Self-Efficacy, Perfectionism, and Stress in Canadian Nurses

Sean O'Brien and Stewart Page

La présente recherche a pour objectif d'examiner le lien entre le stress chez les infirmières et leur degré de satisfaction dans leur travail et dans leur vie. Celle-ci évalue également la validité des construits des théories sur le perfectionnisme et l'efficacité personnelle telles qu'elles s'appliquent à la profession. Les participantes comptaient cent quatre-vingt-seize infirmières travaillant à Toronto et à Windsor en Ontario. Comme variables de prévisibilité, les infirmières ont établi leur niveau de stress, de perfectionnisme et d'efficacité personnelle. Comme variables dépendantes, elles ont établi leur niveau de satisfaction dans leur travail et dans leur vie. En général, les niveaux plus élevés de perfectionnisme socialement exigé et par rapport à autrui, de même que les niveaux plus bas d'efficacité personnelle correspondaient à des niveaux moindres de satisfaction dans le travail. On obtint des corrélations négatives importantes entre le nombre de facteurs d'agression rapportés dans les soins infirmiers et la satisfaction dans le travail. Sont également décrits plusieurs autres facteurs que les infirmières ont indiqués comme étant importants par rapport au stress dans le travail et dans la vie. On présente enfin quelques commentaires et interprétations, et ce qu'impliquent les résultats.

The current study examined the relationship between stress in nurses and their reported levels of job and life satisfaction, while also assessing the construct validity of theories of perfectionism and self-efficacy as these apply to the profession of nursing. One hundred and ninety-six nurses employed in Toronto and Windsor, Ontario completed measures of stress, perfectionism, self-efficacy, and job and life satisfaction as dependent variables. Generally, nurses who reported high levels of socially-prescribed and other-oriented perfectionism, and low levels of self-efficacy, also reported low levels of job satisfaction. Significant negative correlations were obtained between the number of reported nursing stressors and job satisfaction. The data also indicated that higher levels of socially-prescribed perfectionism and higher levels of self-efficacy were strongly related to both job and life stress. Some comments, interpretation, and implications of findings are presented.

According to Aiken (1989), enrollment at many nursing schools has declined in recent years. At the same time, it is also recognized that nurses currently contribute to the provision of health care services in ways that differ substantially from the restricted and more traditional concept of nursing that existed only a few years ago (Jenson, 1989). However, despite this expanded role, financial cutbacks and serious staff shortages are occurring. Many authors have argued that nurses are not only underpaid, but now must work under stress, both of which no doubt contribute greatly to an increased sense of job distress and frustration. For example, Fimian, Fastenau, and Thomas (1988) found that, due to stress-related factors, 60% of a sample of 283 nurses expressed a desire to leave the nursing profession.

Sean O'Brien is a Doctoral Candidate, and Stewart Page, Ph.D. is Professor in the Department of Psychology at the University of Windsor, Windsor, Ontario.

Unfortunately, the specific issue of stress and personality factors within the nursing profession has been largely neglected. Moreover, the existing studies on the subject have several shortcomings. They often use "one-shot" scales, questionnaires, or other psychometric instruments with little demonstrated validity or reliability (Allanach, 1988; Firth, McKeown, McIntee, & Britton, 1987; O'Brien, 1991). Many of them fail to consider personality variables that may moderate the relationship between stress in the work place and its effects upon individuals therein. This problem is reminiscent of Lazarus' (1976) interactionist model, in which the effects of environmental stress depend not only on the magnitude of stress but also upon the individual's perceptions of it. A third problem with the existing theoretical and empirical literature is that it fails to gather data on personality factors from direct and psychometrically sound measures of stress. Firth, et al. (1987), for example, suggested that the effects of stress on nurses could be reduced if they were selected for jobs according to their tendency to direct hostility either inward or outward, and in accordance with their sense of personal accomplishment. However, these authors did not directly measure levels of stress and could not, therefore, assess how it might interact with personality variables. The current study attempted to address these problems by studying the roles of perfectionism and self-efficacy as determinants of both job and life satisfaction in a sample of Canadian nurses.

Perfectionism. Perfectionism can be defined as an overconcern with avoidance of errors and achievement of unrealistically high standards. It has not been previously studied in nurses, although recent research utilizing the newly developed Multidimensional Perfectionism Scale (MPS) (Hewitt & Flett, 1991) has shown that it can predict levels of pathology and coping difficulties in other populations (Hewitt & Flett, 1991). The MPS contains 45 items assessing self-oriented perfectionism (holding standards for oneself that are difficult to attain), other-oriented perfectionism (holding unrealistic standards for others), and socially-prescribed perfectionism (the expectation that others have unrealistic and overly stringent standards for oneself). Indeed, socially-prescribed perfectionism has been frequently associated with coping difficulties, lower levels of self-esteem, and depression. Hewitt and Flett (1991) have hypothesized that an individual's inability to satisfy the perceived behavioural demands of others would result in negative emotional states, and motivation to avoid disapproval. If this were correct, higher levels of socially-prescribed perfectionism would be related to lower levels of job and life satisfaction, and this relationship would be exacerbated by higher levels of perceived stress. Similarly, following a diathesis-stress model (e.g., Flett, Hewitt, & Dyck, 1989) we would expect self-oriented perfectionism to be related to lower levels of job and life satisfaction, and to coping difficulties, particularly under conditions of higher, "ego-involving" stress.

Self-efficacy. Self-efficacy refers to the belief that one can successfully mobilize the motivation, cognitive resources, and behaviours required to meet specific situational demands (Bandura, 1989; Wood & Bandura, 1989). According to Bandura, beliefs regarding one's degree of self-efficacy can have either a positive or negative effect on an individual's thoughts. That is, those who perceive themselves as being generally inefficacious are prone to visualize scenarios in which they fail to perform adequately, while those who view themselves as being generally efficacious visualize more successful scenarios. Bandura has also stated that persons with low self-efficacy generally perceive themselves as having limited career choices and achieve a mediocre level of accomplishment. Unfortunately, few empirical studies have so far examined the construct validity of the self-efficacy notion (Rosenthal & Rosnow, 1984). The current study therefore tested the notion that nurses with lower levels of self-efficacy have lower levels of job and life satisfaction, and further, that this relationship is stronger in persons working under more stressful conditions. It was also speculated that self-efficacy may interact with self-oriented or socially-prescribed perfectionism to predict job and/or life satisfaction scores. For example, less satisfaction with one's job or life might be reported by persons with lower levels of self-efficacy and higher levels of self-oriented perfectionism or socially-prescribed perfectionism.

As a means of assessing the construct validity of the notions of perfectionism and self-efficacy, the current study examined the following six general hypotheses regarding the dependent measures of job and life satisfaction:

1. Nurses reporting high levels of stress report low levels of job and life satisfaction;
2. High levels of socially-prescribed perfectionism are associated with low job and life satisfaction, especially in working conditions involving high perceived stress;
3. High levels of self-oriented perfectionism are related to job and life satisfaction under conditions of high nursing stress;
4. Nurses with low levels of self-efficacy report low levels of job and life satisfaction; further, that this relationship is more pronounced under conditions of high nursing stress;
5. Socially-prescribed perfectionism and self-efficacy jointly (i.e., in interaction) predict job and life satisfaction scores.
6. Self-oriented perfectionism and self-efficacy jointly (i.e.,in interaction) predict job and life satisfaction scores.

Method

Sample

Descriptions of the current research and requests to solicit nursing participants were sent to contacts previously established by the first author to 10 hospitals in the Toronto and Windsor, Ontario metropolitan areas. The administrations of three hospitals gave approval to invite participation of nursing personnel. Requests and all research materials were then sent to nursing administrators and managers, who distributed materials to nurses on their units. Five hundred and twenty copies of the materials were distributed in this fashion, of which 204 (40%) were returned.

The final participants were 196 female nurses, solicited from three accredited Ontario hospitals: York Central Hospital, Richmond Hill; Toronto General Hospital, Toronto; and Grace Hospital, Windsor. Each hospital employed nurses of various backgrounds and religious affiliations.

The mean age of the nursing sample was 38.48 years (SD = 9.49 yrs., with a range of 22 to 61 yrs.). The mean number of years of nursing experience was 15.38 (range: 3 months to 42 years). One hundred sixty-seven participants were registered nurses and 30 were RNAs. One hundred and sixty-five participants held a nursing diploma or certificate, 31 held the bachelor's degree, and 1 held a master's degree. When the current data were gathered, 88 respondents were employed in medical or surgical units, 21 in obstetrics or gynaecology, 17 in renal units, 17 in emergency services, 7 in coronary units, 2 in OR, 3 in administration, 4 in psychiatry, 10 in chronic care, 19 in ICU, and 9 in other, mixed, or rotated units. Data from seven male nurse respondents were not included.

Written consent for participation was obtained prior to data collection. Consent forms were returned and retained separately from the research data. With permission from nursing supervisors, participants completed the instruments in group sessions at their hospitals, under primary supervision of the first author.

The following information was obtained: age, sex, marital status, nursing classification (i.e., R.N., R.N.A.), level of education, years of experience, usual shifts worked, and perceived likelihood of remaining in the nursing profession. The last item was measured using a 10-point Likert rating scale, ranging from not at all likely to extremely likely.

Independent (Predictor) Variables

Nurses completed, with scales arranged in a pre-randomized order, the Nursing Stress Scale (34 items; Gray-Toft & Anderson, 1981), Multidimensional Perfectionism Scale (45 items; Hewitt & Flett, 1991), Self-Efficacy Scale (23 items; Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982), Satisfaction with Life Scale (5 items; Diener, Emmons, Larson, & Griffin, 1985), and Brayfield and Rothe's 18-item (1951) Job Satisfaction Scale.

Nursing Stress Scale. The Nursing Stress Scale is designed to assess the frequency with which nurses experience a number of daily hassles and stressors (e.g., death of a patient, conflict with a supervisor, or conflict with a physician; Gray-Toft & Anderson, 1981). Nurses respond by checking, on a 4-point scale, how often they find each of the items stressful; responses range from never to very frequently. Gray-Toft and Anderson(1981) and others have found test-retest reliability coefficients averaging .81, and four different estimates of internal consistency ranging from .79 (Spearman-Brown coefficient) to .89 (alpha coefficient), indicating that this instrument has high reliability and validity. The Scale has also demonstrated significant correlations with several measures of anxiety and has significantly predicted indices of staff turnover.

Perfectionism. The Multidimensional Perfectionism Scale (Hewitt and Flett, 1991) assesses self-oriented perfectionism (e.g., "I demand nothing less than perfection from myself"; "One of my goals is to be perfect in everything I do"), other-oriented perfectionism (e.g., "Everything that others do must be of top notch quality"; "I have high expectations for the people who are important to me") and socially-prescribed perfectionism (e.g., "The better I do, the better I am expected to do"; "My family expects me to be perfect"). Some items are reverse-keyed to reduce response biases. Factor analytic studies (Hewitt and Flett, 1991) have confirmed the existence of three factors or dimensions with demonstrated high test-retest reliability (three- month test-retest coefficients were found to be .83 for self-oriented perfectionism, .85 for other-oriented perfectionism, and .75 for socially-prescribed perfectionism). Internal consistency (alpha) coefficients have been reported as .86, .82, and .88 for self-oriented, other-oriented, and socially-prescribed perfectionism, respectively.

Self-Efficacy. The Self-Efficacy Scale assesses an individual's perception of self-efficacy (e.g., "When I make plans I am certain I can make them work"; "If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me") (Sherer et al., 1982). Respondents rate agreement with each item on a 5-point Likert scale ranging from strongly disagree to strongly agree. Some items are reverse-keyed to reduce response biases.

Research evidence has so far shown strong support for the Self-Efficacy Scale in terms of reliability and validity. The available psychometric and research literature thus clearly supports the use of the Self-Efficacy and Perfectionism Scales for research purposes.

Dependent Measures

Job Satisfaction. Each item of job satisfaction was measured on a 5-point Likert scale. Evidence to date indicates that the Job Satisfaction Scale is useful in research contexts, and possesses adequate reliability and validity. Its original split-half reliability coefficients averaged .87. Validity data have shown that the scale correlates highly with other measures of job and work satisfaction (e.g., Ronen, 1977), and with reports of having thoughts related to quitting one's job (e.g., Mobley, Horner, & Hollingsworth, 1979).

Life Satisfaction. Global life satisfaction was assessed with the Satisfaction with Life Scale (Diener et al., 1985). This scale measures life satisfaction and not other related constructs such as loneliness or positive affect, and has shown strong reliability and validity. Test-retest and alpha coefficient reliabilities have averaged .82 and .87 respectively. The Scale has also shown appropriate significant correlations with related measures, such as ratings of satisfaction in other domains, for example, in health, love life, and relationships with friends, and other measures of well-being. More detailed information regarding the scale's psychometric properties has been described (O'Brien, 1991).

To identify practical concerns related to the issue of stress, participants also answered three open ended questions: "How could your job be made more satisfying?" "What promotes or inhibits the development of a high level of staff morale?" and "What are two significant factors contributing to the current nursing shortage?"

Results

Prior to formal data analysis, frequency distributions and scores on the measures of stress, perfectionism, self-efficacy, life satisfaction, and job satisfaction were examined using the SPSS-X programs' Frequencies, Regression, and Scattergram, to confirm that the distributions met the assumptions of multivariate normality which are necessary for multivariate analysis (Tabachnick & Fidell, 1989). Through analysis of Mahalanobis distance, one case was identified as a multivariate outlier, at $p < .001$; this outlier was deleted from the data set.

Utilizing Pearson r correlation nursing stress scores were uncorrelated with life satisfaction, but were significantly correlated with job satisfaction $(r(196) = -.16, p<.05)$. (Table 1). Neither self- nor other-oriented perfection-

ism alone correlated significantly with either job or life satisfaction; however, socially-prescribed perfectionism was significantly correlated (negatively) with both life satisfaction ($r(196) = -.31$, $p<.01$) and job satisfaction ($r(196) = -.22$, $p<.001$). Self-efficacy was also significantly correlated with both life satisfaction ($r(196) = .26$, $p<.01$) and job satisfaction ($r(196) = .27$, $p<.01$).

Table 1

Correlations Between Predictor and Dependent Variables in 196 Nurse Respondents

	1	2	3	4	5	6	7
Stress (1)	1.00						
Self-oriented perfectionism (2)	.14	1.00					
Other-oriented perfectionism (3)	.02	.51**	1.00				
Socially-prescribed perfectionism (4)	.22**	.51**	.38**	1.00			
Self-efficacy (5)	-.08	.03	-.02	-.34**	1.00		
Life Satisfaction (6)	-.10	-.04	.06	-.31**	.26**	1.00	
Job Satisfaction (7	-.16*	-.01	.02	-.22**	.26**	.47**	1.00

* $p<.05$, ** $p<.01$

Regression Analyses

Using the SPSS-X REGRESSION program, a series of hierarchical multiple regression analyses were performed to assess how well job and life satisfaction scores could be predicted by the measures of stress, perfectionism, and self-efficacy. Separate regression equations were computed to assess the degree to which job satisfaction and life satisfaction were related to stress, perfectionism, and self-efficacy. The predictor variables were entered into the regression equations in steps. To assess both individual and any additive effects, the predictors concerning self-efficacy, perfectionism, and stress, were entered into the first block. Each possible effect was examined after adjusting for all other effects, independent of order of entry. Within each block, the variables were assessed to determine how well they could predict values on the dependent variable. Once these variables were entered into the equation, interactions between the predictors (e.g., stress and self-efficacy) were entered into a second, separate predictor block (Evans, 1991) to determine if they could account for additional variance in the dependent variable. The interaction effects, where significant, are indicated below, in relation to the hypotheses outlined earlier.

The following section summarizes the main results, that is, those involving individual predictors, additive (variables considered together), or interaction effects, that were significant at an alpha level of $p<.05$.

Job Satisfaction Scores. In the first equation for the job satisfaction dependent measure, nursing stress and socially-prescribed perfectionism together were a significant predictor ($F = 6.44$, $p<.01$). Socially-prescribed perfectionism was the only significant individual predictor ($F = 7.54$, $p<.01$). In the second equation, no individual, additive, or interaction effects, involving self-oriented perfectionism or nursing stress, were significant. In the third equation, nursing stress and self-efficacy each showed a significant effect ($F = 4.20$, $p<.05$, and $F = 13.08$, $p<.001$, respectively). Nursing stress and self-efficacy taken together were also significant predictors of job satisfaction ($F = 9.28$, $p<.001$). In the fourth equation, both socially-prescribed perfectionism ($F = 4.31$, $p<.05$) and self-efficacy ($F = 8.22$, $p<.01$) showed significant effects. These predictors, together, also showed a significant effect ($F = 9.34$, $p<.001$). In the fifth equation, self-oriented perfectionism and self-efficacy together were a significant joint predictor ($F = 7.06$, $p<.001$). Self-efficacy was also a significant individual predictor ($F = 14.10$, $p<.001$).

Life Satisfaction Scores. In the first equation for the life satisfaction scores, nursing stress and socially-prescribed perfectionism together showed a significant effect ($F = 10.54$, $p<.001$). Socially-prescribed perfectionism was also a significant individual predictor ($F = 19.15$, $p<.001$). In the second equation, nursing stress and self-oriented perfectionism were not significant predictors of life satisfaction scores. In the third equation nursing stress and self-efficacy together showed a significant effect ($F = 7.71$, $p<.001$). The interaction between nursing stress and self-efficacy was also significant ($F = 5.55$, $p<.05$). In the fourth equation socially-prescribed perfectionism and self-efficacy together showed a significant effect ($F = 13.12$, $p<.001$). Both socially-prescribed perfectionism ($F = 12.54$, $p<.001$) and self-efficacy ($F = 6.08$, $p<.05$) were also significant individual predictors. In the fifth equation self-oriented perfectionism and self-efficacy together showed a significant effect ($F = 7.36$, $p<.01$). Self-efficacy was also a significant individual predictor ($F = 14.36$, $p<.001$).

In relation to the hypotheses presented earlier, the results thus indicated that:
1. Partial support was obtained for the hypothesis that high levels of nursing stress are related to low levels of job and life satisfaction (i.e., significant correlations were obtained between the number of stressors reported and job satisfaction scores);
2. Support was obtained for the hypothesis that high levels of socially-prescribed perfectionism are related to low levels of satisfaction, although the interaction between nursing stress scores and socially-prescribed perfectionism was not significant;

3. No support was obtained for the hypothesis that self-oriented perfectionism alone predicts levels of satisfaction. This occurred only if there was an interaction between self-oriented perfectionism and nursing stress;
4. The hypothesis that low levels of self-efficacy are related to low levels of job and life satisfaction was supported. Partial support was obtained for the hypothesis that self-efficacy interacts with nursing stress, since this interaction term accounted significantly for additional variance in the case of life satisfaction scores;
5. No support was obtained for the hypothesis that the interaction between self-efficacy and socially-prescribed perfectionism predicts levels of satisfaction;
6. No support was obtained for the hypothesis that the interaction between self-efficacy and self-oriented perfectionism predicts levels of satisfaction.

Best Predictive Models

To examine the most powerful or best predictive model, a stepwise regression equation, providing for examination of both individual and interactional effects, was computed for each dependent measure. Each equation in these analyses included the main predictor variables, but also included the various demographic variables provided by the nurses, as described previously.

For job satisfaction scores, of those variables accounting for a significant amount of the job satisfaction score variance ($p<.05$), the best predictor was the likelihood of remaining a nurse; the second best was self-efficacy; and the third best was the interaction between socially-prescribed perfectionism and nursing stress.

Of those variables accounting for a significant amount of the life satisfaction score variance, the best predictor was socially-prescribed perfectionism; the second best was other-oriented perfectionism; the third best was the likelihood of remaining a nurse; the fourth best was the interaction between other-oriented perfectionism and self-efficacy. Professional status or degree of nursing experience were unrelated to job or life satisfaction scores.

Subjective Analysis

In response to the question "How could your job be made more satisfying?" 17.4% of respondents reported that improved relations with administration and more flexible scheduling were their primary concerns. The need for more staff and for higher wages were mentioned by 15.3% and 14.8%, respectively.

For the question "What promotes and/or inhibits a high level of staff morale?" respect from administration was the most frequently cited problem, reported by 38.3% . Other common responses were: degree of cooperation

among other nurses (36.7%), workload and staffing levels (19.4%), relation-ships with physicians (8.7%), and flexibility of scheduling (8.2%).

In general, many nurses indicated in their comments that they would be more satisfied with their jobs if they received greater acknowledgement and re-spect from administrators directly above them (e.g., unit managers and nursing directors) or indirectly above them (e.g., hospital administrators and directors). Many nurses indicated that personality conflicts and interpersonal difficulties, frequently exacerbated by supervisors or managers, are often a major source of morale problems. Many also indicated that they felt it often was necessary to compromise the quality of care provided in order to complete assigned duties, again with this problem often aggravated by staff shortages.

To the question "What are two significant factors contributing to the nursing shortage?" low wages was cited most often (44.4%), followed by in-flexibility of hours (28.6%), low prestige (20.4%), too much work with too few staff (18.9%), and lack of respect from administration (12.8%). Nurses frequently expressed frustration that outsiders view nursing as a relatively low prestige career despite the fact that nurses perform many procedures requir-ing high levels of skill.

Discussion and Implications

The current results yielded little support for the hypotheses that high levels of nursing stress are correlated with low levels of life satisfaction. The correla-tional and other analyses showed that nurses who experienced a higher number of work-related stressors did not necessarily report less satisfaction in their lives generally, but did report lower levels of satisfaction with their job and work situations.

The regression analyses showed support for the hypotheses that perfec-tionism is related to job and life satisfaction. High levels of socially-prescribed perfectionism were related to lower levels of job and life satisfaction. These findings are consistent with Hewitt and Flett's (1991) view that high levels of socially-prescribed perfectionism are associated with failure experiences and negative emotional states. Overall, socially-prescribed perfectionism was a better predictor of job and life satisfaction than was nursing stress. This suggests that nurses' attitudes and beliefs about the expectations of others may be more important than the magnitude of the stressors they experience.

Responses to the open-ended questions identified factors contributing to the perception of perfectionistic social standards in the workplace. Many nurses believed that their employers viewed their home and social schedules as less important than their work schedules. Two of the major factors contrib-

uting to high levels of socially-prescribed perfectionism appear to be the nurses' perception that they lack control over their work schedules, and their belief that they are expected to complete too many duties during a shift. These observations, together with other implications of results from the open-ended questions, will hopefully be a focus for future action-oriented research.

The hypotheses associating higher levels of self-oriented perfectionism to job and life satisfaction were not clearly supported, nor were the hypotheses involving interactions between self-oriented perfectionism and nursing stress. However, this study does provide support for Bandura's theory of self-efficacy (Bandura & Wood, 1989; Wood & Bandura, 1989). Higher levels of self-efficacy were consistently related to increased job and life satisfaction. This appears to be consistent with Bandura's suggestion that individuals with higher levels of self-efficacy generally anticipate more positive experiences, and choose career paths and job options that are particularly challenging and rewarding (Bandura, 1989). Under high levels of nursing stress, nurses with lower levels of self-efficacy typically reported the least life satisfaction. This finding again would appear to support the construct validity of the notion of self-efficacy. Participants with higher levels of self-efficacy generally perceive that they can control threatening events, persevere during adversity, and remain task-oriented during periods of stress (Bandura, 1989). Research is required to evaluate more directly the apparent implication, namely, that procedures designed to enhance self-efficacy can to some degree protect nurses against the adverse effects of stress. We recognize that additional research would also to further assess the generalizability and external validity of the current results, especially research utilizing different types of job and life satisfaction measures. The current sample of nurses was drawn only from hospitals in Ontario. While it may have been less than totally representative, this sample was important and highly relevant.

The current findings provide general support for the validity and meaningfulness of the perfectionism and self-efficacy constructs in various aspects of the nursing profession. These notions appear to be significant in nurses' adjustment to the many stressful and frustrating aspects of that profession and, to some extent, of their lives generally. As earlier mentioned, perhaps training procedures could be developed to enhance personal and professional self-esteem, work adjustment, and morale. Action research with the goal of developing data-based but pragmatic strategies for enhancing life and job satisfaction in nurses may be worthwhile.

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