

Pay fairness and employee outcomes: Exacerbation and attenuation effects of financial need

Jason D. Shaw*

University of Kentucky, USA

Nina Gupta

University of Arkansas, USA

The consequences of pay fairness perceptions are rarely explored, in part because of the lack of a compelling theory which relates pay attitudes directly to distal health and behavioural outcomes. We propose financial need as a potential moderator of the relationship between pay fairness and employees' physical health, psychological health, and work-related behaviours. Differential exacerbating and attenuating effects are predicted for various outcomes. In a longitudinal study of 651 employees of five American mid-western organizations, exacerbation predictions were strongly supported in cross-sectional analyses for life satisfaction, depression, and somatic complaints. Attenuation predictions received support cross-sectionally and longitudinally for job search intent, but were not supported for performance, absenteeism, or voluntary turnover. The importance of these results for understanding pay dynamics and for outlining mid-range theories is highlighted.

Pay is arguably one of the most critical, if not the most critical, outcome of organizational membership for employees (Gupta & Shaw, 1998). Actual pay and people's attitudes about it are the subject of much research (Lawler & Jenkins, 1992; Miceli & Lane, 1991) but, over the decades, the vast majority of studies concentrated on the precursors of different kinds of pay attitudes (e.g. perceptions of pay fairness, pay satisfaction, etc.) rather than on their consequences (Heneman, 1985). In addition, more research on the consequences of pay attitudes concerns the prediction of other workplace attitudes (e.g. Miceli & Mulvey, 1998) than the prediction of health and work-related behaviour outcomes. This omission is curious in light of the argument that economic dimensions of employee attitudes may be stronger predictors of work-related behaviours among employees than are other, non-economic dimensions (Chacko, 1983; Diener, 1984).

*Requests for reprints should be addressed to Jason D. Shaw, University of Kentucky, Gatton College of Business and Economics, School of Management, Lexington, KY 40506-0034, USA (e-mail: jdshaw@pop.uky.edu).

This deficiency may occur because the relationships between pay attitudes and health and behavioural outcomes are contingent upon or moderated by other factors, i.e. they are embedded in the complexity of organizational life. Developing a theory to tie dissatisfying or unfair pay perceptions to other workplace attitudes (e.g. organizational commitment or other satisfactions) is straightforward and necessitates less theoretical rigour than connecting pay attitudes to more distal health and behavioural outcomes. Despite efforts to remedy this deficiency (e.g. George & Brief, 1990), we still have a long way to go. The present study is designed to move us further along this path. It extends the theoretical boundaries of pay attitude research by developing interaction predictions that link employee perceptions to health and behavioural outcomes. Drawing on two distinct perspectives—identity and dissonance theories—we propose financial need as a moderator of the relationship between pay attitudes (pay fairness in particular) and two critical sets of outcomes—employee physical and psychological health (depression, life satisfaction, and somatic complaints) and employee behaviours and intentions (job search intent, performance, absenteeism, and turnover). We expect the moderating role of financial need to produce different effects, exacerbation or attenuation, depending upon the outcome of interest. Noting inconsistent findings in the work stress literature, Brief and Atieh (1987) recommended that researchers turn their attention toward particular kinds of stresses, especially those relating to financial need and economic issues. This suggestion is in line with the trend of developing mid-range theories which link specific situations, specific attitudes, and specific employee- and work-related outcomes. The present study follows this trend.

Background

Importance of health and behavioural outcomes

Organizational dynamics can affect a variety of outcomes, including those important to individuals, organizations, and societies. Obviously, the prediction of employee behaviours is central in the study of organizational behaviour. The search for situational and individual characteristics that predict employee behaviour spans the entire 20th century (e.g. Viteles, 1932) and despite difficulties in operationalization and measurement (e.g. Austin & Villanova, 1992), the literature on employee behaviours is massive. For instance, there is so much research on employee turnover that researchers often review reviews of turnover studies instead of reviewing original studies (Mittra, Jenkins, & Gupta, 1992). Employee performance and absenteeism are similarly significant outcomes in organizational research (Farrell & Stamm, 1988; Goodman, Atkin, & Associates, 1984; Murphy & Cleveland, 1991). Likewise, employee health and well-being are central concerns (e.g. Brief & Atieh, 1987; Ganster & Schaubroeck, 1991; Kahn, 1981), especially to employees themselves, but also to organizations and societies. Ill-health may jeopardize the quality of life in the populace at large, and affect the costs organizations and governments incur (e.g. as much as 10% of US GNP (Ivancevich & Matteson, 1980)). Employee health can also affect organizational performance (by affecting absenteeism and turnover, by affecting employee productivity, etc.) in

addition to increasing organizational costs (by increasing insurance premiums, for example). Since the relationship of different antecedents and consequences of health-related and work behaviour outcomes varies markedly (Gupta & Beehr, 1981), it is necessary to develop specific hypotheses and tests that tease apart the divergent effects. A complete understanding of the role of pay attitudes in organizational life is, as a consequence, furthered substantially by a simultaneous consideration of both sets of outcomes, i.e. health and behavioural outcomes.

Centrality of pay fairness

Fairness issues are abundant in the organizational and social literature. Several general and specific (e.g. Greenberg, 1990; Jaques, 1961; Lawler, 1971) theories are devoted entirely to the construct of fairness. We conceptualize the construct as perceptions of internal and external pay fairness or reactions to pay relative to referents inside and outside the organization. Despite the centrality of the fairness construct in organizational theory, the relationship of pay fairness to health and behavioural outcomes, like many areas of compensation research, is 'barely touched upon' (Lawler & Jenkins, 1992, p. 1049). There is some evidence that pay attitudes are related to other job attitudes (e.g. commitment (e.g. Cohen & Gattiker, 1994; Huber, Seybolt, & Venemon, 1992), citizenship (Lee, 1995), quit intentions (Miceli, Jung, Near, & Greenberger, 1991), and perceived organizational support (Miceli & Mulvey, 1998)), but evidence of the relationship of pay attitudes to more distal behavioural and well-being outcomes is, at best, sparse. George and Brief (1990) argue that the relationship between pay fairness and employee outcomes (both behavioural and health outcomes) is probably affected by a host of factors. Pay fairness may relate to these outcomes only in certain situational contexts. We propose that financial need provides one such contingency or context.

Pay is a central feature in the work lives of many individuals (Gupta & Shaw, 1998) and, obviously, nearly all individuals would rather receive more than less pay. Still, people differ in their need for money, i.e. money plays a much more central role in the lives of some people than others. Many factors account for variations in centrality, some focusing more on personality and background characteristics, and others more on economic or family circumstances. For some people, money is central because they value the status and material goods that money can bring. For others, money is important simply because they need the money to support a large family. Although many such reasons can be identified, research suggests one particularly important factor, viz., financial need (Kahn, 1981; Kasl & Cobb, 1970). Financial need or economic dependence can be viewed as the extent to which an employee must rely on financial rewards to support his/her life. People who are married, people who have many dependants, or people without alternative sources of income, tend to be more financially dependent than those who are single, without dependants, or with alternative income sources (e.g. Brett, Cron, & Slocum, 1995; Doran, Stone, Brief, & George, 1991; George & Brief, 1990).

The critical role of financial need stems, not from its direct effects on employee outcomes, but rather from its moderating effects on the relationship of employee attitudes to various outcomes (Brett *et al.*, 1995). Since financial need addresses the

acuteness of the need for monetary resources, one's pay attitudes are likely to be particularly salient in this regard (George & Brief, 1990). A financially needy employee who is dissatisfied with his/her pay will probably react quite differently from one who is independently wealthy, for instance. Economic dependence, financial requirements, or the 'factors that influence people's economic need to work' (Brett *et al.*, 1995, p. 262) thus offer explanatory potential in this context. We propose that perceived fairness of pay elicits different physical and behavioural reactions depending on whether or not one has a pressing need for money in one's life, and we examine this proposition theoretically and empirically.

Two divergent perspectives can assist in disentangling these complex dynamics. The first is identity theory, drawn from the work stress literature, which is useful in explaining why pay fairness is a central concern or an identity-relevant stressor for only a subset of individuals (e.g. Frone, Russell, & Cooper, 1995; Thoits, 1991). The second is dissonance theory (Festinger, 1957) which identifies the contingencies under which the relationship between job attitudes and behaviours is likely to be attenuated or constrained. We use these perspectives to develop a theoretical rationale for predicting the moderating or interactive effects of financial need on the relationship of pay attitudes and employee outcomes. Specifically, we expect financial need to exacerbate the relationship of pay attitudes to health and well-being outcomes, and to attenuate the relationship of pay attitudes to employee behaviours. The rationale for these expectations is outlined below.

Exacerbation effects on health and well-being

The idea that financial need exacerbates the relationship between pay fairness and employee outcomes can be traced to the work of Brief and Atieh (1987) and to identity-relevant stressor research (e.g. Frone *et al.*, 1995). Brief and Atieh (1987) addressed the relationship of employees' attitudes to their psychological well-being, arguing that the effects of economic work conditions (i.e. pay) on well-being are contingent on the employee's general financial situation (i.e. non-work-related income) and financial need (i.e. the financial demands on him/her). The argument posits that the higher the financial need, the more central pay is to employees. This reasoning fits well with identity theory. Although typically applied to role identities (e.g. husband, mother, person with disability), identity theory concerns the factors that make stressors more or less salient for individuals.

Following the logic of identity theory, work-related factors that are central in an individual's life should have a greater impact on his/her attitudes and behaviours than those that are more peripheral. When pay is central to an employee's identity (typically, for those employees with greater financial need (George & Brief, 1990)), pay attitudes are likely to be stronger identity-relevant stressors. Perceptions of unfair pay under these circumstances are more potent influences on the employee's well-being. Put differently, unfair pay results in greater psychological and physical problems when money is badly needed by an employee. For financially needy individuals, pay affects basic life concerns (food, clothing, shelter); as a consequence, they react intensely to unfair pay. By contrast, when financial need is low, fair pay is a less central concern, and perceptions of unfair pay do not have a strong impact on physical and psychological health.

George and Brief (1990) report a rare test of the exacerbation proposition with respect to life satisfaction (a major component of psychological well-being). They hypothesized and found that pay satisfaction and life satisfaction were more strongly related among financially needy individuals. In line with the foregoing conceptual arguments and empirical support, we propose that financial need magnifies or exacerbates the effects of pay fairness on employee health and well-being. Specifically, we propose that the relationship of pay fairness to physical and psychological health will be stronger for individuals with high financial need than for individuals with low financial need.

Attenuation effects on employee behaviours

The moderating role of financial need in the relationship of pay fairness to employee behaviours follows a different logical path. Dissonance theory (Festinger, 1957), which posits that people feel pressure to reduce cognitive inconsistencies and to restore balance, is particularly useful in this context. Within this paradigm, dissonance (and the consequent pressure to reduce dissonance) occurs only in situations where people have freedom of choice (Brehm & Cohen, 1962; Festinger, 1957). The existence of choice is central to the creation and resolution of dissonance forces.

Doran *et al.* (1991) extrapolated from dissonance theory to propose that the relationship between work attitudes and behavioural intentions would be insignificant for individuals with high financial need. The logic for this proposition stems from the fact that the existence of choice is manifested in financial need. The greater the economic dependence of an employee on the job, the lower the perception of choice. Employees with high financial need thus feel more constrained than do those with low financial need. The latter group experiences greater freedom and more alternatives (particularly behavioural alternatives) because of fewer financial obligations and/or greater financial security. Since dissonance forces arise only when people have freedom of choice, the impact of pay attitudes is likely to be different between those with high and low financial need. Negative pay attitudes create dissonance only among individuals who have freedom of choice, i.e. low financial need—such individuals modify their behaviours in attempts to reduce dissonance and restore cognitive balance. Dissonant, or unfair, pay perceptions among these individuals create cognitive imbalance which is then restored by matching the perception with the behaviour, i.e. by the manifestation of undesirable behaviours (low performance, high absence, or turnover). However, people with high financial need have few behavioural options and thus a weaker perception of choice. Without choice, dissonance forces are absent, and negative attitudes are less likely to manifest themselves as dysfunctional behaviours. Under these circumstances, dissonance pressures are less likely to arise and thus do not need to be counterbalanced by behavioural consistency. The relationship of pay fairness and employee behaviours is thus attenuated by high financial need—a weaker relationship should be evident among those with high rather than low financial need.

That financial need attenuates the relationship between attitudes and behaviour is empirically supported in some research. Doran *et al.* (1991) reported a weaker relationship between job satisfaction and quit intentions when financial need was high, while Brett *et al.* (1995) found a weaker relationship between organizational commitment and performance among financially needy individuals. Absenteeism and turnover, often viewed as reactions to noxious work environments (Bartel, 1979; Gupta & Jenkins, 1991), should fulfil the same balancing functions as do low performance and turnover intent. Thus, we expect that financial need will attenuate the relationship of pay fairness to job behaviours, with weaker relationships being observed among employees experiencing high financial need. Note that the predicted moderating effects of financial need with respect to well-being are direct opposites of the predicted moderating effects with respect to employee behaviours.

In short, we expect financial need to interact with pay fairness in predicting employee health, well-being, and behavioural outcomes. The moderator is predicted to have an exacerbating effect on the relationship of pay attitudes to health and well-being outcomes, and an attenuating effect on the relationship of pay attitudes to employee behaviours.

Method

Sample and data sources

Data were obtained from a larger two-phase study of working conditions conducted some time ago (see Survey Research Center, 1977, for details).¹ Employees from five mid-western US organizations (a printing company, a research and development firm, two automotive suppliers, and four service departments of a university hospital) participated in Phase 1 of the study. Of these, the printer, the research and development firm, and one department of the hospital did not participate in the second phase. Phase 2 data were obtained from 272 employees of three service departments of the hospital and the two automotive suppliers. The attrition in respondents between the two phases is largely attributable to the non-participation of the employers. Respondents in both phases held various types of jobs and as a group were reasonably similar to the demographic profile of the national labour force at the time (Glick, Jenkins, & Gupta, 1986).

Data collected from three separate sources over a 2-year period are used in the analyses. In Phase 1 of the study, 651 employees (73% response rate) completed 90-minute in-person interviews conducted by professional interviewers off-the-job. Interview data were supplemented by supervisory performance evaluations obtained specifically for the study. Supervisors in the sample completed performance evaluations for each of their subordinates. In all, 375 supervisory evaluations were returned in Phase 1. Structured interviews were conducted 2 years later in Phase 2 for 272 employees of three of these organizations (the automotive suppliers and the hospital). Phase 2 supervisory evaluations ($N = 286$) were also collected using the same procedure as in Phase 1. Personnel records constituted our third data source. Data on employee behaviours (absenteeism, turnover) were retrieved from organizational personnel records of three organizations (the automotive suppliers and hospital) for the period between Phase 1 and Phase 2.

The demographic distribution of the original sample ($N = 651$) was as follows: 51% were male, 68% were married, 76% were white, 75% had at least completed high school, and the average age was about 34 years. Since data were collected from three sources and at several periods, the sample sizes vary across analyses and are reported in the tables.

¹Although these data were collected in the mid-1970s, we do not expect human dynamics with regard to pay fairness and financial need to have changed markedly since then. The findings should be applicable to organizational behaviour today as well.

Measures—predictor variables

Pay fairness. This variable was measured in the Phase 1 interview with four items dealing with perceptions of internal and external pay fairness. Respondents were asked to compare the fairness of their pay levels against people in their organization who did a job similar to theirs, people in their organization whose jobs were different from theirs, people outside their organization who had similar skills, and people outside their organization who had similar education levels. Each item had five response options ranging from 1 (Much less than I ought to get) to 5 (Much more than I ought to get).

Financial need. This variable was also measured through items in the Phase 1 interview. In operationalizing this construct, we followed previous research (e.g. Brett *et al.*, 1995; Doran *et al.*, 1991; George and Brief, 1990) by assessing financial requirements with an additive index of factors contributing to high financial requirements. We relied heavily on previously used operationalizations of financial requirements when developing our measure. The index consisted of the following components: marital status, number of children in the household, alternative income sources, and the number of individuals in the household working at least 20 hours per week. Conceptually, married respondents have greater financial need than single respondents (George & Brief, 1990), hence the former were given a score of 1, and the latter a score of 0 for this component. Number of dependants also increases financial need. We assigned a value of 1 for each child under 18 in the household; respondents without dependants were given a score of 0 for this component. Alternative sources of household income lower financial need (Ehrenberg & Smith, 1988; Hill, 1987). Respondents reported the number of people in the household working at least 20 hours per week. For each additional source, .5 was subtracted from the index for this component. Finally, for each 20 hours the respondent worked outside the primary job held in this study, .5 was subtracted from the index. Summing the responses on the components resulted in scores ranging from -3 to 8 ($X = 1.45$, $SD = 2.07$). High scores on the index reflect greater financial need.

Measures—well-being outcomes

Three measures of employee well-being were used—life satisfaction, depression, and somatic complaints. All three variables were measured in interviews in both Phase 1 and Phase 2.

Life satisfaction. This variable was measured with a 10-item scale designed to assess overall life satisfaction (Quinn & Staines, 1979; see also Judge & Watanabe, 1994). Respondents responded to 10 semantic differential-type bipolar adjectives describing their present life in general (e.g. my life is 'boring-interesting', 'full-empty', 'disappointing-rewarding'). Each item had seven response options and scores were averaged. Responses were coded such that higher values reflected greater life satisfaction.

Depression. This variable was measured with a 10-item scale used by Gupta and Beehr (1981). Sample items are: 'I feel downhearted and blue'. and 'I feel hopeful about the future' (reverse coded). Each item had four response options (often, rarely, sometimes, never) and scores were averaged. High scores on the scale reflect greater depression.

Somatic complaints. This variable was measured with a 14-item checklist similar to the physical health problems scale from House (1980). The scale sums items indicating illnesses and health problems such as heart disease, heart trouble, stroke, hypertension, high blood pressure, diabetes, hernia, and stomach ulcers. Similar questionnaires have been validated against related medical diagnoses for angina, respiratory problems, ulcers, symptoms of indigestion, and other physical problems (Kemmerer, 1990). Each item was coded 1 if the respondent indicated that she or he experienced the illness or condition in the last year and 0 if not. Scores ranged from 1 to 5 in Phase 1 and 1 to 6 in Phase 2.

Measures—behavioural outcomes

Four behavioural outcome measures were used—job search (or turnover) intent, job performance, absenteeism, and turnover.

Job search intent. This variable was measured in the Phase 1 and Phase 2 interviews with the question, 'Taking everything into consideration, how likely is it that you will make a genuine effort to find a new job with another employer within the next year?' The item had response options from 1 (Not at all likely) to 4 (Very likely).

Job performance. This variable was measured through Phase 1 and Phase 2 supervisory evaluations. The employee's immediate supervisors rated the employee's performance on eight semantic differential-type bipolar phrases, each with seven response options, describing the job performance of their subordinates (e.g. employee 'does very high quality work—does very low quality work', 'does a large amount of work—does very little work', 'very dependable—very undependable'). Scores were averaged, and high values on this scale indicate high job performance.

Absenteeism. This variable was measured through company personnel records. Information on absenteeism was coded for each month subsequent to the Phase 1 interview. Monthly absence rates were averaged for the six months following the interview to yield this measure (Beehr & Gupta, 1978).

Voluntary turnover. This variable assessed whether the respondent had turned over voluntarily between Phase 1 and Phase 2, and was obtained from company personnel records. It was coded 1 for voluntary turnovers and 0 for stayers.

Measures—control variables

Several measures were included as controls to improve generalizability and to reduce the chance that unmeasured variables could explain the results. Information on all control variables was obtained in the Phase 1 interview. Age, gender, tenure, and education were controlled as they may be related to job attitudes, mobility, and health (e.g. Bartel, 1979; George & Brief, 1990; Mason, 1995). Actual salary was also controlled since absolute pay level is related to pay satisfaction and mobility (Bartel, 1979; Motowidlo, 1982).

Two additional controls were used:

- (1) A measure of global job satisfaction was included as a control. This study concerns the dynamics of pay attitudes and financial need, independent of whether respondents like their jobs. Controlling for job satisfaction precludes potential confounds from clouding the results and leading to spurious observed effects (Dobbins, Platz, & Houston, 1993; Freeman, Russell, & Rohricht, 1996; Shaw, Duffy, Jenkins, & Gupta, 1999). While some job satisfaction measures include pay satisfaction (usually pay level satisfaction) as a dimension, we control for job satisfaction using a 5-item global or facet-free scale from Quinn and Shepard (1974). A sample item is: 'All in all, how satisfied would you say you are with your job?'
- (2) We controlled for perceived difficulty of movement or the respondent's perceptions of the availability of other job opportunities. Perceived difficulty of movement is related to intentions and behaviours (e.g. turnover; Spector, 1997) and could also represent freedom of choice (e.g. a person would likely react differently to unfair pay in a tight/loose labour market) and thus should be held constant. This variable was measured with a single item. Respondents were asked how easy it would be for them to find a comparable job with another employer. The variable was measured on a 5-point scale ranging from 1 (Not easy at all) to 5 (Very easy), and was reverse scored for analysis.

Finally, in all analyses involving a Phase 2 dependent variable, we control for the baseline level of the outcome by including the Phase 1 assessment of the same outcome as a control. This also enables a purer examination of the predicted moderating effects.

Analysis issues

Hierarchical regressions (Cohen & Cohen, 1983) were used to test the predictions. Control variables were entered in step 1, pay fairness and financial need in step 2, and the two-way interaction of pay fairness and financial need in step 3. Changes in explained variance and standardized regression coefficients were examined for each model.

To assess attrition and sample composition bias, we compared the characteristics of individuals included in the Time 1 cross-sectional analyses with those included in the longitudinal analyses. Following Shaw, Delery, Jenkins, and Gupta (1998), we ran a logistic regression with the dependent variable coded 1 for surviving cases and 0 for cases that included only Phase 1 data. All control variables and other substantive variables (e.g. pay fairness and financial need) were included in the equation. Only one variable was significant; longer tenure individuals were more likely to be included in the longitudinal analyses. Since this variable is controlled for in all equations, there is little indication that attrition and sample composition biases will influence the results.

Results

Table 1 shows the means, standard deviations, and intercorrelations for all the variables used in the study. Coefficient alpha reliabilities are shown in the diagonal where appropriate.

Exacerbation effects on well-being

The results of the regression analyses for well-being outcomes are shown in Table 2.² The full set of predictors explained 13% of the variance in Phase 1 life satisfaction, 25% in Phase 2 life satisfaction, 19% in Phase 1 depression, 24% in Phase 2 depression, 9% in Phase 1 somatic complaints, and 28% in Phase 2 somatic complaints. Explained variance in the Phase 2 outcome equations is magnified by the inclusion of the Phase 1 outcome baseline. The magnitude of explained variation is similar to that reported previously (e.g. Brett *et al.*, 1995; George & Brief, 1990).

As expected, financial need was not a strong predictor of the outcomes and, although pay fairness was significantly related to four outcomes, the pattern was inconsistent. Pay fairness was positively related to Phase 1 life satisfaction ($\beta = .13$, $p < .05$), negatively related to Phase 2 life satisfaction ($\beta = -.16$, $p < .01$), positively related to Phase 2 depression ($\beta = .14$, $p < .05$), and negatively related to Phase 2 somatic complaints ($\beta = -.14$, $p < .01$).

The last step of the regressions, in which the interaction was introduced, was the most critical step. Table 2 shows that our exacerbation predictions received consistent support for all three Phase 1 outcomes (Phase 1 life satisfaction ($\beta = .09$, $\Delta R^2 = .01$, $p < .05$), Phase 1 depression ($\beta = -.09$, $\Delta R^2 = .01$, $p < .01$), and Phase 1 somatic complaints ($\beta = -.18$, $\Delta R^2 = .02$, $p < .01$)). Plots of the interactions using z scores and values of 1 SD above and below the mean, i.e. $X - 1$ and $X + 1$, for the independent variables (Cohen & Cohen, 1983), are shown in Figs 1–3. The expected exacerbation pattern emerges in these figures. For those with high financial need, the relationship of pay fairness to life satisfaction is strongly

²Phase 1 outcome variables were controlled in equations in which Phase 2 outcomes were assessed in order to increase the rigour of these longitudinal tests. However, this procedure is also a methodology for assessing change in dependent variables over time. In addition to increasing total R^2 estimates, controlling for Phase 1 outcomes creates a partialled change score that may result in a different pattern of findings than if the Phase 1 variable was not controlled (Cohen & Cohen, 1983). As a check, we re-ran these analyses, excluding the Phase 1 outcomes from the control block. Although total explained variance decreased substantially, the pattern of interaction results were substantively identical to those reported, i.e. only one interaction across health and behavioural outcomes was significant.

Table 1. Descriptive statistics and zero-order correlations for all variables

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.		
Control variables																									
1. Age	34.82	11.89	#																						
2. Education	12.12	2.37	-.24**	#																					
3. Gender	.51	.50	.04	-.02	#																				
4. Tenure	8.68	8.38	.55**	-.26**	.14**	#																			
5. Salary	10.469	6703	1.4**	.18**	.32**	.16**	#																		
6. Job satisfaction	3.67	.99	.28**	-.07	-.03	.14**	.12**	(.78)																	
7. Perceived diff. of movement	3.41	1.48	.16**	-.27**	-.07	.13**	-.08*	.02	#																
Independent variables																									
8. Pay fairness	2.67	.67	.09*	-.18**	.11**	.10*	.19**	.28**	.26**	(.75)															
9. Financial need	1.45	2.07	.08*	-.12**	.27**	.10**	.22**	.06	.07	.22**	#														
Well-being outcomes																									
10. Life satisfaction (P1)	5.47	.93	.19**	-.03	.07	.12**	.04	.31**	-.08	.14**	-.02	(.86)													
11. Life satisfaction (P2)	5.67	1.01	.24**	-.05	-.01	.08	-.01	.30**	.06	.01	-.01	.44**	(.89)												
12. Depression (P1)	1.85	.47	-.12*	-.09	-.06	-.03	-.11**	-.40**	.16**	-.11**	.03	-.45**	-.33**	(.75)											
13. Depression (P2)	1.84	.48	-.07	-.11	-.07	-.04	-.14*	-.22*	.05	.04	-.04	-.34**	-.63**	.43**	(.77)										
14. Somatic complaints (P1)	.71	.95	.10*	-.15**	-.08*	.07	-.08	-.16**	.05	-.05	-.07	-.08	-.15*	.16**	.12	#									
15. Somatic complaints (P2)	.78	1.11	-.03	-.09	-.08	.00	-.14*	-.11	.01	-.18**	-.03	-.14*	-.21**	.24**	.28**	.49**	#								
Behavioral outcomes																									
16. Job search intent (P1)	1.95	1.46	-.31**	.17**	-.04	-.20**	-.15**	-.44**	-.22**	-.31**	-.19**	-.23**	-.18**	.25**	.14*	.04	.10	#							
17. Job search intent (P2)	1.81	1.40	-.30**	.22**	-.03	-.18**	-.13*	-.29**	-.24**	-.19**	-.25**	-.14*	-.28**	.07	.24**	.12	.14*	.37**	#						
18. Job performance (P1)	5.51	.99	.07	.09	.02	.02	.03	-.20**	.05	.07	-.03	.22**	.06	-.19**	-.13	-.09	.00	-.05	.03	(.89)					
19. Job performance (P2)	5.46	1.02	.06	.12*	.02	.00	.02	-.18**	.07	.06	-.02	.24**	-.01	-.21**	-.14	-.11	-.09	-.02	.04	.93**	(.88)				
20. Absenteeism	.70	.64	-.29**	-.17**	-.14*	-.21**	-.11	-.19**	.03	-.09	.04	-.28**	-.14	.24**	.27**	.24**	.42**	.12	.09	-.43**	-.58**	#			
21. Voluntary turnover	.13	.34	-.06	.06	-.09	-.06	-.14*	-.12	-.08	-.09	-.07	-.20**	-.07	.14*	.05	.00	-.05	.23**	.03	-.12	.00	.03	#		

*p<.05; **p<.01.

Key: P1 = Phase 1; P2 = Phase 2.

Note: Pair wise deletion procedure used to generate correlations (N_s = 247–651). Coefficient α reliabilities in parentheses in the diagonal where appropriate.

Table 2. Regression results for well-being outcomes

	Life satisfaction						Depression						Somatic complaints					
	Phase 1		Phase 2		Phase 1		Phase 2		Phase 1		Phase 2		Phase 1		Phase 2			
	Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β			
Control variables																		
Age	.13**	.14**	.14**	.12	.11	.11	-.11**	-.11*	-.12**	-.08	-.08	-.08	.08	.08	.08	-.12*		
Education	.04	.05	.06	.03	.00	.00	.01	.00	-.01	-.05	-.04	-.04	-.13**	-.14**	-.15**	-.03		
Gender	.09*	.08*	.08	.00	.01	.01	-.05	-.04	-.04	-.08	-.07	-.07	-.09*	-.08	-.08	-.01		
Tenure	.06	.06	.07	-.03	-.05	-.05	-.06	-.06	-.07	.04	.05	.05	.05	.05	.04	-.02		
Salary	-.06	-.07	-.07	-.09	-.05	-.05	.03	.05	.05	.06	.06	.06	-.03	-.01	-.01	-.02		
Job satisfaction	.23**	.20**	.20**	.12	.14*	.14*	-.34**	-.33**	-.33**	-.06	-.08	-.08	-.19**	-.18**	-.18**	.03		
Perceived difficulty of movement	-.12**	-.14**	-.14**	.07	.11	.11	.14**	.15**	.15**	-.03	-.05	-.05	-.02	-.01	-.01	.09		
Phase 1 outcome				.39**	.42**	.42**			.43**	.43**	.43**			.51**	.51**	.50**		
Independent variables																		
Pay fairness	.11**	.13**	.13**		-.15**	-.16**		-.03	-.06					-.03	-.06	-.14*		
Financial need	-.03	-.03	-.03		.00	.01		-.04	-.03					-.07	-.06	.07		
Interaction																		
Pay fairness × Financial need		.09*	.09*		-.05	-.05		-.09*	-.09*					-.13**	-.13**	-.04		
Total R²	.11**	.12**	.13**	.24**	.25**	.25**	.18**	.18**	.19**	.22**	.24**	.24**	.07**	.07**	.09**	.28**		
ΔR²	.11**	.01*	.01*	.24**	.01*	.00	.18**	.00	.01*	.22**	.02*	.00	.07**	.00	.02**	.02*		
	N = 588	N = 588	N = 588	N = 264	N = 264	N = 264	N = 588	N = 588	N = 588	N = 264	N = 264	N = 588	N = 588	N = 264	N = 264	N = 264		

*p < .05; **p < .01.

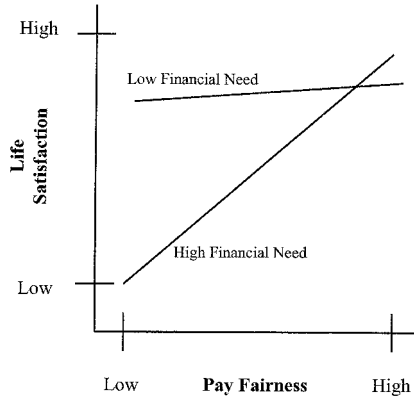


Figure 1. Interaction between pay fairness and financial need predicting Phase 1 life satisfaction.

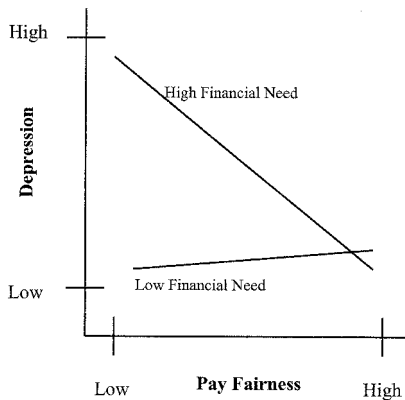


Figure 2. Interaction between pay fairness and financial need predicting Phase 1 depression.

positive, and the relationship of pay fairness to depression and somatic complaints is strongly negative. At the same time, the relationship of pay fairness to the outcomes is not as strong for those with low financial need. Contrary to expectations, the interaction terms were not significant in predicting any of the Phase 2 outcomes.

Attenuation effects on employee behaviours

Table 3 reports the results of the regression analyses for job search intent and behavioural outcomes. As a set, control variables were again significant predictors of most behavioural outcomes. Job satisfaction was the strongest predictor among the control variables, significantly predicting job search intent, job performance, and absenteeism. Pay fairness ($\beta = -.12, p < .01$), but not financial need, was

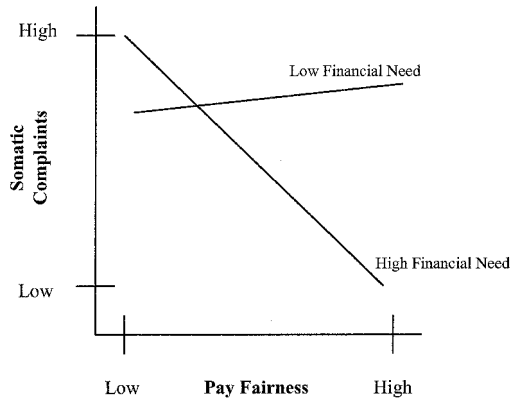


Figure 3. Interaction between pay fairness and financial need predicting Phase 1 somatic complaints.

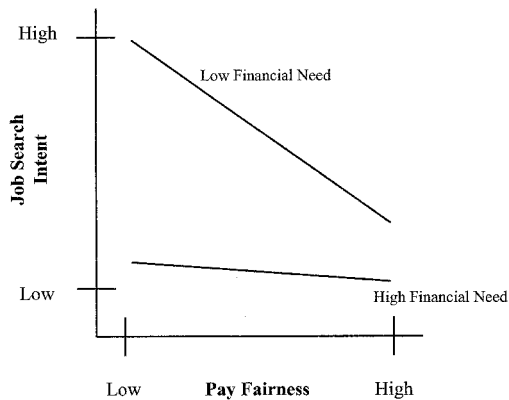


Figure 4. Interaction between pay fairness and financial need predicting Phase 1 job search intent.

related to Phase 1 job search intent, while financial need ($\beta = -.18, p < .01$), but not pay fairness, predicted job search intent in Phase 2. Pay fairness also predicted absenteeism ($\beta = -.16, p < .01$).

The attenuation proposition was assessed in the last step of the regressions. The interaction term was a significant predictor for Phase 1 job search intent ($\beta = .07; \Delta R^2 = .01, p < .05$), Phase 2 job search intent ($\beta = .15; \Delta R^2 = .03, p < .01$), and Phase 1 job performance ($\beta = .11; \Delta R^2 = .02, p < .05$). Plots of interactions between pay fairness and financial need in predicting these outcomes are shown in Figs 4–6. Support is found for the attenuation argument in the job search intent equations, but not in the job performance equation. In Figs 4 and 5, the relationship between pay fairness and job search intent is not strong for those with high financial need, but is quite negative for those with low financial need. In Fig. 6, as expected, the relationship between pay fairness and job performance is strongly positive among those with low financial need but, contrary to expectation, the relationship between pay fairness and job performance is strongly negative among those with high

Table 3. Regression results for behavioural outcomes

	Job search intent						Job performance						Absenteeism			Voluntary turnover		
	Phase 1		Phase 2		Phase 1		Phase 2		Phase 1		Phase 2		Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β
	Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β	Step 1β	Step 2β	Step 3β
Control variables																		
Age	-.14**	-.15**	-.15**	-.11	-.13	-.12	-.05	-.05	-.06	.00	.01	-.01	-.24**	-.26**	-.26**	-.21**	-.21**	-.20**
Education	.09*	.07	.07	.00	-.03	-.03	-.12*	-.12*	-.12*	-.02	-.01	-.01	-.30**	-.32**	-.32**	.15**	.16**	.16**
Gender	-.02	-.01	-.01	-.01	.02	.01	-.05	-.04	-.05	.00	-.01	-.01	-.20**	-.20**	-.20**	.02	.01	.00
Tenure	-.01	-.02	-.01	-.06	-.06	-.06	.03	.03	.03	.00	.00	.00	-.11	-.11	-.11	-.05	-.04	-.04
Salary	-.10**	-.06	-.07	-.03	.02	.02	.01	.01	.01	-.01	-.02	-.02	.04	.07	.07	.03	.01	.01
Job satisfaction	-.36**	-.33**	-.33**	-.17**	-.17**	-.18**	-.20**	-.19**	-.19**	.00	.01	-.02	-.14*	-.13*	-.13*	-.07	-.07	-.07
Perceived difficulty of movement	-.17**	-.13**	-.13**	-.11	-.09	-.09	.00	.01	.00	.93**	.93**	.93**	-.08	-.03	-.03	.02	.02	.01
Phase 1 outcome				.31**	.29**	.29**												
Independent variables																		
Pay fairness	-.14**	-.12**	-.12**				-.02	-.02	.00	.01	.01	.01	-.16**	-.16**	-.16**	.00	.00	.01
Financial need	-.05	-.06	-.06	-.14*	-.18**	-.18**	-.01	-.02	-.02	.01	.01	.01	.00	.00	-.01	.07	.06	.06
Interaction																		
Pay fairness × Financial need	.07*	.07*	.07*				.11*	.11*	.11*	.87**	.87**	.87**	.19**	.21**	.21**	.11**	.11**	.11**
Total R ²	.26**	.28**	.29**	.26**	.28**	.28**	.05**	.05*	.07**	.87**	.87**	.87**	.19**	.21**	.21**	.11**	.11**	.11**
ΔR ²	.26**	.02**	.01*	.26**	.02*	.03*	.05**	.00	.02*	.87**	.00	.00	.19**	.02*	.00	.11**	.00	.00
	N = 588			N = 264			N = 345				N = 264		N = 238			N = 356		

*p < .05; **p < .01.

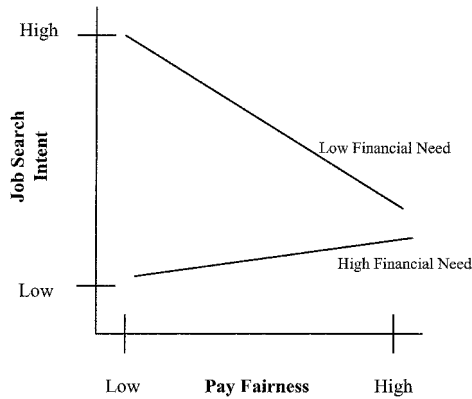


Figure 5. Interaction between pay fairness and financial need predicting Phase 2 job search intent.

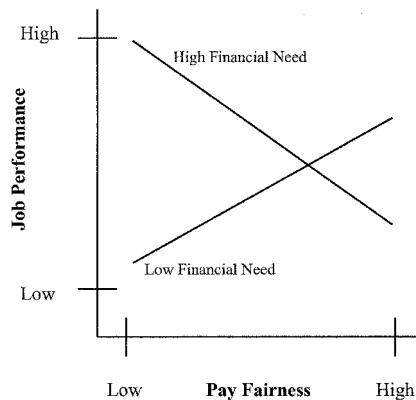


Figure 6. Interaction between pay fairness and financial need predicting Phase 1 job performance.

financial need. Thus, the interaction prediction is significant and shows the expected pattern for job search intent in both phases, but does not entirely conform to the attenuation prediction for Phase 1 job performance, and is not significant for Phase 2 job performance, absenteeism, or voluntary turnover.

Supplemental analyses

The results raised several interesting questions that we explored *post hoc*. One issue concerns whether pay attitudes like pay fairness, or absolute levels of pay, are critical to our interactive framework. An implicit assumption in much organizational behaviour research (and in the current framework) is that perceptions are, in essence, experienced reality and are more important than objective measures in predicting attitudes and behaviours (Gupta & Beehr, 1981). Nevertheless, it could be argued that actual pay levels are more potent factors *vis-à-vis* financial need than are perceptions of pay fairness. We tested the validity of this alternative. We

replaced pay fairness with actual salary in the product term and re-ran the analyses. Across the gamut of dependent variables, none of the interactions between actual salary and financial need reached significance. Thus, in this context, perceptions are more potent than pay *per se*.

A second issue is whether general job attitudes, or specific pay attitudes, are critical for the hypothesized effects. To assess the relative interactive predictive power of pay attitudes and job attitudes in general, we used job satisfaction instead of pay fairness in the interaction term, but the interaction was again insignificant for all outcomes. A third issue concerned the role of gender in the framework. George and Brief (1990) argued that the idea (albeit disappearing) that males retain a breadwinner role in the family may influence reactions to financial need and pay attitudes. Since our data were obtained in the mid-1970s when these attitudes were more prevalent, and since George and Brief (1990) found support for this argument, we explored the potency of the three-way interaction of pay attitudes, financial need, and gender in predicting the outcomes. None of the three-way interaction terms reached significance. A fourth issue concerned referent others in fairness judgments. We explored whether there are differential fairness effects depending on whether fairness perceptions were based on internal or external referents. We split the pay fairness scale into two 2-item scales, one dealing with internal referents and the other with external referents. The results in each set were substantively identical to those reported above. In sum, these supplemental analyses eliminated alternative explanations based on actual pay, general job attitudes, gender, and referent others.

Summary

Taken together, the results: (1) offer consistent and strong support for the exacerbation effect on health and well-being contemporaneously, but not longitudinally; (2) strongly support the attenuation effect with respect to job search intent contemporaneously and longitudinally; and (3) show very little support for the exacerbation prediction with regard to job performance, absenteeism, or voluntary turnover. Moreover, the *post hoc* results highlight that these interactive effects are attributable to pay fairness, not other alternatives.

Discussion

This study offers several insights into the importance of pay fairness and financial need. It extends our understanding of the role of pay fairness in organizational dynamics; it furthers the conceptual and empirical literature concerning the role of financial need in understanding employee health- and work-related outcomes; and it underscores the importance of a careful identification of the relevant outcomes in specific predictions. These issues are discussed below.

Pay attitudes have long been thought to affect employee-related outcomes, but ironically most of the research on these attitudes focuses on predicting pay fairness and satisfaction, with little research devoted to the after-effects of these attitudes

(Heneman, 1985; Miceli & Lane, 1991). This study shows that our knowledge of pay dynamics can be substantially improved through the identification of relevant outcomes and the introduction of interactive predictors. Pay attitudes are inconsistently related to physiological, psychological and behavioural outcomes, but these relationships can be clarified, or understanding and explanatory power increased, by a consideration of how badly employees actually need money to survive. The results provide partial replication of George and Brief (1990) with respect to pay attitudes and well-being. When employees are economically dependent, they are much more likely to experience life dissatisfaction, depression, and somatic complaints as a consequence of the perception of unfair pay. Of course, when employees are economically dependent, they are also least likely to have the resources and the ability to prevent or treat physical or mental ill-health. If our results are indicative, it becomes all the more important to give particular attention to pay fairness issues among those who are financially needy—it is here that the most damage can be done, and it is here that there is the least possibility of repairing the damage. This idea takes on greater importance in places (like the US) where adequate health care is not equally available across income categories. That exacerbation effects of financial need are also possible or likely with respect to other important attitudinal or health-related outcomes heightens the importance of the issue. The theoretical base of identity-relevant stressors outlined for the exacerbation predictions holds promise for future research by identifying the conditions under which specific job attitudes may be predictive of individually and organizationally relevant outcomes.

The results also provide partial replication of Doran *et al.* (1991) and Brett *et al.* (1995) with respect to job-related attitudes and behavioural outcomes. Financial need attenuated the relationship of pay fairness to behavioural outcomes, specifically job search intent in cross-sectional and longitudinal tests. The logic of dissonance theory is rarely used to understand the relationship of pay to behavioural outcomes, but is obviously of some use in this context, particularly since our measures focused on pay fairness. The dissonance predictions were, of course, supported with respect to only one measure, viz., job search intent. Still, these initial results suggest the utility of examining this issue in greater detail with respect to employee attitudes in general and pay attitudes in particular.

The proposed attenuation effect was not supported for job performance. The data showed instead that the relationship between pay perceptions and job performance is strongly negative among people high on financial need (Fig. 6). Financially needy individuals who feel their pay is unfair do not perform well although, given their lack of choice, we expected a weak relationship, at best. Several reasons could account for this anomaly. The data were collected in the US mid-west, where union influences are strong. It is possible that people particularly plagued by feelings of unfairness (i.e. people to whom money was essential but who received an unfair amount of money) retaliated by lowering performance without fear of job loss. Alternatively, it is possible that supervisors, who allocate pay raises, also appraised employees as performing at lower levels. Another possibility is that this is simply a data anomaly. We hope this issue will be clarified in future research.

The exacerbation and attenuation effects, taken together, point to the complexity of pay dynamics in organizations. As noted, pay is arguably the most important factor in employment situations. Our study underscores the need to examine these dynamics in a more comprehensive multivariate framework. Only then can the impact of pay on employee behaviours and organizational effectiveness be understood in its entirety.

Our theoretical approach predicted differential interactive relationships. The empirical results are interesting in light of previous financial need research and research examining the role of constraints and facilitators in affecting the relationship of job attitudes to performance. Research has long noted inconsistencies in the relationships of job attitudes to important individual outcomes, pointing to both substantive and methodological issues (e.g. Johns, 1991). More recently, understanding of these relationships was facilitated by the development of focused mid-range theories that specify theoretical links and interactions with respect to specific job attitudes, specific contextual variables, and specific outcomes. For example, while constraints on behaviours and contextual factors limit the observed direct correlation between job satisfaction and performance (Iaffaldano & Muchinsky, 1985), the relationship between organizational commitment and performance can be strengthened by factoring in financial need (Brett *et al.*, 1995). Our results, in conjunction with those of George and Brief (1990) show that the relationship of pay attitudes and well-being can be better understood by factoring in financial need, while the relationship between job satisfaction and turnover is better understood by factoring in individual affect (e.g. Judge, 1993). Perhaps this paper makes its greatest contribution here. By examining specific differential interactive predictions across a range of outcomes, we continue the process of boundary setting which helps drive the search for more specific theories and explanations of the complex nature of work.

This study has several limitations. The substantive arguments and data included only a single aspect of pay attitudes (perceptions of pay fairness) although people can conceptualize their compensation along several dimensions (e.g. Carraher & Buckley, 1996; Heneman, 1985; Judge & Welbourne, 1994; Miceli & Lane, 1991). The fact that pay attitudes are multidimensional does not invalidate our findings, but it affords limits to their generalizability. The measure of financial need was created using a set of proxies. A more direct measure or one that included a broader range of indirect indicators may have improved the results. The findings could also be challenged since the interaction term was significant primarily in cross-sectional tests and those with mono-method dependent variables. With regard to the absence of strong longitudinal effects, George and Brief (1990) argued that the potential impact of mismatches between pay attitudes and economic dependence are less extreme than other forms of crisis (e.g. job loss). Our results may simply reflect that mismatches of pay fairness and financial need are not long lasting. Alternatively, changes in financial need and/or pay attitudes may also account for the generally weak longitudinal results. Thus, the lack of longitudinal effects may be attributable to fluidity of pay attitudes and not to the absence of long-term interactive dynamics. Data limitations precluded us from an identical replication of the analyses using all Phase 2 variables and thus we were unable to address these issues

empirically here. Another potential explanation of the weaker longitudinal effects may be the statistical power for Phase 2 analyses. This reduced the ability of our tests to detect smaller effects: higher-order interactions tend to be of smaller magnitude.

The study raises several questions that we encourage future researchers to address. First, we measured pay fairness broadly with inclusive categories of internal and external referents. Our *post hoc* analyses failed to detect differential effects across referent groups, but it is still possible that the results may have been different had we allowed participants to choose their own referent others. Secondly, our *post hoc* analyses revealed that pay fairness perceptions, not actual pay level, accounted for the interactive effects, highlighting the relevance of perceptions. But we measured financial need with more objective (albeit still self-report) indicators. It is entirely possible that the interactive results would be stronger with a more perceptually based measure of financial need. Thirdly, we argue that dissonance does not develop as readily among those with high financial need because they lack choice. Alternatively, those with high financial need may have dissonance, but may be limited in their actions by their need (e.g. they cannot quit their job as readily). Faced with no alternatives it is possible that they seek out alternative means to reduce their dissonance (e.g. by changing pay referents). We hope that future studies pursue research designs that allow these possibilities to be teased apart, perhaps by factoring in continuance or need-based organizational commitment. Fourthly, additional explanatory power may be gained by factoring in individual differences in consumption patterns. For example, individuals differ in their tendencies to consume their current income (Schaubroeck & Shaw, 2000). Income-sensitive consumption may further exacerbate the interaction of unfair pay and high financial need, while conforming to more constant spending patterns over time may buffer the effect over time. Fifthly, Table 1 showed a significant zero-order relationship between financial need and perceptions of pay fairness. It is possible that, in addition to moderating the impact of pay attitudes on outcomes, financial need also shapes pay attitudes to some extent. For instance, people for whom pay is salient may be more sensitized to issues of pay fairness. This issue merits further investigation as well.³

To conclude, this study furthers our knowledge about the influence of financial need on the relationship between pay fairness and individual-level outcomes. It shows the importance of understanding the economic dimensions of work-related outcomes, and it underscores the utility of mid-range theoretical expositions that disentangle the complex interactions of individual attitudes and situational factors in predicting outcomes.

Acknowledgements

We wish to thank Editor Paul Sparrow and the anonymous referees for helpful comments on earlier versions of this manuscript.

³We thank two anonymous reviewers for these future research ideas.

References

- Austin, J. T., & Villanova, P. (1992). The criterion problem: 1917–1991. *Journal of Applied Psychology, 77*, 836–874.
- Bartel, A. P. (1979). The migration decision: What role does job mobility play? *American Economic Review, 69*, 775–786.
- Beehr, T. A., & Gupta, N. (1978). A note on the structure of employee withdrawal. *Organizational Behavior and Human Performance, 21*, 73–79.
- Brehm, J. W., & Cohen, A. R. (1962). *Explorations in cognitive dissonance*. New York: Wiley.
- Brett, J. F., Cron, W. L., & Slocum, J. W., Jr. (1995). Economic dependency on work: A moderator of the relationship between organizational commitment and performance. *Academy of Management Journal, 38*, 261–271.
- Brief, A. P., & Atieh, J. M. (1987). Studying job stress: Are we making mountains out of molehills? *Journal of Occupational Behavior, 8*, 115–126.
- Carraher, S. M., & Buckley, R. M. (1996). Cognitive complexity and the perceived dimensionality of pay satisfaction. *Journal of Applied Psychology, 81*, 102–109.
- Chacko, T. I. (1983). Job and life satisfaction: A causal analysis of their relationships. *Academy of Management Journal, 26*, 163–169.
- Cohen, A., & Gattiker, U. E. (1994). Rewards and organizational commitment across structural characteristics: A meta-analysis. *Journal of Business and Psychology, 9*, 137–157.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*, 542–575.
- Dobbins, G. H., Platz, S. J., & Houston, J. (1993). Relationship between trust in appraisal and appraisal effectiveness: A field study. *Journal of Business and Psychology, 7*, 309–322.
- Doran, L. I., Stone, V. K., Brief, A. P., & George, J. M. (1991). Behavioral intentions as predictors of job attitudes: The role of economic choice. *Journal of Applied Psychology, 76*, 40–46.
- Ehrenberg, R. G., & Smith, R. S. (1988). *Modern labor economics* (3rd ed.). Glenview, IL: Scott, Foresman.
- Farrell, D., & Stamm, C. L. (1988). Meta-analysis of the correlates of employee absence. *Human Relations, 41*, 211–227.
- Festinger, L. A. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Freeman, D. M., Russell, J. E. A., & Rohricht, M. T. (1996). *The role of perceived organizational politics in understanding employee attitudes*. Paper presented at the Annual Meetings of the Academy of Management, Cincinnati, OH.
- Frone, M. R., Russell, M., & Cooper, M. L. (1995). Job stressors, job involvement, and employee health: A test of identity theory. *Journal of Occupational and Organizational Psychology, 68*, 1–11.
- Ganster, D. C., & Schaubroeck, J. (1991). Work stress and employee health. *Journal of Management, 17*, 235–271.
- George, J. M., & Brief, A. P. (1990). The economic instrumentality of work: An examination of the effects of financial requirements and sex on the pay–life satisfaction relationship. *Journal of Vocational Behavior, 37*, 357–368.
- Glick, W. H., Jenkins, G. D., Jr., & Gupta, N. (1986). Method versus substance: How strong are underlying relationships between job characteristics and attitudinal outcomes? *Academy of Management Journal, 29*, 441–464.
- Goodman, P. S., Atkin, R. S., & Associates. (1984). *Absenteeism*. San Francisco, CA: Jossey-Bass.
- Gould, S., & Werbel, J. D. (1983). Work involvement: A comparison of dual wage earner and single wage earner families. *Journal of Applied Psychology, 68*, 313–319.
- Greenberg, J. (1990). Organizational justice: Yesterday, today, and tomorrow. *Journal of Management, 16*, 399–432.
- Gupta, N., & Beehr, T. A. (1981). Relationships among employees' work and nonwork responses. *Journal of Occupational Behaviour, 2*, 203–209.
- Gupta, N., & Jenkins, G. D., Jr. (1991). Rethinking dysfunctional employee behaviors. *Human Resource Management Review, 1*, 39–59.

- Gupta, N., & Shaw, J. D. (1998). Let the evidence speak: Financial incentives are effective!! *Compensation and Benefits Review*, 30(2), 28–32.
- Heneman, H. G. (1985). Pay satisfaction. *Research in Personnel and Human Resources Management*, 3, 115–139.
- Hill, F. S. (1987). *Compensation decision making*. Chicago, IL: Dryden Press.
- House, J. S. (1980). *Occupational stress and the mental and physical health of factory workers*. Ann Arbor, MI: Institute for Social Research Report Series.
- Huber, V. L., Seybolt, P. M., & Venemon, K. (1992). The relationship between individual inputs, perceptions, and multidimensional pay satisfaction. *Journal of Applied Social Psychology*, 22, 1356–1373.
- Iaffaldano, M. T., & Muchinsky, P. M. (1985). Job satisfaction and performance: A meta-analysis. *Psychological Bulletin*, 97, 251–273.
- Ivancevich, J. M., & Matteson, M. (1980). *Stress and work: A managerial perspective*. Glenview, IL: Scott, Foresman.
- Jaques, E. (1961). *Equitable payment*. New York: Wiley.
- Johns, G. (1991). Substantive and methodological constraints on behavior and attitudes in organizational research. *Organizational Behavior and Human Decision Processes*, 49, 80–104.
- Judge, T. A. (1993). Does affective disposition moderate the relationship between job satisfaction and voluntary turnover? *Journal of Applied Psychology*, 78, 395–401.
- Judge, T. A., & Watanabe, S. (1994). Individual differences in the nature of the relationship between job and life satisfaction. *Journal of Occupational and Organizational Psychology*, 67, 101–107.
- Judge, T. A., & Welbourne, T. M. (1994). A confirmatory investigation of the dimensionality of the pay satisfaction questionnaire. *Journal of Applied Psychology*, 79, 461–466.
- Kahn, R. L. (1981). *Work and health*. New York: Wiley.
- Kasl, S. V., & Cobb, S. (1970). Blood pressure changes in men undergoing job loss: A preliminary report. *Psychosomatic Medicine*, 32, 19–38.
- Kemmerer, B. E. (1990). *The moderating effect of personality differences on job stress: A longitudinal investigation*. Unpublished doctoral dissertation, University of Nebraska.
- Lawler, E. E., III (1971). *Pay and organizational effectiveness: A psychological view*. New York: McGraw-Hill.
- Lawler, E. E., III, & Jenkins, G. D., Jr. (1992). Strategic reward systems. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (3rd ed., pp. 1009–1055). Palo Alto, CA: Consulting Psychologists Press.
- Lee, C. (1995). Prosocial organizational behaviors: The role of workplace justice, achievement striving, and pay satisfaction. *Journal of Business and Psychology*, 10, 197–206.
- Mason, E. S. (1995). Gender differences in job satisfaction. *Journal of Social Psychology*, 135, 143–149.
- Miceli, M. P., Jung, I. J., Near, J. P., & Greenberger, D. B. (1991). Predictors and outcomes of reactions to pay-for-performance plans. *Journal of Applied Psychology*, 76, 508–521.
- Miceli, M. P., & Lane, M. C. (1991). Antecedents of pay satisfaction: A review and extension. *Research in Personnel and Human Resources Management*, 9, 235–309.
- Miceli, M. P., & Mulvey, P. W. (1998). *Satisfaction with pay systems: Antecedents and consequences*. Paper presented at the Annual Meetings of the Academy of Management, San Diego, CA.
- Mitra, A., Jenkins, G. D., Jr., & Gupta, N. (1992). A meta-analytic review of the relationship between absence and turnover. *Journal of Applied Psychology*, 77, 879–889.
- Motowidlo, S. J. (1982). Relationship between self-rated performance and pay satisfaction among sales representatives. *Journal of Applied Psychology*, 67, 209–213.
- Murphy, K. R., & Cleveland, J. N. (1991). *Performance appraisal*. Boston: Allyn and Bacon.
- Price, J. L. (1977). *The study of turnover*. Ames, IA: Iowa State University Press.
- Quinn, R. P., & Shepard, L. J. (1974). *The 1972–1973 quality of employment survey*. Ann Arbor, MI: Institute for Social Research.
- Quinn, R. P., & Staines, G. (1979). *Quality of employment survey, 1973–1977: Panel*. Ann Arbor, MI: Inter-University Consortium for Political and Social Research.
- Schaubroeck, J., & Shaw, J. D. (2000). *Income sensitive consumption: Development of a construct*. Paper presented at the Annual Meetings of the Academy of Management, Toronto.
- Shaw, J. D., Delery, J. E., Jenkins, G. D., Jr., & Gupta, N. (1998). An organizational-level analysis of voluntary and involuntary turnover. *Academy of Management Journal*, 41, 511–525.

- Shaw, J. D., Duffy, M. K., Jenkins, G. D., Jr., & Gupta, N. (1999). Positive and negative affect, signal sensitivity, and pay satisfaction. *Journal of Management*, *25*, 189–206.
- Spector, P. E. (1997). *Job satisfaction: Application, assessment, causes, and consequences*. Thousand Oaks, CA: Sage.
- Survey Research Center, University of Michigan (1977). *Effectiveness of work roles: Employee responses to work environments*. DLMA Report No. 92-26-72-35-3. Washington, DC: US Department of Labor. NTIS No. PB280-669/3G1.
- Thoits, P. A. (1991). On merging identity theory and stress research. *Social Psychology Quarterly*, *54*, 101–112.
- Viteles, M. S. (1932). *Industrial psychology*. New York: Norton.

Received 28 February 2000; revised version received 21 November 2000