Role stress, physical symptomatology, and turnover intentions: A causal analysis of three alternative specifications

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SUMMARY

Causal relationships involving role stressors, physical symptomatology, and turnover intentions were examined within three alternative specifications. These specifications stemmed from Bechir and Newman’s (1978) and Schuler’s (1982) models of role stress and Locke’s (1976) theory of job satisfaction. The results, derived from LISREL VI analyses, indicate that a revised Schuler model is the most plausible specification. Findings are discussed in terms of implications for understanding role stress and employee withdrawal.

INTRODUCTION

It has long been acknowledged that role stress is an important quality of life determinant (e.g. Selye, 1956). Despite its lengthy history, research dealing specifically with work-related role stress has only appeared in the past two decades. An increased interest in the impact of role-based stress in the workplace is undoubtedly a function of an evolving awareness that it is responsible for a host of dysfunctional job outcomes (see e.g. Bechir and Newman, 1978; Ivancevich and Matteson, 1980; Jackson and Schuler, 1985, for reviews). On a national level, such dysfunctions have been estimated to cost $75 to $90 billion annually.

Numerous variables have been implicated as sources of work-related role stress. These include macro-oriented variables such as workflow centrality (Moch, Bartunek and Brass, 1979), as well as more micro-oriented variables such as type-A behaviour (e.g. Ivancevich, Matteson and Preston, 1982). Additionally, role theorists have examined different role processes in the belief that they encompass the confluence and enactment of potentially disparate organizational and individual work expectations (Katz and Kahn, 1978).

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Much role research focuses on attitudinal correlates of stressors such as job satisfaction and involvement (e.g. Fisher and Gitelson, 1983; Jackson and Schuler, 1985), with comparatively less attention devoted to actual behaviour (e.g. absenteeism), or behavioural intentions (e.g. intentions to turnover). This is somewhat surprising given the plethora of studies from the occupational health literature linking various role stressors with physical and psychological pathologies (e.g. Cooper and Marshall, 1976), and the evidence that role stressors may result in both behavioural and psychological job withdrawal (see Bedeian and Armenakis, 1981; Brief and Aldag, 1976; Johnson and Graen, 1973).

Turnover intentions, although studied less frequently in connection with role stress than other behavioural alternatives, have been linked with role stressors both conceptually (Van Sell, Brief and Schuler, 1981) and empirically (Bedeian and Armenakis, 1981; Kemery, Bedeian, Mossholder and Touliaatos, 1985). As noted, numerous studies have found an association between role stressors and various dysfunctional behavioural and physiological work outcomes. However, we are unaware of any empirical research that has sought to link role stressors, physical symptomatology, and withdrawal tendencies within a common framework. Indeed, the formulation and evaluation of processes by which role stressors impact jobholders have been infrequent (cf. Rabkin and Streuning, 1976). Therefore, the purpose of current research was to explore linkages between role stressors, job attitudes, and more behaviourally-oriented stress consequences. Specifically, we examined three hypothesized models of work-related stress, focusing on the relationships among role conflict and role ambiguity (stressors), job satisfaction (attitude), physical symptomatology (physiology-based indicator of stress), and turnover intentions (behavioural intentions).

**RELEVANT CAUSAL MODELLING EFFORTS**

Causal modelling offers one means for examining causal processes within a multivariate framework. It has been used increasingly to test the plausibility of alternative theory-based models (Bentler, 1980). As a method of theory testing, it can help determine whether a hypothesized population model sufficiently represents actual data. Causal modelling methods are particularly helpful in locating specification errors, the improper inclusion or misplacement of variables within a causally-related network. Adequacy-of-fit criteria are the usual means employed to statistically test the appropriateness of hypothesized causal relationships. In addition to their value in testing the plausibility of sample-based models, causal modelling techniques are especially well-suited to evaluate competing models that cannot be completely specified (Huba, Woodward, Bentler and Wingard, 1978).

Several causal modelling efforts dealing with role stress have been reported recently. Using path analysis, Bedeian and Armenakis (1981) found support for a model in which two role stressors, role conflict and ambiguity, were hypothesized to directly influence job-related tension, job satisfaction, and propensity to terminate employment. Additionally, job-related tension was hypothesized to have a causal impact on job satisfaction, which was then thought to influence turnover intentions. Kemery *et al.* (1985) confirmed the adequacy of the Bedeian and Armenakis model in a multi-sample constructive replication. Both studies provided evidence of a causal network in which
role stressors affected attitudes (job satisfaction) which then affected behavioural intentions (intentions to quit). Neither study, however, considered physical symptomatology. Although job-related tension was measured in both studies, the index used (Lyons, 1971) more directly reflected the frequency with which a jobholder reported being ‘bothered’ by a variety of work-related factors, and thus may have actually registered feelings of job frustration as opposed to individually-based stress reactions.

Hendrix, Ovalle and Troxler (1985) expanded the role stress relational network to include the influences of life stress, as well as biochemical indicators of stress. Within this network, they focused on the linkage between individual variables (e.g. age and smoking), intraorganizational variables (e.g. climate and skill variety), an extraorganizational variable (home–family relations) subsequent stress, job satisfaction, and intentions to quit. However, physical symptomatology was not considered in their investigation.

Jackson (1983) used an exploratory path-analytic approach to explain the effects of participation in decision making on a host of role-related variables, including role conflict, role ambiguity, job satisfaction, absenteeism, and turnover intentions of hospital employees. Of relevance to the current study, Jackson measured overall emotional strain using a 30-item general health questionnaire with each item describing a physical symptom. Support was found for several causal paths — role conflict and role ambiguity leading to emotional strain, emotional strain leading to lack of job satisfaction, and lack of job satisfaction leading to intentions to quit. These relationships, however, were found within the framework of a larger conceptual model which remains unvalidated (Jackson, 1984). Thus, while her study suggested linkages among different role stressors of interest, it did not confirm them.

In sum, the results of several causal modelling efforts, as well as prior theoretical work suggest that role conflict and role ambiguity may be causally linked with job-related tension, attitudes (job satisfaction), and turnover intentions. The presence of job stressors (although not role-based) has also been linked with biochemical stress consequences. And finally, recent research suggests interconnections among work-related role stressors, job attitudes, physical symptomatology, and behavioural intentions.

ALTERNATIVE CONCEPTUAL MODELS

Given that empirical studies have yet to place physical symptomatology within a causal framework, we reviewed the relevant literature to identify alternative conceptual models that would jointly relate role stress and physical symptoms to various job-related variables. Two relevant models have been formulated by Beehr and Newman (1978) and Schuler (1982). Additionally, since job satisfaction has been linked consistently with role stress, the job satisfaction literature was also examined to determine if physical symptomatology might be causally embedded in applicable theories. Most notably, Locke's (1976) theory of job satisfaction speaks to the importance of physical symptomatology in understanding job-related role stress. Thus, a model derived from Locke's research was also evaluated.

Beehr and Newman's (1978) model specifies that role stress may result from several facets: a personal facet (personal characteristics); an environmental facet (aspects of an
individual's environment); and a process facet (person × environment interaction). Personal characteristics likely to be associated with stress include perceived locus of control (e.g. Keenan and McBaIn, 1979) and neuroticism (e.g. Eysenck, 1983). Environmental factors associated with stress include thermal conditions (i.e. extreme hot or cold) and noise (Hockey, 1983). The process facet represents psychological and physiological mechanisms that conjoin environmental and personal facets to link person and environment with subsequent stress responses. Since role perceptions and enactments embody specific process facet operationalizations (cf. Katz and Kahn, 1978), the Beehr and Newman model provides a basis for hypothesizing relationships between role stressors and their consequences.

According to the Beehr and Newman model, stress consequences may be observed in three response domains: physiological, emotional, and behavioural. Considering role stressors, consequences could be evidenced in a number of ways, such as by increases in physiological (e.g. skin resistance) and/or biochemical (e.g. cholesterol) stress symptoms, emotional problems (e.g. depression), more behaviourally-based effects (e.g. drug use and abuse), and so on. Coping activity is also postulated in reaction to increased stress. With regard to one coping behaviour, withdrawal, Beehr and Newman suggest a high degree of role stress leads to withdrawal behaviour and eventually termination of employment.

a. Model predictions based on Beehr & Newman's model.

b. Model predictions based on Schuler's model.

c. Model predictions based on Locke's model.

Figure 1. Alternative study predictions
Three Alternative Specifications

Their model specifies several intermediate steps in the stress-to-turnover process. These include detrimental changes in physical well-being, emotional health, and work-related attitudes. In terms of the variables considered in the present study, the Beehr and Newman framework predicts role stressors lead to decreases in job satisfaction, and decreases in mental and/or physical health. These decrements, in turn, lead to the desire to leave the situation. These relationships, formulated in terms of the current research, are depicted in Figure 1a.

A role stress model formulated by Schuler (1982) is structurally similar to that of Beehr and Newman. However, it expands the Beehr and Newman model to include reciprocal causation. Stress researchers have generally assumed that a variable (e.g. job satisfaction) is either an effect of, or has an effect on, other variables in the stress process. Schuler’s elaboration acknowledged that relevant variables may be reciprocally related.

This framework predicts that manifestations of role stress (i.e. attitudes and physiology) interact reciprocally. Thus, if a jobholder were exposed to a role stressor, prompting an increase in physical symptomatology, it would not be surprising if job dissatisfaction levels also increased. The bidirectional flow would be further expected to ultimately have a direct influence on turnover intentions. Schuler’s model, formulated in terms of the current research, is shown in Figure 1b.

Locke (1976) has suggested that job satisfaction is a function of the work outcomes a person receives. He argues that environmental conditions (e.g. pay and promotional policies), and agents (e.g. supervisors) are important determinants of job satisfaction. If the job, its context, and interpersonal relationships serve to permit employees to attain outcomes which are valued, job satisfaction will result. Locke’s (1976: 1328) ideas and other published research overlap conceptually where role conflict and role ambiguity are concerned, since both concepts are also generated largely by environmental events or conditions external to a jobholder (e.g. conflicting policies, ill-defined reporting relationships). Thus, Locke contends that role conflict and role ambiguity should negatively impact job satisfaction.

In addition to lower job satisfaction being a consequence of work-related role stress, Locke also argues that job satisfaction is a focal construct in determining behavioural and physiological states such as organization commitment, and physical well-being. While not formulated to explain role stress per se, Locke’s theoretical propositions suggest a specific ordering of variables germane to role stress. They intimate that role stressors have a direct and negative effect on job satisfaction which has a subsequent direct and negative effect on physical symptomatology and indirect effect on turnover intentions. This framework, formulated in terms of variables used in the current research, is presented in Figure 1c.

Summary

The Schuler and Beehr and Newman models, as well as the Locke framework, are in agreement as to the direction of the bivariate relationships between role stressors and their consequences. The frequency with which a jobholder encounters role stressors is suggested to be negatively related to both physical symptomatology and job satisfaction. Also, role stressor frequency is predicted to be positively correlated with turnover intentions. What is known about the relationships between role stress and various job-related variables is based primarily on bivariate correlations. Since the three
specifications make different assumptions about how stressors exert influence, the
current research compared their plausibility to further current understanding of role

METHOD

Respondents

A sample of 890 employees from a large southeastern university was identified by
selecting every fifth name from an official phone roster. Each potential respondent was
sent a questionnaire through campus mail. A cover letter explained the general purpose
of the research and guaranteed respondent anonymity. Five employee categories were
tested: faculty (n=162), administrators (n=54), clerical staff (n=97), non-faculty
professionals (e.g. coaches; n=43), and technicians (n=34). A total of 370 usable
questionnaires comprised the sample (a response rate of 42 per cent). Modal respondent
age was between 25 and 34 years. An approximately equal number of males and females
returned usable questionnaires.

Measures

Role conflict and role ambiguity were measured using the scales developed by Rizzo,
House and Lirtzman (1970). These scales were chosen because of their established
psychometric properties (House, Schuler and Levanoni, 1983). Both scales were scored
so that the higher scores represented greater perceived conflict or ambiguity. Examples
of role conflict items are: (a) I work with two or more groups who operate quite
differently, and (b) I have to break a rule or a policy in order to carry out an assignment.
Examples of role ambiguity items are: (a) I feel certain about how much authority I
have, and (b) I know exactly what is expected of me.

Overall job satisfaction was gauged with an instrument developed by Brayfield
and Rothe (1951). Item responses were summed to yield a single job satisfaction score with a
higher score indicating more job satisfaction. Job satisfaction items included: (a) My job
is like a hobby to me, and (b) Most of the time I have to force myself to go to work.

Physical symptomatology was assessed using a 54-item checklist developed by
Pennebaker, Burnam, Schaeffer and Harper (1977). Respondents are asked to indicate
the extent to which each physical symptom (e.g. chest pains, sneezing spells) had been
experienced. Response categories range from one (never experience the symptom), to
five (experience it more than once a week). Research using this checklist indicates that,
compared to low scorers, high scorers: (a) tend to report more visits to a physician; (b)
use health centres more frequently; (c) tend to be more restricted in their behaviour due
to health problems; and (d) consume more aspirin (Pennebaker, 1982).

Intention to terminate employment was assessed through responses to the question,
‘How long could a typical employee be expected to stay on your job?’ Response
categories ranged from ‘less than one year’ (coded 1) to ‘more than ten years’ (coded 5).
Actual turnover was not measured. Recent research indicates, however, that intentions
to quit and eventual turnover behaviour are typically correlated at a weighted average of
0.50. This suggests that turnover intentions are indeed reasonably predictive of actual
attrition (Steel and Ovalle, 1984).
Analysis

The correlation matrix obtained from the research sample was analysed using LISREL VI (Jöreskog and Sörbom, 1984), a system designed, in part, to answer questions concerning the fit of hypothesized causal structures. Causal modelling methods such as LISREL VI are particularly helpful when comparing alternative specifications that cannot be completely specified (i.e. all relevant antecedents are not included). LISREL VI computes a chi-square goodness-of-fit index which permits the comparative evaluation of alternative sample-based causal models. This chi-square goodness-of-fit index provides one indication of whether sample data sufficiently represent a hypothesized population model. It should be noted, that Jöreskog (1978) has warned that since the chi-square statistic is a direct function of sample size, the probability of rejecting a hypothesized model increases as N increases. With large sample sizes, virtually all models are likely to be rejected as statistically untenable.

As a consequence, Bentler and Bonett (1980) suggest computing an incremental fit index, delta (Δ), to be interpreted in conjunction with the chi-square goodness-of-fit index. Delta estimates the fit of a causal model by assessing its explanatory power over and above a null model, which postulates independence among focal variables. It can theoretically range from 0.0 (denoting a complete lack of fit) to 1.0 (suggesting a perfect fit). Bentler and Bonett suggest that a Δ less than 0.9 indicates that a hypothesized model can probably be improved.

RESULTS

Descriptive statistics and coefficient alpha reliability estimates for each measure are presented in Table 1. Zero-order correlations are also reported.

Table 1. Descriptive statistics and correlations for study variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Reliability</th>
<th>M</th>
<th>SD</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Role conflict</td>
<td>0.85</td>
<td>22.67</td>
<td>7.5</td>
<td>0.48</td>
<td>-0.26</td>
<td>0.18</td>
<td>-0.06</td>
</tr>
<tr>
<td>2. Role ambiguity</td>
<td>0.81</td>
<td>14.26</td>
<td>5.4</td>
<td>-</td>
<td>-0.36</td>
<td>0.12</td>
<td>-0.11</td>
</tr>
<tr>
<td>3. Job satisfaction</td>
<td>0.93</td>
<td>68.23</td>
<td>11.5</td>
<td>-</td>
<td>-</td>
<td>0.24</td>
<td>0.39</td>
</tr>
<tr>
<td>4. Physical symptomatology</td>
<td>0.91</td>
<td>88.08</td>
<td>21.7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.19</td>
</tr>
<tr>
<td>5. Turnover intentions</td>
<td>-</td>
<td>3.99</td>
<td>1.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Correlations in this table ≥0.11 are significant at the 0.05 level, N = 370.

In every case, the zero-order correlations were in the directions predicted by previous research and theory. Role conflict and role ambiguity were both negatively correlated with job satisfaction, r = -0.26, p < 0.05, and r = -0.36, p < 0.05, respectively. They were
also negatively related to turnover intentions, \( r = -0.06, p < 0.05 \), and \( r = -0.11, p < 0.05 \), respectively. Physical symptomatology was positively correlated with role conflict \( (r = 0.18, p < 0.05) \) and role ambiguity \( (r = 0.12, p < 0.05) \), and negatively correlated with turnover intentions \( (r = -0.19, p < 0.05) \). Finally, job satisfaction was found to be positively related to turnover intentions \( (r = 0.39, p < 0.05) \).

Results of the LISREL VI analyses for each comprehensive specification are shown in Table 2. The specification based on Locke’s theory of job satisfaction produced a significant chi-square \( (\chi^2(5) = 60.32, p < 0.001) \) and a \( \Delta \) of 0.59. Both of these indices suggest that the model probably can be improved. At the path level, all of Locke’s predictions were confirmed. That is, significant links were found from role conflict to job satisfaction \( (t = -2.134) \), role ambiguity to job satisfaction \( (t = -5.421) \), job satisfaction to physical symptomatology \( (t = -4.82) \), and from physical symptomatology to turnover intentions \( (t = -3.687)^2 \).

### Table 2. Summary statistics for chi-square goodness-of-fit indices and incremental fit indices \( (\Delta) \)

<table>
<thead>
<tr>
<th>Specification</th>
<th>( n )</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>( p )</th>
<th>( \Delta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beehr and Newman (1978)</td>
<td>370</td>
<td>17.10</td>
<td>3</td>
<td>(&lt;0.001)</td>
<td>0.88</td>
</tr>
<tr>
<td>Schuler (1982)</td>
<td>370</td>
<td>1.38</td>
<td>1</td>
<td>(&gt;0.05)</td>
<td>0.99</td>
</tr>
<tr>
<td>Locke (1976)</td>
<td>370</td>
<td>60.32</td>
<td>5</td>
<td>(&lt;0.001)</td>
<td>0.59</td>
</tr>
</tbody>
</table>

For a model to be confirmed, empirical disconfirmation should also be provided for paths believed to be nonsignificant (James, Mulaik and Brett, 1983). These predictions were tested by inspecting the full model instantiated by Locke’s theory. The full model included all possible unidirectional paths linking the focal constructs. Contrary to predictions, evidence was found for links from role conflict to physical symptoms \( (t = 2.36) \) and from job satisfaction to turnover intentions \( (t = 7.38) \). Thus, these two findings probably account for the observation of a poor fit between Locke’s specifications and the actual data.

The specification based on Beehr and Newman’s model of job stress produced a statistically significant chi-square \( (\chi^2(5) = 17.1, p < 0.001) \) and a \( \Delta \) of 0.89. Thus, although these findings suggest their model fits the data better than Locke’s, it too could be improved. All but one of the paths predicted by Beehr and Newman’s model were statistically significant. Evidence was found for linkages from (a) role conflict to job satisfaction \( (t = -2.134) \), (b) role conflict to physical symptomatology \( (t = 2.758) \), (c) role ambiguity to job satisfaction \( (t = -5.241) \), (d) job satisfaction to turnover intentions \( (t = 7.739) \), and from (e) physical symptomatology to turnover intentions \( (t = -2.066) \). One hypothesized link, from role ambiguity to physical symptomatology was not supported by statistical evidence \( (t = 0.762) \). The omitted parameter was test (James et al., 1983) indicated a linkage between job satisfaction and physical symptomatology not predicted from Beehr and Newman’s model of stress \( (t = -3.996) \).

The potential for underidentification in using current variables within Schuler’s original model (Figure 1b) and absence of a role ambiguity–symptomatology linkage occasioned the deletion of this path. The revised model was then tested. The results of this analysis \( (\chi^2(5) = 1.38, p = 0.501; \Delta = 0.99) \) strongly supported this modified

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\(^2\)A table of path coefficients for all tested models is available from the first author.
specification. Interestingly, though neither of the reciprocal paths, job satisfaction to physical symptomatology and vice versa, reached statistical significance ($t = -0.77$, -0.33, respectively). As the sample data were cross-sectional, path nonsignificance may have occurred because of competition for the same variance. Regardless, there are indications that the reciprocal linkage between job satisfaction and physical symptomatology is important. This importance is more evident when the reciprocal paths are omitted from the model (i.e. the model becomes identical to the revised Beehr and Newman specification). When these paths were specified as equalling zero, the chi-square increased to 17.68 ($df = 4, p < 0.001$), and $\Delta$ decreased to 0.883.

Thus, the linkage between job satisfaction and physical symptoms appears to be crucial in terms of explaining the relationships among the model variables. The relative importance of the reciprocal links can be assessed by comparing the relative magnitudes of path coefficients (M. Newcomb, personal communication, July 9, 1985). This comparison suggested that the link from job satisfaction to physical symptoms is (-0.149) more than twice as important as the inverse relationship (-0.062).

**DISCUSSION AND IMPLICATIONS**

Results of a LISREL VI analysis show that a revised Schuler model to be the more plausible of three alternative role stress specifications. This model states that role stressors exert a direct influence on job satisfaction and physical symptomatology. In particular, when a jobholder is confronted with conflicting role demands, or lacks role clarity, decrements in physical health and job satisfaction are likely to occur. Moreover, results suggest that the impact of role stressors extends further. The finding that job satisfaction and physical symptomatology might be reciprocally-linked, suggests that role stressors may likewise affect both indirectly as well.

The Beehr and Newman model also predicts that job satisfaction and physical symptomatology have a direct impact on turnover intentions. Thus, as job satisfaction and physical health decrease, estimates of how long a jobholder is likely to refrain from searching alternative employment opportunities also decreases. In addition to these direct influences on turnover intentions, role stressors exert an indirect influence on turnover intentions through their effects on job satisfaction and physical symptomatology.

In summary, the reported results suggest that role stressors directly influence job satisfaction and physical health. Furthermore, job satisfaction and physical health appear to be directly, as well as reciprocally related. That is, changes in job satisfaction appear to produce changes in physical symptomatology and vice versa. Finally, job satisfaction and physical health seem to directly influence turnover intentions.

Some caveats should be considered when judging these results. First, while testing causal models with cross-sectional data is permissible, stronger inferences could be made in future studies using longitudinal designs. This is especially true for models including reciprocal relationships. Second, the frameworks tested here were selected for analysis because they specifically address the variables of interest in this study. Alternative stress frameworks, such as Selye's General Adaptation Syndrome (e.g. Selye, 1956), and the Bedeian and Armenakis (1981) model are available. However, neither considers the impact of physical symptomatology on turnover intentions. Finally, Schuler's model posits the possibility of reciprocal relationships at several
points during the stress process. The present investigation only looked at one dimension of this reciprocity, that occurring between job attitudes and physical symptomatology.

The reciprocal linkage between job satisfaction and physical symptomatology was considered for testing because all of the specifications treated these variables as being intermediate between role stressors and longer-term stress effects. More generally, it is yet unclear if intentions, affective attitudes, and actual behaviour are separate outcome domains of role stress. As some have argued concerning the impact of stress in general (Lazarus, DeLongis, Folkman and Gruen, 1985), the reported results suggest that when role stressors affect one domain, they affect others concurrently. Further research should be directed toward delineating the types of relationships existing in other phases of the role stress process.

A concern often expressed with cross-sectional designs, particularly when all variables are self-reported, is that observed relationships might be unduly affected by method variance. Two arguments may be raised against this concern in the present study. First, response formats were not identical across components of the questionnaire. Relatedly, items were either positively or negatively worded, a recommended procedure for reducing the impact of method bias resulting from response sets. Second, LISREL VI (and path analysis generally) controls for extraneous variables in the model when assessing relationships between antecedent variables and their outcomes. The effect of such partialling procedures also acts to reduce bias associated with method variance.

A final concern with studies of the present type is model specification, the degree to which a model includes all relevant antecedents of its endogenous variables. The goal of this study was to test the plausibility of competing specifications. Given this goal, it becomes unnecessary to include all influences of focal variables (Huba et al., 1978) because each of the Figure 1 models is misspecified to the same degree. However, it should be recognized that individual path coefficients can be overestimated when models are not completely specified (James et al., 1983).

Implications

Schuler's model, in particular, has several implications for understanding jobholder behaviour. It suggests that role stressors and factors affecting them (e.g. communication—Schuler, 1979) have direct and indirect influences on job satisfaction and physical health. While the results of the present research have implicated just two stressors (i.e. role conflict and role ambiguity), one might suspect other stressors would have similar effects. The veracity of this statement awaits further investigation.

The Schuler model also implies that a mutual, interactive relationship may exist between job satisfaction and physical symptomatology. If jobholders are dissatisfied, they are also likely to experience physical ill-health; if jobholders are ill, they are likely to be less satisfied with their jobs. This interaction appears to increase the likelihood of withdrawal cognitions. These findings could be inferred to mean that factors influencing job satisfaction or physical health are also likely to induce eventual behaviour to terminate employment. The rise in employee compensation suits that cite stress as the source of emotional or physical disabilities lends support to this inference (Ivancevich, Matteson and Richards, 1985). In fact, Ivancevich et al. (1985) point out that a high level of turnover may be used as a diagnostic tool for identifying stress-laden jobs.
Interventions, then, may be targeted at these jobs, in order to decrease company liability for stress-related disorders.

Theories of employee withdrawal (e.g. Mobley, Griffeth, Hand and Meglino, 1979) have largely ignored the influence of stress (and physical symptoms) in determining turnover (cf. Hulin, Roznowski and Hachiya, 1985). While it is generally recognized that job satisfaction is an important determinant of attrition, the results of the present study suggest that since job satisfaction, physical symptomatology, role conflict, and role ambiguity jointly account for a meaningful proportion of the variance in turnover intention, models of turnover and absenteeism (cf. Steers and Rhodes, 1978) should be expanded to include the mutual, interactive influence of these variables on employee withdrawal (Miller, Katerberg and Hulin, 1979). In addition, future research should investigate other reciprocal influences acting within the role stress process in general, and the employee withdrawal process in particular.

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