Stable Predictors of Job Satisfaction, Psychological Strain, and Employee Retention: An Evaluation of Organizational Change Within the New Zealand Customs Service

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Recent changes in employment conditions have resulted in the increased exposure of workers to unfavorable job characteristics and to consequential increases in adverse individual and organizational health outcomes. In this article the authors evaluate the steps undertaken by one proactive employer to reduce these adverse outcomes. Three organization-wide surveys (n = 350, 316, and 405) were conducted over a 3-year period within the New Zealand Customs Service to determine the influence of perceived job conditions on individual and organizational health outcomes. Staff retention and employee satisfaction significantly improved over time and these increases were attributable to workplace improvements. Stable predictors of job satisfaction included minor daily stressors, positive work experiences, job control, and perceived supervisor support.

Keywords: organizational stress, job satisfaction, psychological strain, turnover, organizational change

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The number of legal proceedings arising from workplace stress is increasing in New Zealand. In recent years, several landmark decisions have been made by the Employment Court, for which damages were awarded to employees experiencing stress-related ill health as a result of the unpleasant nature of their work, in conjunction with a high workload, office dysfunction, and inadequate resources. Recent changes in legislation (i.e., the New Zealand Health and Safety in Employment Amendment Bill, 2003) have heightened public awareness that stress is an occupational hazard that employers must take reasonable steps to prevent. Additionally, work hours have increased in countries in which the labor market has been deregulated, such as New Zealand, the United Kingdom, and the United States (Sparks, Faragher, & Cooper, 2001). This transition to a long working hours culture means that employees are now experiencing greater exposure to workplace conditions than ever before. Consequently, understanding how job conditions influence individual stress and health has increasingly become an important priority within organizational psychology. The investigation of job conditions and their influence on employee health informs organizational policy and strategies for the management of employee stress.

Research into occupational stress and health can be segregated into two distinct approaches. One approach, focused on the stress–strain relationship, has produced an extensive body of literature examining the influence of job demands on a wide range of workplace stressors, high levels of which have been repeatedly associated with psychological strain, job dissatisfaction, and increased incidence of cardiovascular disease symptoms (see O’Driscoll & Brough, 2003, for a review). The second approach has focused on the quality of working life and concerns the influence of positive experiences and job characteristics, such as variety and autonomy, that are thought to be linked to improved employee satisfaction and performance (e.g., Hackman & Oldham, 1975; Herzberg, 1966). The balance of literature findings support the relationships between high levels of both job autonomy (control) and work-related social support on positive outcomes for employee health and well-being (Brough & Frame, 2004; Mansell & Brough, 2005).

Evidence for the protective effects of high job control and support (in terms of moderating the negative impact of high job demands) has been markedly inconsistent (e.g., Sargent & Terry, 1998; van der Doef & Maes, 1999). Such inconsistencies have been attributed to a number of factors, most notably the poor operationalization of job control (de Jonge & Kompier, 1997; Wall, Jackson, Mullarkey, & Parker, 1996). For example, investigators who use focused measures of work control (i.e., measuring specific control aspects such as task-relevant control), rather than decision latitude (which combines the measurement of job control with job complexity), tend to have greater success in demonstrating the protective effects of job control on employee well-being (e.g., Mansell & Brough, 2005; Wall et al., 1996). Such
findings are consistent with Frese’s (1989) action sequence proposal, in that aspects of work control that are of central importance to an employee’s daily work tasks will be more likely to have stronger effects on employee adjustment. Additionally, the influence of positive work experiences has been comparatively ignored in occupational stress research. Evidence indicates that positive work events operate in a beneficial way separate from negative work events, demonstrating different patterns of associations with positive and negative affect, coping, and psychological well-being (Hart, 1999; Kan- ner, Coyne, Schaefer, & Lazarus, 1981).

The relationships between employee psychological well-being and organizational performance indicators have been examined in comparatively few occupational stress studies. Employee well-being is central to the ongoing viability and health of an organization. Organizational health can be understood as a function of both employee well-being and organizational performance. This definition of organizational health acknowledges that a productive organization is of little value if organizational performance is high to the detriment of employee well-being and vice versa. Organizational performance indicators are largely those that affect an organization’s bottom line and include employee prosocial and organizational citizenship behaviors and those behaviors that have a direct impact on human resource functioning, such as absenteeism, turnover, and legal compensation claims (Hart & Cooper, 2001).

The relationships between psychosocial job characteristics (e.g., job demands, control, and social support) and organizational performance indicators, such as turnover behaviors, for example, have not been widely reported (Spector & Jex, 1991). Yet the identification of the factors contributing to turnover intentions is considered to be effective in reducing actual turnover behavior (Griffeth, Hom, & Gaertner, 2000). Turnover intentions, job satisfaction, and perceptions of job alternatives are the main predictors and immediate precursors of actual turnover behavior (Maertz & Campion, 1998). Evidence suggests that the influence of psychosocial job characteristics on turnover will operate via their influence on employee satisfaction levels. Brough and Frame (2004), for example, demonstrated that high levels of supervisor support in association with improved job satisfaction reduced turnover intentions over time among police officers. The implication is that an investigation of the robust predictors of job satisfaction will indicate the indirect pathways by which problematic staff attrition can be reduced, as well as reducing organizational stress and increasing individual well-being.

It is also important to acknowledge the discussions of domain specificity within the occupational stress literature. That is, when stressors demonstrate stronger associations with outcomes located in the same domain (i.e., the work or nonwork domain). For example, job satisfaction is more likely to be predicted by job stressors than by nonwork stressors (Hart, 1999; Warr,
1999), despite the occurrence of interdomain conflict (Brough & O’Driscoll, 2005). Context-free psychological strain, however, is likely to be influenced by a broad range of variables, including those outside of the work domain. Job characteristics are therefore likely to explain a proportionally smaller amount of variance in context-free psychological strain than in job-related outcomes.

As a responsible and proactive employer, the New Zealand Customs Service (NZCS) recently undertook a comprehensive examination of the effects of job conditions experienced by its employees. The NZCS was aware that certain issues surrounding employee well-being existed. In particular, the NZCS was concerned with work characteristics such as workload, relations between staff and management, and staff not feeling recognized or valued. The impact of these factors upon employee psychological health and organizational performance outcomes was recognized but had received little systematic evaluation. Additionally, in response to the events of September 11, 2001, the NZCS experienced a number of organizational and job changes, most notably an increased volume of work due to changes in international trade practices and border procedures, and the employment of new staff.

In accordance with the occupational well-being literature, in this investigation we examined the influence of relevant psychosocial job characteristics on two indicators of employee well-being (job satisfaction and psychological strain). These psychosocial job characteristics are cognitive job demands, workplace hassles, job control, perceptions of colleague and supervisor support, and positive work events (uplifts). In addition to employee psychological responses to occupational stress, employee turnover intentions are also examined as a behavioral response related to organizational performance.

A second theme of this article is to evaluate the relationships between psychosocial job characteristics and psychological outcomes in the context of specific organizational changes. The instigation and evaluation of effective organizational interventions within the organizational stress domain is an acknowledged rarity and has contributed to a recognized gap between research knowledge and practice (Caulfield, Chang, Dollard, & Elshaug, 2004; Cooper, Dewe, & O’Driscoll, 2001; Hurrell, 2005; Murphy & Sauter, 2003). The focus of our analysis is organizational-level change in job characteristics and well-being over time. Although tracking the causes of individual-level change in well-being over time is vital for understanding the processes of stress and well-being, respondent attrition in multiple wave studies typically results in a sample that represents a substantially reduced proportion of total employees within the target organization (e.g., Dormann & Zapf, 2002). From an organization monitoring perspective such attrition is problematic because reduced respondent samples fail to provide an accurate account of organization-wide effects (via respondent bias, etc.). It remains important to
evaluate and monitor the ongoing health of an organization (taking into account the flow of employees entering and exiting an organization), as shifts in perceived job conditions, employee health, and morale can signal potential problems and have important influences on the induction of new employees entering the organizational environment (e.g., Ashforth & Saks, 1996). In this article, we specifically investigate four research hypotheses:

Hypothesis 1: It is proposed that psychosocial job characteristics will demonstrate stronger associations with the job-related indicators of well-being, that is, job satisfaction and turnover intentions, than with the measure of context-free psychological strain.

Hypothesis 2: Negative work experiences (work hassles) and job demands will act as negative predictors of job satisfaction and positive predictors of psychological strain and turnover intentions.

Hypothesis 3: Positive work experiences (work uplifts), job control, and work-related social support will act as positive predictors of job satisfaction and negative predictors of psychological strain and turnover intentions.

Hypothesis 4: Reported levels of the psychosocial job characteristics and the three dependent measures (job satisfaction, psychological strain, and turnover intentions) will not significantly differ between Time 1 and Time 2. Significant differences in the reported levels of these research variables will be evident at Time 3 (reflecting the organizational and job changes that occurred after Time 2 measurement).

**METHOD**

**Research Design**

The NZCS is a large public-sector organization with employees posted throughout New Zealand. All employees of the NZCS were invited to complete a self-report questionnaire survey on three occasions, at one 6-month interval (September 2000 and March 2001), followed by a 2-year interval (March 2003). Completed questionnaires were returned directly to the researchers by prepaid mail. A total of 772 questionnaires were distributed at Time 1, 774 at Time 2, and 900 at Time 3. Of these 352, 316, and 405 questionnaires were returned, respectively, yielding organization-wide response rates of 46%, 41%, and 45%.
Description of Samples

Respondents at Time 1 had a mean age of 42 years ($SD = 10.3$ years), a mean length of organizational tenure of 16.5 years ($SD = 12.5$ years), and the majority of respondents were men (67%). Respondents consisted of operational officers (32%), administration staff (9%), supervisors and managers (30%), and technical personnel (29%). Respondent characteristics did not change significantly over the three survey waves and were comparable to total employee characteristics obtained from organizational records.

Measures

Work Hassles and Work Uplifts

The 26 work hassles (e.g., “excessive paperwork”) and 22 work uplifts (e.g., “receiving thanks from the public/clients”) items were derived from Hart, Wearing, and Headey’s (1994) measure. The items selected were the two with the highest factor loadings from each of the hassles and uplifts categories reported by Hart et al. that were applicable to a public sector organization. Respondents were asked to indicate on a 5-point scale the degree to which each experience had hassled or bothered them (or the degree to which each experience had made them feel good) during the past month at work. The scale ranged from definitely was not a hassle/uplift (0) to definitely was a hassle/uplift (4). Higher scores on the scales indicated that the respondent experienced more hassles or more uplifts at work in the past month. The applicability of the scale items was assessed by 18 employees of the NZCS, and all items were deemed to have sufficient levels of face validity. Acceptable internal reliability estimates (Cronbach’s alpha coefficients) were produced for both measures across the three sampling waves: .88 to .91 (work hassles) and .84 to .88 (work uplifts).

Job Demands and Job Control

Cognitive job demands were measured by a four-item scale of monitoring demands (e.g., “Does your work need your undivided attention?”) combined with a five-item scale of problem-solving demands (e.g., “Are you required to deal with problems which are difficult to solve?”). The revised version of the problem-solving demands scale was used because of its improved reliability (Wall, Jackson, & Mullarkey, 1995). Job control was measured by a four-item scale of timing control (e.g., “Do you set your own
pace of work?”) and a six-item scale of method control (e.g., “Can you vary how you do your work?”). A 5-point response scale was used ranging from not at all (1) to a great deal (5). Acceptable internal reliability estimates (Cronbach’s alpha coefficients) were produced for the composite measures of demands and control across the three sampling waves: .81 to .82 (job demands) and .91 to .93 (job control).

Social Support

Measures of work-related social support were taken from Caplan, Cobb, French, Harrison, and Pinneau (1975). The same four items (e.g., “How much does each of the following people make your work life easier?”) were used to measure support received from two different sources, supervisors and colleagues. Consistent with Caplan et al.’s original scales, a 5-point response scale was included ranging from not at all (0) to very much (4). Acceptable internal reliability estimates were produced for the two support measures across the three sampling waves: .90 to .91 (supervisor support) and .79 to .82 (colleague support).

Job Satisfaction

Job satisfaction was measured using the 15-item Warr, Cook, and Wall (1979) instrument, which measures satisfaction with both intrinsic features (e.g., “the amount of variety”) and extrinsic features of the job (e.g., “your rate of pay”). Respondents were asked to indicate their satisfaction on a 7-point response scale ranging from extremely dissatisfied (1) to extremely satisfied (7). Higher mean values represent greater job satisfaction. Alpha coefficients for the composite satisfaction measure ranged from .88 to .91 for the three survey waves.

Psychological Strain

The 12-item General Health Questionnaire (GHQ-12; Goldberg, 1978) was used to measure levels of context-free psychological strain. With this measure respondents are asked to indicate the extent to which they have experienced a list of affective symptoms over the past weeks, relative to their usual level of health on a 4-point scale (ranging from 0 to 3). The scale is scored so that high scores represent high levels of psychological strain. The measure has been extensively used with working populations (e.g., Mullar-
key, Wall, Clegg, & Stride, 1999). Acceptable internal reliability estimates (Cronbach’s alpha coefficients) were produced for the GHQ-12: .86, .85, and .87 for the three survey waves, respectively.

**Turnover Intention**

Respondents were asked to rate the item “How frequently have you seriously considered leaving your job in the past 3 months?” A 4-point response scale was used ranging from not at all (1) to a great deal (4).

**Organizational Change**

Finally, a measure relating to 15 specific aspects of organizational change experienced at NZCS was created by using the results of this research. At Times 1 and 2, respondents were asked to nominate specific job and organizational problems that had the greatest influence on their levels of strain and satisfaction. The responses were coded into categories, such as issues relating to remuneration and terms of employment, job content and organization of work, and so forth, in accordance with methods used in previous organizational evaluations (e.g., Lourijsen, Houtman, Kompier, & Grundemann, 1999). At Time 3, a checklist of 15 questions was constructed to evaluate the impact of the organizational changes that had taken place over the course of the research relating to the categories identified at Times 1 and 2. The questions were piloted in a series of semistructured NZCS employee interviews before the final survey wave. The 15 questions were considered to be appropriate and valid by the interviewees. An example of a question is “Has organizational communication improved over the last 12 months?” Respondents answered on a 4-point Likert scale from 1 (not at all) to 4 (a great deal). High scores therefore indicate greater levels of perceived organizational change.

**Data Analysis**

The data were initially examined for outliers and kurtosis. Before the hierarchical multiple regression analyses, the residual plots were inspected for violations of normality, linearity, and homoscedasticity. With a $p < .001$ criterion for Mahalanobis distance, two outliers were eliminated resulting in a final sample of 350 for the Time 1 data. The hierarchical multiple regression analyses were each identically constructed: The stable characteristics an
individual brings to the job environment were entered in an initial step: age, gender (dummy coded), and occupational group (dummy coded). At Step 2, job characteristics were entered to assess the incremental contribution of the work environment after controlling for the stable characteristics. In the third and final step, job satisfaction, psychological strain, and turnover intentions were entered into each equation as appropriate, to assess the predictive ability of these outcome measures.

RESULTS

Descriptive Statistics and Correlations

The descriptive statistics for each research instrument across the three sampling waves are provided in Table 1. Internal consistencies for all scales were acceptably high at Time 1 and remained high (>.79) at Times 2 and 3. The intercorrelations of the Time 1, Time 2, and Time 3 research variables are presented in Table 2. Perceptions of control, social support, and daily work hassles were highly correlated in all three surveys, suggesting that employees who report having a supportive work environment also report having greater control over their work and experience less hassles. Such associations have also been reported elsewhere (Moyle & Parkes, 1999). In line with previous findings (e.g., Beehr, Glaser, Canali, & Wallwey, 2001; Sargent & Terry, 1998; Wall et al., 1996) job control was positively associated with the job demands measure. This finding reflects the likelihood that high-level jobs, characterized by high levels of job autonomy or control, are often associated with increased work demands and responsibility. The well-being indices were highly intercorrelated, with the strongest associations between job satisfaction and turnover intention.

Hypothesis 1 predicted that job demands and job control would produce stronger associations with the job-related well-being indicators (job satisfac-

| Table 1. Means, Standard Deviations, and Reliabilities for the Research Measures |
|-----------------------------------------|----------------|----------------|----------------|
|                                         | Time 1 (N = 350) | Time 2 (N = 316) | Time 3 (N = 405) |
|                                         | M   | SD  | $\alpha$ | M   | SD  | $\alpha$ | M   | SD  | $\alpha$ |
| Work hassles                            | 42.7 | 17.6 | .88     | 43.4 | 17.7 | .89     | 38.3 | 19.0 | .91     |
| Work uplifts                            | 52.5 | 10.2 | .84     | 51.8 | 10.7 | .85     | 52.0 | 11.6 | .88     |
| Job demands                             | 30.1 | 5.4  | .81     | 29.0 | 5.4  | .82     | 29.3 | 5.3  | .81     |
| Job control                             | 34.7 | 8.7  | .91     | 35.3 | 9.0  | .93     | 36.0 | 9.2  | .93     |
| Supervisor support                      | 11.0 | 3.6  | .90     | 11.1 | 3.5  | .90     | 11.4 | 3.7  | .91     |
| Colleague support                       | 12.2 | 2.6  | .82     | 12.1 | 2.3  | .79     | 12.1 | 2.6  | .82     |
| Job satisfaction                        | 61.3 | 14.3 | .89     | 60.4 | 13.1 | .88     | 66.8 | 14.3 | .91     |
| Psychological strain                    | 11.6 | 4.9  | .86     | 10.7 | 4.3  | .85     | 11.3 | 5.0  | .87     |
| Turnover intentions                     | 2.5  | 1.2  | —       | 2.5  | 1.1  | —       | 2.0  | 1.1  | —       |
Table 2. Intercorrelations for the Research Variables: Time 1 \( (N = 350) \), Time 2 \( (N = 316) \), Time 3 \( (N = 405) \)

<table>
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<td>.17**</td>
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|      | 2     |       |       |       |       |       |       |       |       |       |       |
| Gender |       |       |       |       |       |       |       |       |       |       | -.37*** |
| Work hassles |       | -.07  |       |       |       |       |       |       |       |       |
| Work uplifts |       | .05   | .11*  | -.27*** |       |       |       |       |       |       |
| Job demands |       | .04   | -.09  | .07   | .13*  |       |       |       |       |       |
| Job control |       | .11*  | -.14** | -.32*** | .22*** | .31*** |       |       |       |       |
| Supervisor support |       | .03   | -.04  | -.41*** | .37*** | -.06  | .25*** |       |       |       |
| Colleague support |       | -.08  | .14**  | -.34*** | .27*** | .13*  | .19*** | .29*** |       |       |
| Job satisfaction |       | .01   | .01   | -.67*** | .37*** | .15**  | .49*** | .55*** | .42*** |       |
| Strain |       | .04   | -.03  | .55*** | -.18*** | .06   | -.18*** | -.33*** | -.32*** | -.48*** |       |
| Turnover |       | -.08  | .02   | .42*** | -.18*** | -.08  | -.15**  | -.37*** | -.21*** | -.51*** | .38*** |

Note. Time 1 correlations are reported in the upper left quadrant, Time 2 correlations are reported in the upper right quadrant, and Time 3 correlations are reported in the lower left quadrant. Gender dummy coded male = 0, female = 1.

* \( p < .05 \). ** \( p < .01 \). *** \( p < .001 \).
tion and turnover) compared with the association with context-free psychological strain. This expectation was evident for job control at Times 1 and 3 only. Surprisingly, job demands produced insignificant associations with all three outcomes at Time 1 and significant associations with only job satisfaction at Times 2 and 3. Hypothesis 1 is therefore only partially supported and the inconsistency of these relationships over time is noted.

Assessing Changes in Job Characteristics, Job Satisfaction, Psychological Strain, and Turnover Intentions

To test the inconsistency in these bivariate relationships and to assess any specific changes in job characteristics, job satisfaction, psychological strain, and turnover intentions over the three sampling waves, tests of polynomial contrasts were used. Of the six psychosocial job characteristics measured, only work hassles demonstrated a significant difference, with the eta squared value of .02 indicating a small effect size (interpreted in accordance with Cohen, 1988), $F(2, 1016) = 8.75, p < .001, \eta^2 = .02$. Post hoc tests with Bonferroni adjustment demonstrated that mean levels of work hassles were significantly lower at Time 3, than at Times 1 and 2; offering some support for Hypothesis 4. The results indicated that to a large extent the work environment remained stable over time, replicating the stability of job environments that has previously been reported (Dormann & Zapf, 2001; Hart, 1999).

For job satisfaction, a significant change in mean scores was noted, with the eta squared value of .04 indicating a small to medium effect size, $F(2, 1023) = 21.15, p < .001, \eta^2 = .04$. Post hoc tests with Bonferroni adjustment demonstrated that Time 3 job satisfaction was significantly higher than both the Time 1 and 2 levels, again offering support for Hypothesis 4. An inspection of the individual job satisfaction facets that comprise the job satisfaction scale revealed that, perhaps unsurprisingly, the job aspects associated with the poorest satisfaction at Times 1 and 2 (remuneration, promotional opportunities, organizational management, and manager–worker relations) demonstrated the greatest improvement at Time 3. These item results are depicted in Figure 1. The most substantial shift was for satisfaction with remuneration: At Times 1 and 2 remuneration had the lowest satisfaction ranking (item means of 2.56 and 2.57, respectively); however, by Time 3 dissatisfaction with pay had substantially decreased (item mean of 3.84). Satisfaction with job security and the level of recognition received for good work also demonstrated a marked improvement by Time 3. Figure 1 also illustrates that work colleagues, job variety, and aspects relating to autonomy (e.g., personal responsibility and freedom to choose a method of working)
Figure 1. Changes in mean scores of the job satisfaction items over time.
received the highest satisfaction ratings and demonstrated a degree of stability over time.

Polynomial contrasts, used to determine whether mean organization-levels of psychological strain changed over time, were nonsignificant. Despite the significant increase in mean job satisfaction at Time 3, levels of employee psychological strain remained stable over the three survey waves. This finding is not surprising as this well-being index is likely to be strongly influenced by nonwork factors in conjunction with work factors. The literature has demonstrated that well-being is influenced by multiple factors including gender, age, health behaviors, individual disposition, personal coping processes, and social support, in conjunction with job and nonjob satisfaction (Lazarus, 1992; Zapf, Dormann, & Frese, 1996).

Finally, polynomial contrasts confirmed a significant change in mean levels of employee turnover intentions, with the eta squared value of .05 indicating a medium effect size, $F(2, 1023) = 25.99, p < .001, \eta^2 = .05$. Post hoc tests with Bonferroni adjustment demonstrated that mean levels of turnover intentions were significantly lower at Time 3 (again supporting Hypothesis 4 for this dependent variable). Only 15% of the Time 3 respondents reported a serious intention to exit, compared with 29% at Time 1 and 24% at Time 2. Organizational retention records substantiated the improved trend in reported turnover intentions at Time 3. Annual turnovers of 14.4%, 14.1%, and 12.8% were recorded for the three waves, respectively.

Explaining Variation in Job Satisfaction, Psychological Strain, and Turnover Intentions

To assess the amount of variance accounted for in the dependent variables by the individual characteristics and the job demands, control, and support variables (Hypotheses 2 and 3), three hierarchical regression equations were constructed. The summaries of these three equations are presented in Table 3. For the prediction of job satisfaction, the demographic and occupational group variables (Step 1) accounted for a significant 5%–10% of the explained variance. Managers reported significantly higher levels of job satisfaction than operational officers across the three waves. The entry of the job characteristic variables (Step 2) increased the explained variance by 49%–61%. Of the job characteristics, work hassles, work uplifts, job control, and supervisor support demonstrated significant and stable associations with job satisfaction over the three measurement waves. Employees reporting exposure to fewer daily hassles, and higher levels of positive work events, job control, and supervisor support also reported higher levels of satisfaction. The stability of these associations indicates that the relationships between
Table 3. Hierarchical Multiple Regression Predicting Job Satisfaction, Psychological Strain, and Turnover Intentions

<table>
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<td></td>
<td>Time 1</td>
<td>Time 2</td>
<td>Time 3</td>
</tr>
<tr>
<td>1.</td>
<td>Age</td>
<td></td>
<td>-0.06</td>
<td>-0.08</td>
<td>-0.05</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td></td>
<td>0.04</td>
<td>0.09</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>Occupational group</td>
<td></td>
<td>0.06</td>
<td>0.09</td>
<td>0.10**</td>
</tr>
<tr>
<td></td>
<td>Administration staff</td>
<td></td>
<td>0.07</td>
<td>0.09</td>
<td>0.16***</td>
</tr>
<tr>
<td></td>
<td>Technical personnel</td>
<td></td>
<td>.14**</td>
<td>.19***</td>
<td>.16***</td>
</tr>
<tr>
<td></td>
<td>Managers and supervisors</td>
<td></td>
<td>.14**</td>
<td>.19***</td>
<td>.16***</td>
</tr>
<tr>
<td></td>
<td>Work hassles</td>
<td></td>
<td>-0.36***</td>
<td>-0.25***</td>
<td>-0.34***</td>
</tr>
<tr>
<td></td>
<td>Work uplifts</td>
<td></td>
<td>-0.11**</td>
<td>0.15***</td>
<td>0.08*</td>
</tr>
<tr>
<td></td>
<td>Job demands</td>
<td></td>
<td>-0.36***</td>
<td>0.08*</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>Job control</td>
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<td>0.33***</td>
<td>0.33***</td>
<td>0.21***</td>
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<td></td>
<td>Supervisor support</td>
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<td>0.22***</td>
<td>0.23***</td>
<td>0.23***</td>
</tr>
<tr>
<td></td>
<td>Colleague support</td>
<td></td>
<td>-0.07</td>
<td>-0.05</td>
<td>-0.10**</td>
</tr>
<tr>
<td>2.</td>
<td>Job satisfaction</td>
<td></td>
<td>-0.13*</td>
<td>-0.12</td>
<td>-0.09</td>
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<td>Strain</td>
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<td>0.10</td>
<td>0.07</td>
<td>0.05</td>
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<tr>
<td></td>
<td>Turnover intentions</td>
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<td>-0.20***</td>
<td>-0.20***</td>
<td>-0.20***</td>
</tr>
<tr>
<td></td>
<td>Total $R$</td>
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<td>0.82***</td>
<td>0.76***</td>
<td>0.82***</td>
</tr>
<tr>
<td></td>
<td>Total $R^2$</td>
<td></td>
<td>0.65***</td>
<td>0.57***</td>
<td>0.67***</td>
</tr>
</tbody>
</table>

Note. Regression coefficients are standardized ($\beta$). Analyses are based on Time 1 $N = 350$, Time 2 $N = 316$, and Time 3 $N = 405$. Gender dummy coded male = 0, female = 1. Occupation group dummy coded with operational officers forming the reference group, * $p < .05$. ** $p < .01$. *** $p < .001$. 97Stable Predictors
these job aspects and employee satisfaction were robust over time. After controlling for both individual and job characteristics, the addition of psychological strain and turnover intentions (Step 3) increased the explained variance by a small but significant .03%. Turnover intentions demonstrated a stable and strong negative association with job satisfaction over time, supporting domain specificity and previous research demonstrating a strong relationship between these constructs (e.g., Maertz & Campion, 1998).

For the prediction of psychological strain, the demographic and occupational group variables did not account for a substantial amount of the explained variance. After controlling for these stable characteristics, the group of job characteristic variables accounted for an additional 16%–31% of the explained variance. Of these, only work hassles demonstrated significant associations with strain, and this relationship remained robust over the three survey waves. Job satisfaction, entered as a third step in the hierarchical regression, was a significant predictor of psychological strain at Time 1 only, whereas turnover intentions significantly predicted strain at Time 3 only. In total the predictor variables explained between 22% and 34% of the variance in psychological strain.

Finally, for the prediction of employee turnover intentions, the demographic, occupational group, and job characteristic variables explained between 28% and 33% of the variance. Of the job characteristics, only work hassles and supervisor support demonstrated associations approaching stability with turnover intentions: Work hassles and supervisor support each significantly predicted turnover intentions in two of the three sampling waves. Employees reporting more daily hassles and less supervisor support were more likely to report greater intention to leave the organization. Job satisfaction demonstrated a strong, negative, and stable association with employee turnover intentions over the three sampling waves. In total the predictor variables explained between 28% and 36% of the variance in turnover intentions.

**Evaluation of the Organizational Changes**

The changes in the outcome variables and the stability of the measured job characteristics indicate that an evaluation of the contextual changes that took place within the organization would provide further insight into the improvements in the outcome variables. Table 4 presents the five main categories of problems identified by respondents at Times 1 and 2. Staff concerns with remuneration and terms of employment were cited the most often, followed by issues of recognition and value, poor training and career opportunities, the need for improved management–staff relations and com-
**Table 4.** Organization-Related Problems, Organizational Changes, and a Postintervention Evaluation of the Organizational Changes

<table>
<thead>
<tr>
<th>Organizational problems identified in September 2000–March 2001</th>
<th>Organizational changes between March 2001 and March 2003</th>
<th>Evaluation of the impact of organizational changes in March 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remuneration and terms of employment</td>
<td>A new pay and working conditions agreement was implemented in July 2002. Changes to the terms of employment included: —Salary increments of 4% or more, across all business units. —New salary scales for certain jobs. —Sick leave entitlement changed to “as required.”</td>
<td>Of the measured work aspects, satisfaction with the rate of remuneration demonstrated the most improvement by March 2003. The substantial movement strongly suggests that the working conditions settlement had a positive impact across the organization. However some complaints remained: 23% of respondents reported their remuneration package was not comparable with that of other government workers doing a similar job, and 45% reported that remuneration improvements were not equally applied across the organization. Operational (largely front-line) business units reported receiving little upward movement within the new agreement. Although satisfaction with the level of recognition for good work did not shift in rank order over the three waves, mean levels of satisfaction with this work aspect increased from 3.8 (in September 2000 and March 2001), to 4.1 in March 2003. This increase in satisfaction was significant ($t = 2.91, p &lt; .01$), indicating improved feelings concerning staff recognition.</td>
</tr>
<tr>
<td>Satisfaction with the rate of remuneration was the lowest ranking work aspect in both September 2000 and March 2001, indicating that this work aspect was associated with the greatest dissatisfaction. Additionally, 58% of respondents reported being very or extremely dissatisfied with the fairness of their pay. Of 15 organizational improvements presented to staff in March 2001, improving the fairness of the pay system and settling the outstanding contract negotiations were ranked the most desirable organizational improvements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Recognition and value</td>
<td>Of the 15 organizational improvements presented to staff, increased recognition for good work was ranked the second most valuable organizational improvement to be made. Concerns also centered on a need to feel valued and greater recognition of skills and abilities. Additionally, 43% of respondents were very or extremely dissatisfied with the recognition given for long-term service.</td>
<td></td>
</tr>
</tbody>
</table>

Stable Predictors
### Table 4. (Continued)

<table>
<thead>
<tr>
<th>Organizational problems identified in September 2000–March 2001</th>
<th>Organizational changes between March 2001 and March 2003</th>
<th>Evaluation of the impact of organizational changes in March 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. Training and career opportunities</strong></td>
<td><strong>In 2003, on-job training provided to staff was linked to New Zealand Qualifications Authority standards and staff can now obtain a Diploma in Border Management and a Diploma or Certificate in Intelligence. Qualification credits can be transferred to obtain credits against other tertiary qualifications with common units. To reduce the high turnover in Variable Hours Officers (VHOs), the provision of on-job training was reinstated to upskill to VHOs to Secondary Officer positions. The opportunity to upgrade becomes available to VHOs after 12–18 months.</strong></td>
<td><strong>Satisfaction with promotional opportunities remained the lowest ranking job aspect in March 2003, indicating that concerns about the need for defined career structures remain for the majority of the organization. Improvements within this category occurred predominantly for VHOs. Mean satisfaction with promotional opportunities for the VHOs significantly increased in March 2003, rising from a mean of 2.16 (in September 2000 and March 2001) to 3.22 ( t = 4.78, p &lt; .01 ). Additionally, VHOs reported the development of a culture of learning within their sections.</strong></td>
</tr>
<tr>
<td><strong>3. Training and career opportunities</strong></td>
<td><strong>Levels of communication between the Service and the three staff unions improved, with an on-going commitment by the Service to maintain good relations. Greater access to the intranet was implemented in most areas of the organization.</strong></td>
<td><strong>Respondents indicated that there had been a minor improvement over the last 12 months regarding communication within the organization. In particular, communication via internal e-mail and the intranet was rated as highly valuable. Certain business groups (Air &amp; Marine and Goods Management) were less satisfied with the improvement in communication; these personnel tend to be located outside the Head Office.</strong></td>
</tr>
</tbody>
</table>

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communication, and finally, workload and staffing shortages. These five categories of concerns remained stable at Times 1 and 2.

Table 4 also presents a summary of the organizational changes that were implemented between September 2000 and March 2003 and an evaluation of the impact of these changes. The most substantial organization-level changes that took place included the settlement of outstanding pay and working conditions agreements and increased workload and staffing numbers. Changes that had a greater influence on specific groups of employees included linking on-job training to externally recognized qualifications and improved communication channels. An evaluation of the effectiveness of these changes suggests that pay and working conditions settlement had the broadest impact across the organization, with satisfaction with pay demonstrating the largest upward movement by Time 3. Perceived improvements in
training and career opportunities were reported largely by those in lower job
grades, whereas workload was reported to be a constant and ongoing work
pressure for the front-line occupational groups despite increased staffing
levels.

As can be seen in Table 4, not all areas of staff concern were directly
associated with an organization intervention, for example, issues of “recog-
nition and value.” However, the evaluation indicated a significant improve-
ment in employee satisfaction with “recognition for good work,” despite the
lack of direct action taken by the organization to address this concern. This
finding suggests that the targeted organizational improvements within the
NZCS had flow-on benefits, improving staff morale in other areas.

**DISCUSSION**

**Improved Job Satisfaction**

Workplace hassles, uplifts, job control, and supervisor support demon-
strated robust associations with job satisfaction over time. These significant
associations support the broad patterns of relationships between job charac-
teristics and employee well-being reported in review and meta-analytic
studies (Hart, 1999; Terry & Jimmieson, 1999; Wall et al., 1995). The
replication of such associations across time and multiple occupational groups
in the literature provides strong support for the notion that generic pathways
of influence between job characteristics and job satisfaction exist within the
stress process. This is positive for organizations, as interventions aimed to
reduce employee exposure to daily work stressors or the provision of greater
job autonomy (control), supportive supervisor relations, and positive work
experiences are likely to have a direct impact on job satisfaction and an
indirect impact on organizational performance outcomes such as problematic
turnover.

The stability of the measured job characteristics strongly suggests that
contextual aspects played an important role in the organizational improve-
ments. The evaluation of the organizational changes that occurred over the
three phases of this research indicates that the settlement of the pay and
working conditions agreement, greater training opportunities, and improved
communication had a positive impact on targeted occupational groups. Ad-
ditionally, important events took place in the wider context that may have had
an influence on how employees feel about working within the NZCS, thus
contributing to the improvements in levels of job satisfaction and retention at
Time 3. Since the events of September 11, 2001, and resulting changes to
border procedures, Customs officers have experienced increased public vis-
ability at airports. Furthermore, a reality TV series (*Border Patrol*) screened in New Zealand in 2002, focused on the work conducted by front-line Customs staff to protect New Zealand’s borders. It is thought that these two aspects in particular may have resulted in greatly improved public perceptions of Customs officers and the work of the NZCS, as well as influencing employee feelings of morale and value. Unmeasured contextual features are rarely discussed in the occupational stress literature, yet these aspects provide invaluable insight and determine the generalizability of research findings.

**Improved Staff Retention**

The significant reduction in mean levels of turnover intentions at Time 3 was supported by the organizational records. Staff turnover has a direct influence on organizational functioning; organizational consequences associated with high employee turnover include operational disruption and lost productivity, as well as administration, replacement, and training costs associated with personnel loss. Furthermore, excessive turnover levels may also be associated with other costs such as low staff morale (Maertz & Campion, 1998). However, the assumption that turnover is associated solely with negative outcomes for an organization may be short sighted, as a certain amount of voluntary turnover may be beneficial for an organization by improving the person–job match. Therefore, the improvements in turnover need to be interpreted in light of such assumptions. At Times 1 and 2, 27% and 24% of all NZCS respondents had seriously considered leaving their job. Comparative data available from the New Zealand Ambulance, Fire, and Police Services indicated a far smaller proportion (8%–12%) of employees in this same category (Brough, 2004; Brough & Frame, 2004). This indicates that turnover intentions within the NZCS were relatively high at these initial sampling waves and therefore were most likely to have been associated with predominantly high costs to the organization.

Several aspects may have contributed to the improved turnover figures. Of the measured variables, job satisfaction was the strongest predictor of turnover intentions. Meta-analytic data indicate that job satisfaction displays consistent and negative relationships with turnover (Griffeth et al., 2000; Maertz & Campion, 1998). Such findings indicate that the organizational-level improvements in job satisfaction within the NZCS may have been directly implicated in improved staff retention at Time 3. Furthermore, a significant relationship between wage and withdrawal responses (absenteeism and turnover) has previously been reported. For example, Goldberg and Waldman (2000) demonstrated that withdrawal would be a logical response to a perceived inequity in remuneration. The implementation of the new pay
and working conditions agreement in NZCS in July 2002 and the subsequent sharp increase in respondent satisfaction with pay gives credence to this explanation for the improved retention figures. There is a strong indication that many of the work aspects that previously caused employees to seriously consider leaving their job have been addressed within the NZCS. The main reasons for leaving designated at Times 1 and 2 included issues surrounding remuneration, management (e.g., distant management, lack of support, and direction from management), poor job security, lack of promotional opportunities, staff conflict, and outstanding contract negotiations. The improvement in the retention figures indicates that employee perceptions concerning these work aspects have substantially improved.

Research Implications and Conclusions

The overwhelming importance of work hassles as a stable predictor of organizational outcomes was apparent in this study (confirming Hypothesis 2). Evidence indicates that minor daily hassles influence well-being to a greater extent than major life events (e.g., Brough, 2004; Kanner et al., 1981). Despite this, the occupational stress literature has largely ignored the influence of daily negative work experiences on employee well-being. Hassles are considered to have such adverse effects because they occur frequently and tend to be largely beyond the control of the employee. The significant reduction in reported work hassles at Time 3 appears to have directly contributed to the improved organizational levels of satisfaction and staff retention.

In partial support of Hypothesis 1, the job characteristic variables explained a greater amount of variance in job satisfaction than in psychological strain and turnover intentions. Weak associations between job factors and measures of context-free subjective well-being (such as that used in the present study) are frequently reported. According to Hart (1999), the quality of life literature has indicated that the work domain does not contribute as much as has been proposed to overall levels of psychological well-being, and evidence suggests that context-free indexes of psychological well-being illustrate more about the nonwork than the work domain of employees’ lives. In support of this assertion, Hart found that context-free subjective well-being was predominantly determined by nonwork satisfaction and neuroticism in a three-wave longitudinal study, whereas job satisfaction accounted for only 3%–13% of overall subjective well-being. The poor contribution of the job characteristics to the explained variance in context-free psychological strain and the reported stability of context-free well-being over time (e.g., Kalimo, Pahkin, & Mutanen, 2002) strongly suggest that organizational
interventions may have little impact on global levels of employee psychological health. Organizational efforts to improve employee well-being appear to be limited to work domain-dependent indicators, in particular, job satisfaction.

Several features of the present findings highlighted the importance of evaluating aspects of the broader organizational environment and the context in which employees operate. For example, the main sources of job stress nominated by respondents (aside from heavy workload, an intrinsic job feature) concerned extrinsic or contextual features, such as remuneration, management relations, and staffing shortages. The importance of extrinsic job features to the well-being of the NZCS respondents supports previous findings that organizational hassles have a greater influence on well-being at work than do operational hassles (hassles that relate to the work itself, e.g., “dealing with other people’s problems”; see Brough, 2002; Hart, 1999). Such findings illustrate the importance of linking contextual features of the work environment with individual well-being, for example, organizational health and performance, group and organizational-level morale, and job constraints associated with a bureaucratic work setting. Such links have not been well documented in the occupational stress literature and form the basis by which occupational stress researchers can best address the current research–organizational policy gap. Research findings from studies grounded in the organizational context are likely to reveal better organizational strategies for managing workplace stress, while maintaining a productive organization.

REFERENCES


