to separate in time the measure of empowerment from the measure of job satisfaction. The present study used this approach. We used measures of empowerment to predict job satisfaction 3 years later. We reasoned that if we could show a relationship between these two measures, then this would provide strong support for the idea that empowerment is responsible for subsequent job satisfaction. Before describing our study, we first review the theoretical framework in which it is embedded.

Theoretical Framework

Kanter (1977, 1993) maintains that characteristics of a situation can either constrain or encourage optimal job performance, regardless of personal tendencies or predispositions. She conceptualizes power as the ‘ability to mobilize resources to get things done’ (Kanter, 1979, p. 210) and uses the analogy of an electrical circuit to describe how productive power is achieved and maintained in the work setting. Power is ‘on’ when employees have access to lines of information, support, resources, and opportunities to learn and grow. When these lines of power are unavailable, power is off and effective work is impossible. These lines of power are sources of ‘structural’ empowerment within the organization.

According to Kanter, these lines of power emanate from formal and informal systems within organizations. Jobs that are highly visible, permit discretion or flexibility in how work is accomplished, and are central to the overall purpose of the organization, describe positions that are high in formal power. When positive relationships among superiors, peers, and subordinates are encouraged, the resulting alliances confer informal power. High levels of formal and informal power facilitate access to the lines of power and opportunity that enable employees to accomplish their work in meaningful ways. According to Kanter, the mandate of management should be to create conditions for work effectiveness by ensuring employees have access to the information, support, and resources necessary to accomplish work and that they are provided ongoing opportunities for development. Employees who believe their work environment provides access to these factors are empowered. The focus of Kanter’s theory is on the employees’ perception of the actual conditions in the work environment, and not on how they interpret this information psychologically. This ‘structural’ empowerment has been found to predict job satisfaction (Laschinger et al., 2001b), organizational commitment (McDermott, Laschinger, & Shamian, 1996; Wilson & Laschinger, 1994), decision involvement (Laschinger, Sabiston, & Kutzscher, 1997), trust in management (Laschinger, Finegan, & Shamian, 2001a), and job stress (Hatcher & Laschinger, 1996; Laschinger et al., 2001b).

In contrast to Kanter’s focus on structural empowerment, Spreitzer (1995) has focused more on the psychological state of the employees who experience empowerment (or not). Psychological empowerment has four components: meaning, competence, self-determination, and impact. Meaning entails congruence between an employee’s beliefs, values and behaviours, and job requirements. Competence...
refers to confidence in one’s job performance abilities. Self-determination refers to feelings of control over one’s work. Impact is a sense of being able to influence important outcomes within the organization. Researchers have linked psychological empowerment to a variety of outcomes, including organizational commitment (Kraimer, Siebert, & Liden, 1999; Spreitzer, 1995), job satisfaction, and job strain (Spreitzer, Kizilos, & Nason, 1997).

At first glance psychological and structural empowerment might seem quite similar. But there is an important difference between the two. Whereas structural empowerment is the perception of the presence or absence of empowering conditions in the workplace, psychological empowerment is the employees’ psychological interpretation or reaction to these conditions. In other words, psychological empowerment represents a reaction of employees to structural empowerment conditions. A link between structural and psychological empowerment was suggested by Spreitzer’s finding that managers who felt they had access to strategic information in the organization and to information on their units’ performance were psychologically empowered. Laschinger et al. (2001b) tested these ideas directly and found evidence to suggest that psychological empowerment is an intervening variable between structural empowerment and employee effectiveness (This study is discussed in more detail below.). But because Laschinger et al.’s investigation was cross-sectional, it was impossible to make definitive causal statements. As was mentioned earlier, a longitudinal study would provide a more compelling demonstration that empowerment leads to job satisfaction. To do this, we returned to the measures of empowerment gathered in the Laschinger et al. (2001b) study and used them to predict job satisfaction measured on the same cohort 3 years later. This cohort consisted of nurses, a group of employees for whom empowerment is a particular relevant issue. Next, we review the empirical work in this area and then introduce the cohort that was studied.

Empowerment in Nursing

Mishra and Spreitzer (1998) argue that empowerment is particularly important in work settings that have experienced considerable downsizing. Employees who are not empowered cannot cope with organizational changes and will, in all probability, respond passively. Indeed, the reaction of ‘downsizing survivors’ can have considerable impact on organizational outcomes (Burke, 2001; Davy, Kinicki, & Scheck, 1991; Noer, 1993) and, negative reactions, in particular, may be responsible for the failure of downsizing to improve productivity (Cascio, 1993).

One occupation that has been affected by drastic downsizing is nursing. For instance, a decade of hospital restructuring initiatives in Canada has resulted in the lay-off of thousands of nurses. Survivors of restructuring have faced increased responsibilities and fewer support staff to assist them. To add to this stress, the patients they look after are sicker. Such arduous workloads can lead to exhaustion. In addition, nurses report that their skills and abilities are not respected in the workplace. Consequently, it is not surprising that Canadian nurses have become increasingly at risk for burnout, with many leaving the profession all together (Baumann et al., 2001). The psychological state of those who survive downsizing can determine the viability of the smaller workforce. Burke (2001) found that among nurses who survived downsizing those who responded to downsizing with cynicism or fear were more likely to report higher levels of emotional exhaustion, more psychosomatic symptoms, and greater job dissatisfaction than other nurses.

1A simplified version of this paper entitled ‘Promoting nurses’ health: Effect of empowerment on job strain and work satisfaction’ was published by Laschinger, Finegan, and Shamian (2001) Nursing Economics, 19, 42–52.
In fact, there is overwhelming evidence to suggest that many nurses are dissatisfied with their jobs, and that the resulting consequences are significant. In a meta-analysis of over 500 studies of workers in various industries and occupations, including nursing, Cass, Faragher, and Cooper (2003) found a moderate positive correlation between job satisfaction and overall health, general mental health, and self-esteem, and a negative correlation between depression, anxiety, and burnout. Job satisfaction has also been linked to turnover. In a longitudinal study of over 1000 nurses, Price and Mueller (1981) found that although job satisfaction did not directly impact turnover, it influenced employees’ intention to stay, which, in turn, predicted turnover. This pattern of results is also found in the general management literature (cf. Spector, 1997). In separate meta-analyses, Griffeth, Hom, and Gaertner (2000) and Hellman (1997) also found that job dissatisfaction was a consistent predictor of voluntary turnover behavior. Harter, Schmidt, and Hayes (2002), in a meta-analysis of 42 studies, found that employee satisfaction not only predicted employee turnover, but also had an impact on unit performance and profitability. Of course, even though job satisfaction is linked to turnover, there are several other steps nurses may go through between experiencing job satisfaction and leaving the job (Price & Mueller, 1981). Prestholdt, Lane, and Matthews (1987), for instance, found that nurses’ turnover intentions were directly predicted by their attitudes towards leaving or staying, the expectations of others, and their feelings of moral obligation.

Given the negative impact of job dissatisfaction on both the employee and the organization, empowerment may be one way of preventing job dissatisfaction and its corresponding negative effects. Certainly, there is evidence to suggest that empowerment improves job satisfaction. Blegen (1993) and Irvine and Evans (1995), in separate meta-analyses, found that nurses’ job satisfaction was consistently predicted by autonomy, good communication with supervisors and peers, and job stress. Of course, autonomy and good communication are consistent with Kanter’s conception of structural empowerment. Aiken and her colleagues (2001, 2002) also found other evidence consistent with Kanter’s theory. They studied hospitals that are able to attract and retain nurses despite challenging economic conditions (i.e., magnet hospitals). The nurses that worked in these hospitals were involved in decisions that affected them, had more autonomy and control over their practice, and enjoyed better relationships with physicians. These organizational characteristics are remarkably consistent with the empowering environment described by Kanter (1977). Indeed, nurses working in magnet hospitals were more satisfied with their jobs, and experienced less burnout than nurses working in other contexts (Aiken et al., 2002; McClure, Poulin, Sovie, & Wandelt, 1983; Upenieks, 2003).

Collectively, these studies suggest that nursing is an excellent venue to study the effects of psychological and structural empowerment on job satisfaction. If structural empowerment does affect subsequent job satisfaction, then Kanter’s theory would offer considerable practical advice for improving the working conditions in nursing that is both theoretically and empirically based.

Model to be Tested

Laschinger et al.’s (2001b) cross-sectional study examined relationships between structural empowerment, psychological empowerment, and job satisfaction in nurses. They found that structural empowerment affected job satisfaction in two ways. First, structural empowerment directly predicted job satisfaction, and second, the relationship between structural empowerment and job satisfaction was mediated by psychological empowerment. However, this cross-sectional snapshot of relationships among variables may not be representative of nurses’ feelings about their work
over time. Longitudinal studies are in a better position to make causal statements and provide a stronger test of the hypothesized relationships. Although longitudinal studies should mirror the results of cross-sectional work, this is not always the case. For instance, Curry, Wakefield, Price, and Mueller (1986) used a longitudinal design to examine the casual ordering of job satisfaction and organizational commitment in a sample of staff nurses. Interestingly, and contrary to many previous studies, they failed to find any relationship between job satisfaction and commitment. Indeed, they recommended longitudinal research as a way to validate findings from cross-sectional studies.

Laschinger et al. (2001b) sampled Canadian nurses in 1998. Three years later, we contacted these same nurses to reassess their feelings of job satisfaction and empowerment. Based on both theoretical grounds and the original empirical findings, we hypothesized that changes in employee perceptions of structural empowerment would influence changes in satisfaction both directly and indirectly. The direct effects of structural empowerment on job satisfaction, we predicted, would arise because nurses who became more structurally empowered would gain more access to resources and support necessary to accomplish their work and would thus report greater increases in job satisfaction. Conversely, nurses who did not have the necessary support and resources to perform their job effectively would become more dissatisfied with their job over time. The indirect effects of structural empowerment on changes in job satisfaction would arise through the mediating role of psychological empowerment. That is, we expected that increases in structural empowerment would enhance feelings of psychological empowerment, which in turn would increase job satisfaction.

Organizational Context

The timeframe of this study coincided with a hospital-restructuring initiative in the Canadian province of Ontario in the 1990s. All urban teaching hospitals were affected by this effort. Many nurses were laid off and many full-time jobs were converted to part-time to cut costs. From 1994 to 1999, the number of employed nurses in Ontario declined by 9.4 per cent or 8346 nurses (Dussault et al., 2001). At the same time, hospitals reduced patient length of stay, which meant that patients on hospital units were acutely ill and required considerable nursing resources. The combination of sicker patients and fewer nurses to provide care resulted in greatly increased nursing workloads and created an environment of mistrust and demoralization among nursing staff. Many nurses left the profession and fewer students entered nursing programs. Illness-related absenteeism of nurses far exceeded any other occupational group (National Labor Force Survey: Statistics Canada, 2000).

Nurses in this study were randomly selected from a list of all nurses who worked in acute-care teaching hospitals in the province of Ontario, Canada. The nurses were first contacted in late 1998. At this time, nurses had suffered numerous rounds of lay-offs. Moreover, the number of managers was significantly reduced. This situation resulted in a loss of managerial support for nurses who now worked in larger units with less visible leadership. For some nurses, these circumstances represented an opportunity to be more autonomous and to have more control over their work. For others, the loss of managerial support may have been overwhelming. The nurses were contacted again in 2001, at which point most of the nursing workforce downsizing was over and hospitals were beginning to advertise available nursing positions. We were interested in examining how changes in nurses’ perceptions of their work environment influenced their job satisfaction across this time frame.
Method

Sample

The original sampling frame consisted of 600 nurses randomly selected from the College of Nurses of Ontario registry list. These staff nurses worked in urban teaching hospitals across the province in 1998. Respondents were surveyed again in early 2001. To maximize the return rate, strategies suggested by Dillman (2000) were used on both occasions. A reminder letter was sent 3 weeks after the first mailing and a second questionnaire mailed 3 weeks later. Participants were reimbursed for their time to complete the lengthy questionnaire with a food voucher to a popular coffee shop.

Of the 600 questionnaires sent in the first wave, 412 useable questionnaires (73 per cent) were returned. In the second wave, 268 nurses returned questionnaires (65 per cent return). Because AMOS requires that there be no missing data, cases were also lost because respondents failed to complete all items. These missing data appeared to be randomly distributed across items and timeframes. In the end, the final matched sample with complete data for the analysis was 185 (45 per cent of the Time 1 sample). Although the sample is smaller than the original, it is still powerful enough to test the proposed model (Hoyle, 1995). Attrition in longitudinal studies is a common problem, with 30–50 per cent dropout rates and higher (Visser, 1982). Fortunately, there were no significant differences between those who responded to both surveys and those who were lost to follow-up on either the demographic characteristics or major study variables collected at Time 1. Specifically, we compared the two groups with respect to possible differences in age, years of experience in nursing and years on the current unit, six types of structural empowerment, four types of psychological empowerment, and job satisfaction. None of these 14 comparisons were significant.

The final sample consisted of nurses who worked in a variety of different speciality areas including medical–surgical (27.3 per cent), critical care (37.6 per cent), maternal child (12.7 per cent), and psychiatry (22.4 per cent) from across the province of Ontario. We inferred that none of the nurses changed hospitals or clinical areas because all nurses reported over 3 years’ experience on their present unit. Not surprisingly, with restructuring, there were few job openings available to these nurses. Nurses worked either full-time (64.7 per cent) or part-time (35.3 per cent). Twenty-one per cent of the respondents had baccalaureate educational preparation; most were diploma-prepared (78.7 per cent). Respondents were, on average, 43 years old, with 19 years of nursing experience and 10 years experience in their current workplace.

Questionnaires

Three self-report scales were used in this study: the Conditions of Work Effectiveness Questionnaire-II (CWEQ) (Laschinger, Finegan, Wilk, & Shamian, 2000), Spreitzer’s (1995) Psychological Empowerment Scale, and a Global Job Satisfaction Scale (Hackman & Oldham, 1975). The items for each questionnaire were rated on a five-point Likert scale. All scales had acceptable internal consistency with reliabilities ranging from 0.77 to 0.91 (See Table 1). Respondents were also asked to provide their gender, age, years of nursing experience, years on current unit, their specialty area, educational background, and whether they worked full-time or part-time.

The Conditions of Work Effectiveness Questionnaire-II (CWEQ)

Based on the conceptual definitions described in Kanter’s theory, an overall construct for structural empowerment was derived from measures of the following six components: formal power, informal
power, and perceived access to the work empowerment structures of opportunity, information, support and resources. These components have been measured in past research with the CWEQ (four empowerment structures), the Job Activities Scale (formal power), and the Organizational Relationship Scale (informal power) (Laschinger, 1996a, 1996b). Although the original scales were longer in length, a confirmatory factor analysis suggested that three items per subscale were sufficient to capture adequately the overall construct of empowerment ($\chi^2 = 279$, d.f. = 129, CFI = 0.992, IFI = 0.992, RMSEA = 0.054) (Laschinger et al., 2000). Each item loaded appropriately on the theoretically relevant factors, and all strongly correlated with a measure of global empowerment providing evidence of construct validity.

In the CWEQ-II, respondents are asked to rate each item as to how characteristic it was of their job on a scale from (1) not at all to (5) a lot, with higher scores indicating greater perceived workplace empowerment. For example, to measure access to opportunity, respondents were asked to rate the degree to which their present job gave them the opportunity to perform challenging work, to gain new knowledge and skills, and to use their knowledge and skills.

The longer versions of these scales have been used in previous studies and found to be reliable (Laschinger, 1996a). As Table 1 shows, the shorter scales were also found to be reliable in the present study. Previous research also suggests that these subscales can discriminate meaningfully among incumbents in various levels of the organizational hierarchy. For instance, senior administrators and physicians scored higher than middle managers who, in turn, scored higher than staff professionals (Laschinger, 1996b; Kutszcher, Sabiston, Laschinger, & Nish, 1997).

### Psychological empowerment

Spreitzer’s (1995) 12-item Psychological Empowerment Scale was used to measure the four components of psychological empowerment construct: meaningful work, competence, autonomy, and impact. Each component is measured by three rates rated on 5-point Likert scales. As Table 1 shows, the reliabilities of these subscales were high (between 0.85 and 0.91). Spreitzer (1995) found evidence of convergent and divergent validity for these subscales in a study of managers and non-management personnel. Laschinger et al. (2000) further validated the proposed factor structure in a confirmatory factor analysis.

### Work satisfaction

Finally, a 4-item global measure of work satisfaction modified from Hackman and Oldham’s (1975) Job Diagnostic Survey was used. Respondents were asked to rate how satisfied they were with their job and their coworkers. A confirmatory factor analysis suggested that the items provided a good fit to the

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**Table 1. Time 1 and Time 2 Cronbach alpha reliability estimates**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural empowerment</td>
<td>0.77</td>
<td>0.82</td>
</tr>
<tr>
<td>Opportunity</td>
<td>0.79</td>
<td>0.79</td>
</tr>
<tr>
<td>Information</td>
<td>0.81</td>
<td>0.87</td>
</tr>
<tr>
<td>Support</td>
<td>0.77</td>
<td>0.79</td>
</tr>
<tr>
<td>Resources</td>
<td>0.78</td>
<td>0.79</td>
</tr>
<tr>
<td>Formal Power (JAS)</td>
<td>0.66</td>
<td>0.77</td>
</tr>
<tr>
<td>Informal Power (ORS)</td>
<td>0.60</td>
<td>0.68</td>
</tr>
<tr>
<td>Psychological empowerment</td>
<td>0.87</td>
<td>0.89</td>
</tr>
<tr>
<td>Meaning</td>
<td>0.94</td>
<td>0.94</td>
</tr>
<tr>
<td>Confidence</td>
<td>0.85</td>
<td>0.87</td>
</tr>
<tr>
<td>Autonomy</td>
<td>0.86</td>
<td>0.87</td>
</tr>
<tr>
<td>Impact</td>
<td>0.92</td>
<td>0.91</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.78</td>
<td>0.84</td>
</tr>
</tbody>
</table>
hypothesized factor structure ($\chi^2 = 8.17$, d.f. = 2, CFI = 0.987, IFI = 0.987, RMSEA = 0.091) (Laschinger et al., 2000). Consistent with the reliability estimates found in previous studies (Laschinger et al., 2000), the internal consistency of this scale was 0.78 at Time 1 and 0.84 at Time 2.

Data analysis

The hypothesized model was analyzed using structural equation modeling (SEM) (Arbuckle, 1997). SEM procedures permit modeling of a set of relations among constructs, simultaneous estimation of all hypothesized paths, and estimation of indirect or mediating effects. Unlike multiple regression or ANOVA, the SEM approach explicitly acknowledges the presence of measurement error and provides a means of controlling for it (Baron & Kenny, 1986; Hoyle & Smith, 1994).

Several criteria recommended by Hoyle (1995) were used to evaluate fit of the model. These included omnibus fit indices such as the $\chi^2$ (Jöreskog & Sörbom, 1989) and incremental fit indices such as the Comparative Fit Index (CFI) (Bentler, 1988), and the Incremental Fit Index (IFI) (Bollen, 1989). The $\chi^2$ is interpreted as the test of the difference between the hypothesized model and the just identified version of the model, with smaller values indicating better fit (Hoyle, 1995). Thus, low non-significant values are desired (Kline, 1998). However, the $\chi^2$ is very sensitive to sample size; thus, in a model with a relatively large sample size, the null hypothesis is expected to be rejected almost all of the time. Because of this limitation, the $\chi^2$ was used only to evaluate the relative differences in fit among competing models. Incremental fit indices indicate the proportion of improvement of the hypothesized model relative to a null model, typically one assuming no correlation among observed variables. The generally agreed upon critical value for the CFI and IFI is 0.90 or higher (Kline, 1998). Modification indices are computed for each parameter that is constrained to zero within the model. This index ‘approximates the amount by which the model’s overall $\chi^2$ would decrease if a particular parameter were freely estimated’ (Kline, 1998, p. 134). However, consideration of whether or not to add a path suggested by these indices should be made on theoretical, not empirical grounds.

Results

Testing the model

The model proposed in this study was tested using SEM for longitudinal analysis with maximum likelihood estimation. We used the 2-wave-covariable SEM analytic approach described by Ecob (1987) and Plewis (1985) to test our hypothesized model of changes in study variables over time. This approach estimates the degree of interrelatedness between changes in one latent variable on another, with both having been repeatedly measured on the same individuals (Raykov, 1993, p. 357). It is a dynamic-change model, which reflects a general process, in which causal influences and resulting adjustments are continuous in time (Rogosa, 1979, p. 276).

Prior to testing the hypothesized model, we examined whether demographic variables had any apparent impact on structural empowerment, psychological empowerment, and job satisfaction. To do this, we correlated age, years of experience, and unit tenure with these study variables. The only significant relationship found was between job satisfaction and unit tenure ($r = 0.16$). Using t-tests, we then compared males to females, and full-time workers with part-time workers to see if they differed on any of the independent and dependent variables. They did not. Finally, we compared the responses of individuals from different speciality areas (e.g., critical care, surgery) using analysis of variance.
Once again, we did not find any differences across areas. Since there was no evidence to suggest that these variables influenced our major variables (with the exception of tenure), we did not include them as factors in subsequent analyses. (We will return to unit tenure at the end of the result section.)

**Stability of the measurement model**

Factor scores were created for the sub-components of structural and psychological empowerment. Thus, the latent variable of Structural Empowerment had six indicators (opportunity, information, support, resources, informal, power and formal power); and the latent variable of Psychological Empowerment had four indicators (meaning, confidence, autonomy, impact). Job satisfaction had four indicators. Results for the unconstrained measurement model are presented in Table 2. This table also

<table>
<thead>
<tr>
<th>Table 2. Unconstrained measurement model</th>
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<tbody>
<tr>
<td>Constructs/indicators</td>
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<tr>
<td>------------------------</td>
</tr>
<tr>
<td><strong>Structural Empowerment–Time 1</strong></td>
</tr>
<tr>
<td>Opportunity-1</td>
</tr>
<tr>
<td>Information-1</td>
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<tr>
<td>Support-1</td>
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<tr>
<td>Resources-1</td>
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<tr>
<td>Formal Power-1</td>
</tr>
<tr>
<td>Informal Power-1</td>
</tr>
<tr>
<td><strong>Structural Empowerment–Time 2</strong></td>
</tr>
<tr>
<td>Opportunity-2</td>
</tr>
<tr>
<td>Information-2</td>
</tr>
<tr>
<td>Support-2</td>
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<tr>
<td>Resources-2</td>
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<tr>
<td>Formal Power-2</td>
</tr>
<tr>
<td>Informal Power-2</td>
</tr>
<tr>
<td><strong>Psychological Empowerment–Time 1</strong></td>
</tr>
<tr>
<td>Meaning-1</td>
</tr>
<tr>
<td>Confidence-1</td>
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<tr>
<td>Autonomy-1</td>
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<tr>
<td>Impact-1</td>
</tr>
<tr>
<td><strong>Psychological Empowerment–Time 2</strong></td>
</tr>
<tr>
<td>Meaning-2</td>
</tr>
<tr>
<td>Confidence-2</td>
</tr>
<tr>
<td>Autonomy-2</td>
</tr>
<tr>
<td>Impact-2</td>
</tr>
<tr>
<td><strong>Work Satisfaction–Time 1</strong></td>
</tr>
<tr>
<td>Very satisfied with job-1</td>
</tr>
<tr>
<td>Co-workers satisfied-1</td>
</tr>
<tr>
<td>Happy to retire here-1</td>
</tr>
<tr>
<td>Work-environment supportive-1</td>
</tr>
<tr>
<td><strong>Work Satisfaction–Time 2</strong></td>
</tr>
<tr>
<td>Very satisfied with job-2</td>
</tr>
<tr>
<td>Co-workers satisfied-2</td>
</tr>
<tr>
<td>Happy to retire here-2</td>
</tr>
<tr>
<td>Work-environment supportive-2</td>
</tr>
</tbody>
</table>

includes the means and standard deviations of the items associated with each latent variable. (The correlation matrix is available upon request from the authors).

Next, we examined the across-time stability of the measurement instruments for structural and psychological empowerment and job satisfaction. To achieve this objective, across-occasion measurement models were constructed in which the latent variables for Time 1 were hypothesized to cause their respective latent variable at Time 2, i.e., Structural Empowerment–Time 1 (SE-1) causes Structural Empowerment–Time 2 (SE-2), Psychological Empowerment–Time 1 (PE-1) causes Psychological Empowerment–Time 2 (PE-2), and Job Satisfaction–Time 1 (JS-1) causes Job Satisfaction–Time 2 (JS-2). For each of the three latent variables in the study, the measurement errors for the corresponding manifest variables were allowed to co-vary over occasions. Empirically, this has been found to be a common feature of such models and probably arises from the fact that each indicator has some indicator-specific variation as well as measurement error (Ecob, 1987). This assumption was confirmed by comparing the fit of the model with correlated error terms to the more restricted model in which the measurement errors of the manifest variables were independent across occasions. The results of this analysis are presented in part A of Table 3.

In determining whether the measurement process remained constant over time, the factor loadings of the manifest variables for the corresponding latent variables were fixed to be invariant across time. The observed difference in the \( \chi^2 \) statistic between the model with unconstrained factor loadings and the model with constrained loadings was used to test the validity of this assumption (see Part B, Table 3). When the factor loadings of the manifest variables for the corresponding latent variables were fixed to be invariant across time and compared to a model with unconstrained factor loadings, the observed difference in the \( \chi^2 \) statistic between the two models was statistically significant for structural empowerment (\( \Delta \chi^2 = 14.685; \Delta \text{d.f.} = 5 \)). However, the difference was not substantial. Moreover, there were no significant differences for psychological empowerment and job satisfaction, indicating that the measurement properties of the latent variables were the same for both occasions. These results suggested that the measurement models for each of these variables were the same across occasions and justified proceeding to the next stage of the analysis.

### Changes in structural and psychological empowerment and job satisfaction

We conducted a means analysis of the latent variables to examine changes across the two time periods. There were slight increases in average levels of psychological empowerment and job satisfaction.
satisfaction. The level of psychological empowerment increased by 0.84 (measured on a 12-point scale; $t = 5.17$) and the level of job satisfaction increased by 0.153 (measured on a 5-point scale; $t = 1.98$). However, the average level of structural empowerment was essentially the same across both occasions (the difference of 0.06 on an 18-point scale; $t = 0.418$). To examine the effects of each of the T1 variables on their respective T2 referents, three stability models were tested. The squared multiple correlation ($R^2$) for the latent variables SE-T2, PE-T2, and JS-T2 were 0.23, 0.46, and 0.30, respectively. This suggests that a substantial portion of these nurses individually experienced changes in these variables across time, particularly for structural empowerment and job satisfaction, even though as a group, the pattern of responses was similar over time. Had these parameters been closer to 1.0, the interpretation would be that there were fewer intra-individual changes in the study variables across time.

Effect of empowerment on job satisfaction

A structural equation model was constructed to assess the influence of changes in structural and psychological empowerment on changes in job satisfaction over time using the approach described by Ecob (1987). In this model, structural and psychological empowerment and job satisfaction at Time 1 are hypothesized to cause their respective referents at Time 2. That is, to estimate the independent effect of changes in structural and psychological empowerment on changes in job satisfaction, Time 1 variables were entered into the model. The exogenous variables (Time 1 variables) were hypothesized to correlate freely among themselves and, following Ecob, were expected to have effects on each of the Time 2 variables. This approach is similar to examining relationships among difference scores (delta) using ordinary least square regression (OLS). That said, the advantage of the current approach is the ability to account for all information in the scale indicators of the latent variables, correlated errors across time, and measurement error. Consequently, the estimates are not biased, as they would be in OLS regression.

The initial analysis revealed a good fit of the hypothesized model for the data according to standards recommended by Bentler and Bonett (1980) and Browne and Cudeck (1989) ($R^2 = 0.616$, $\chi^2 = 667.455$, d.f. = 342, IFI = 0.979, CFI = 0.979, RMSEA = 0.072). The model accounted adequately for the observed co-variances among the manifest variables. The standardized regression coefficients for the structural component of the model are shown in the boxed section of Figure 1. This part of the figure is used to remind the reader that what is being analyzed is actually the pattern of relationships among changes in the major study variables across time through the analysis of relationships as drawn on the left side of the figure (following Ecob, 1987).

The results reveal that changes in perceptions of structural empowerment produced statistically significant changes in psychological empowerment ($\beta = 0.38$) and job satisfaction ($\beta = 0.70$). However, a change in psychological empowerment did not result in a significant change in job satisfaction over and above that accounted for by structural empowerment ($\beta = -0.08$). That is, the hypothesized direct effect was supported but the indirect effect was not.

The $R^2$ for the latent variable JS-T2 (0.666) represents an increase of 36.6 per cent (from 0.300 to 0.666) over that of the previous stability model for JS-T2 (in which JS-T1 was the only predictor of JS-T2). That is, when the effects of structural and psychological empowerment (Time 1 and Time 2) were added to the stability model for JS-T2, the variance explained more than doubled. These results suggest that variation in job satisfaction (Time 2) depends more on changes in the level of structural empowerment than on the level of job satisfaction that was observed at Time 1. That is, creating environments that provide access to information, support, resources and opportunities to learn and grow over time has an important effect on nurses’ satisfaction with their jobs.
Because tenure had a very small but significant relationship with job satisfaction, the model was rerun including tenure as a control variable. The addition of this variable did not alter the model at all.

**Discussion**

The results of this study support the proposition that changes in perceptions of access to structural empowerment have an impact on changes in both psychological empowerment and job satisfaction over time. More specifically, staff nurses in this study felt that changes in access to structural empowerment strongly affected their feelings of psychological empowerment and satisfaction with their job across a 3-year time frame. Because the data were collected over time, these results strengthen previous cross-sectional research that has linked structural empowerment to job satisfaction. Lieberson (1985) maintains that in the absence of experimentation, ‘longitudinal data provide the only fully appropriate test of a causal proposition’s validity’ (p. 180).

Surprisingly, however, we found no support for our second hypothesis. Unlike the analysis of only the Time 1 data (i.e., Laschinger et al., 2001b), the present longitudinal analyses did not find that
changes in psychological empowerment predicted changes in job satisfaction. Instead, we found that the link between the two variables was not significant and, accordingly, psychological empowerment could not mediate the relationship between structural empowerment and job satisfaction. It is interesting to speculate why the results of the cross-sectional analysis and longitudinal analyses are different. Podsakoff and Organ (1986) argue that longitudinal studies reduce the likelihood of method variance from operating. (We will return to the discussion of method variance below.) Perhaps the previous analysis looking at only Time 1 data (i.e., Laschinger et al., 2001b) found evidence of mediation was because the correlation between psychological empowerment and job satisfaction was inflated due to common method variance. In fact, it is plausible that general affective feelings at Time 1 may have influenced nurses’ responses at that moment in time. This underscores the importance of longitudinal research. Since we were looking at change scores over a 3-year period, it is difficult to argue that momentary affective disposition that might have influenced the completion of the first questionnaire continued to exert an effect 3 years later.

That said, perhaps people have dispositional tendencies to respond in a particular way to work that are stable over time. For instance, there is evidence to suggest that there are dispositional sources of job satisfaction (Staw & Ross, 1985; Judge & Bono, 2001). Perhaps people tend to view work similarly, regardless of circumstances and the passage of time. Indeed, Staw and Ross (1985) found a small but significant correlation between reports of job satisfaction over time even when the people had changed jobs and organizations. Consequently, can our results be explained through this mechanism? It is important to remember that we looked at change scores. Thus, we expect that scores will go up or down depending on nurses’ empowerment scores. While dispositional sources may play some role in our findings, it is unlikely that they can account for our pattern of results. Indeed, Steel and Rentsch (1997) and Gerhart (1987) found that situational variables explained additional variance in job satisfaction above that accounted for by dispositions.

Future Directions

The fact that changes in structural empowerment directly affected job satisfaction underscores the importance of studying structural empowerment. Yet, to the best of our knowledge, research using Kanter’s model has been tested primarily within nursing. Kanter would argue that structural empowerment should help all groups. After all, both management and first-line workers need resources to do their work and would benefit from being kept ‘in the loop’ about organizational issues. But will our findings generalize to other occupational groups? Nurses are a dedicated group of professionals. When interviewed, they repeatedly stress how important it is to them to give their patients the best care possible. In other words, most are motivated to do their job well. Having access to opportunity, resources, and information is critical to being effective on the job and so it is not surprising that job satisfaction improves when the job is successfully completed. However, not all other groups are as motivated. In fact, a chronic problem with workers doing routine jobs (e.g., factory workers) is how to motivate them. Would giving them access to resources, opportunity, and information be reflected in enhanced job performance if the worker was not motivated to perform well in the first place? Future research could explore the role motivation plays and compare the effectiveness of empowerment with individuals who want to do their job well and those who do not care. If it turns out that empowerment works across all jobs, as Kanter would expect, then it could be an effective strategy for ensuring that workers, whose jobs are routine but nonetheless important, work effectively.
More generally, is empowerment desirable for all occupational groups? In some jobs employees are expected to follow orders. For example, soldiers are trained to follow orders; the cost of a soldier acting independently of his or her superiors, especially during wartime, could be devastating. Similarly, a bus driver is expected to take passengers to the agreed upon destination, and a civil servant is expected to ‘follow the rules’ mandated by their government. Still, the worker within each of these groups is more likely to be satisfied with the job if he or she has the resources to do the job, is recognized for his/her work, and has support to take the initiative to solve problems. In short, access to empowerment structures could improve job satisfaction. Yet, job satisfaction, although important, is not the only variable to consider. Does job effectiveness improve with increases in empowerment? Certainly, at the individual level it seems to. People who perceive they are empowered also perceive that they are better at their jobs (e.g., Laschinger & Wong, 1999). To return to our earlier examples, an empowered bus driver, civil servant, or soldier would feel that they were performing their job more effectively if they were able to use their own judgment when circumstances warranted it. But although the individual may see empowerment as enhancing job performance, is this perception shared by their supervisors? Lemieux-Charles et al. (2002) found that, although team members thought that quality improvement practices improved their team’s effectiveness, their managers did not share this perception. Thus, another direction for future research is to explore the effect of empowerment at the group level. Unfortunately, we could not look at the data at this level in our study since it was not possible to identify the particular hospital respondents were working in.

Many of the strategies used to increase empowerment are ultimately controlled by supervisors. Arguably, they are the ones who give the workers access to resources, opportunity, and information. They can provide formal power and they are part of the network of informal power. Will they impart empowerment to all their employees or are they likely to empower only their competent workers? In other words, is it the case that empowerment still works when skill level is controlled for? Kanter argues that incompetence can be traced to being denied power in the past. Powerlessness, not incompetence, is responsible for the inability of employees to do their jobs. If one’s actions have no effect on the working environment, then one quickly learns that there is no point in doing anything but the bare minimum. Although theoretically these ideas make sense, few, if any studies, have looked at the success of strategies designed to increase empowerment in workers whose performance is marginal.

An individual-difference variable that is arguably similar to powerlessness is locus of control (Rotter, 1966). A person who has an internal locus of control is one who, by definition, believes that his or her actions influences the rewards he or she receives. It is likely that such a person will seek out access to empowerment and, if denied access to empowerment, would first work to change the situation, and failing that might consider quitting. In contrast, those with external locus of control see fate and luck as influencing their outcomes. Since the usual state of affairs is a lack of empowerment, they are unlikely to be disturbed by not having empowerment. We would speculate that, when their environment is empowering, these individuals initially might have difficulty responding to these new conditions of work, but their performance would be enhanced over time. Other individual-difference variables that might also influence both the access to and the impact of empowerment, albeit in opposite ways, are authoritarianism (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950) and the need for achievement (McClelland, 1985).

Finally, Spreitzer et al. (1997) has demonstrated that the different components of psychological empowerment are related to different outcomes. On a related note, not all aspects of structural empowerment may be important for all jobs or all people. Informal power, for example, may not be something that is valued or needed by introverts. Similarly, a novelist may not find access to resources as important to his or her empowerment as a nurse who needs to have resources to actually accomplish their work. Certainly, there are many avenues that could be explored in determining the boundary conditions for structural empowerment.
Limitations

The findings of this study must be viewed with caution given the problems associated with longitudinal designs, such as loss to follow-up and history effects (Pedhazur & Schmelkin, 1991). Although the sample was representative of nurses in Ontario with respect to age, experience and level of education, the final sample was considerably smaller than the original. Nonetheless, nurses in the final sample did not differ significantly from those in the original sample on any substantive or demographic variables. Unfortunately, we could not compare our sample with those who chose not to participate. Although most of the nurses in the final sample had not changed their work unit over the three-year period of the study, it is possible that unmeasured factors in their environment may have influenced their job satisfaction. That said, although the first wave of the study was conducted at a point in time when hospital downsizing had peaked in the province (1998), the second wave of data was collected following a period of relative stability with regard to restructuring initiatives.

Second, as is the case in all studies in which the same subject completes all instruments, method variance is a concern. Still, Podsakoff and Organ (1986) argue that collecting data at different points in time lessens the impact of method variance. Moreover, Spector (1987) points out that method variance may be more of a problem with single-item or poorly designed scales and less of a problem when well-designed multi-item validated scales are used. Given the demonstrated reliability and validity of the measures used in our study, problems with common method variance should be attenuated to some extent. In addition, it seems reasonable to believe that employees’ own perceptions of empowerment and job satisfaction are valid indicators of their experiences of their work environment and their reactions to these perceptions. Other researchers agree that self-report measures are, in some cases, more accurate descriptions than more objective measures (Howard et al., 1980). That said, future studies are needed to develop more objective measures of structural empowerment.

Conclusions

Ironically, although the nursing profession was facing downsizing when this study was first started, it is now experiencing a serious nursing shortage across North America (O’Brien-Pallas et al., 1998; Sochalski, 2001). According to the Canadian Nurses’ Association, Canada could suffer a shortage of 113 000 nurses by the year 2011 (Ryten, 1997). Given that fewer people are choosing nursing as a career and that the current nursing workforce is aging (Canadian Institute for Health Information, 2000), it is important to find ways to retain and recruit nurses. The findings from our study suggest that empowerment will have an important role to play, given its part in enhancing job satisfaction. Ideally, we would like to see more quasi-experimental studies conducted to show that changing working conditions as Kanter recommends produces changes job satisfaction, and in turn we need to show directly that perceptions of empowerment are responsible for actual turnover and retention, and impact on productivity. As well, the viability of Kanter’s theory to other occupational groups needs to be established. In short, Kanter’s theory provides an exciting research venue to explore the effects of empowerment on workers and their organizations.

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