

## Predictors and Outcomes of Openness to Changes in a Reorganizing Workplace

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It is becoming increasingly important for employees to be able to cope with change in the workplace. This longitudinal study examined a set of individual differences and context-specific predictors of employee openness (i.e., change acceptance and positive view of changes) toward a set of workplace changes. Personal resilience (a composite of self-esteem, optimism, and perceived control) was related to higher levels of change acceptance. Three context-specific variables (information received about the changes, self-efficacy for coping with the changes, and participation in the change decision process) were predictive of higher levels of employee openness to the changes. Lower levels of change acceptance were associated with less job satisfaction, more work irritation, and stronger intentions to quit.

Organizations today are facing more change than ever before (Conner, 1992). As they strive to retain their competitive edge, they are reorganizing, downsizing, and implementing new technology. The traditional notion of a "job" is becoming antiquated as work becomes more project based and employees are required to work beyond fixed job descriptions (Howard, 1995). A recent survey conducted by the Bureau of National Affairs (1996) revealed that organizational change was a major concern for more than a third of the 396 organizations surveyed. Employees today are facing greater changes, at a more rapid pace, than ever before.

Unfortunately, coping with change can be very difficult for individuals. Employees experiencing change often feel a loss of territory, are uncertain about what the future holds, and may fear failure as they are faced with new tasks (Coch & French, 1948). Whereas some employees may not be bothered by organizational change and may look at change as a chance to grow and learn, other employees may react negatively to even the smallest of changes. Numerous case studies, theoretical reviews, and applied articles have suggested factors that may be associated with individuals' openness to organizational change, but there is substantially less empirical work in this area (for exceptions, see Judge, Thoresen, Pucik, & Welbourne, 1999, and V. D. Miller, Johnson,

& Grau, 1994). Most change research has focused on macro-level (e.g., organization-level) phenomena, as opposed to focusing on individuals.

This study examined the predictors and outcomes of employee openness to a series of work-related changes implemented as a consequence of an extensive reorganization of U.S. Department of Housing and Urban Development (HUD) public housing programs. V. D. Miller et al. (1994) conceptualized openness to an organizational change as involving (a) willingness to support the change and (b) positive affect about the potential consequences of the change (e.g., feeling that the changes will be beneficial in some way). A high level of openness to change is arguably critical in creating employee readiness for organizational change (cf. Armenakis, Harris, & Mossholder, 1993). According to Miller et al. (1994), openness to changes that are being proposed and implemented in an organization is a "necessary, initial condition for successful planned change" (p. 60). Miller et al. suggested that high levels of openness to an organizational change are suggestive of increased cooperation and may deter change resistance behaviors such as quarreling and hostility, deliberate restriction of production, and lack of cooperation with management (cf. Coch & French, 1948).

The purpose of this study was to assess three individual-differences variables (self-esteem, perceived control, and optimism) and five context-specific variables (change information, participation, change-specific self-efficacy, social support, and perceived impact) as predictors of employee openness to the changes occurring as a consequence of the HUD reorganization. Four potential outcomes of openness to the changes were also assessed (job satisfaction, work-related irritation, intention to quit, and actual turnover). Figure 1 portrays the variables and relationships tested in this investigation.

### Individual-Differences Variables

Three individual-differences variables that may be important to employee reactions to change are suggested by cognitive adaptation theory (cf. Aspinwall & Taylor, 1992; Taylor & Brown,

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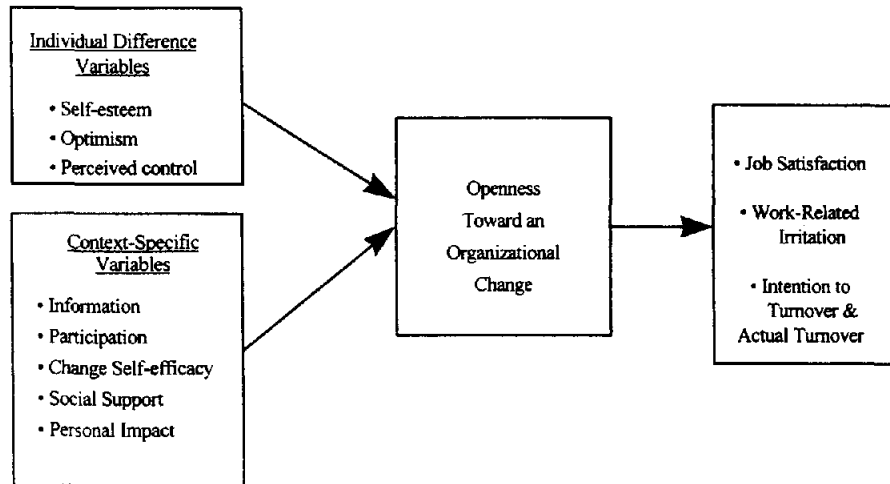


Figure 1. Conceptual model of predictors and outcomes of individual openness to an organizational change.

1988). The premise behind cognitive adaptation theory is that individuals with the highest levels of well-being during stressful life events are those who have high levels of self-esteem (e.g., a high sense of self-worth), optimism (e.g., a highly positive outlook on life), and perceived control (e.g., a view of life and situations as being under personal control). The theory is based on a rich literature supporting these variables as core individual differences that facilitate coping, general contentment, and adjustment during stressful life events (Taylor & Brown, 1988). Major, Richards, Cooper, Cozzarelli, and Zubek (1998) similarly viewed self-esteem, optimism, and perceived control as highly correlated variables that together form a "resilient personality." Although cognitive adaptation theory has not been studied specifically in the context of organizational change, Taylor and Brown (1988) suggested that change is stressful and that high levels of self-esteem, optimism, and perceived control may be associated with openness to change. They argued that people possessing these characteristics may attempt to see change in the best light possible. Judge and colleagues' core self-evaluation theory proposes similar constructs (e.g., self-esteem, neuroticism, locus of control, and generalized self-efficacy) as being fundamental dispositional contributors to employee perceptions of work characteristics and job satisfaction (cf. Judge, Locke, Durham, & Kluger, 1998). The concept of core self-evaluations was first proposed by Judge, Locke, and Durham (1997) and was derived from a comprehensive synthesis of eight different literatures.

In addition to arguments based on cognitive adaptation theory and core self-evaluation theory, evidence exists in the organizational change literature supporting the importance of self-esteem, perceived control, and optimism in coping with change. Ashford (1988), for example, reported that self-esteem and personal control were negatively correlated with stress among employees 1 month before organizational restructuring. Internal locus of control, a concept closely related to perceived control, has been associated with increased openness to change (Lau & Woodman, 1995) and increased job satisfaction after organizational change (Nelson, Cooper, & Jackson, 1995). Optimism has been related to successful adaptation following a variety of events involving both stress

and personal change (e.g., childbirth and beginning college; Cozzarelli, 1993). Given that optimistic people approach the world as if good things will happen to them (Scheier & Carver, 1985), it seems likely that individuals high in optimism will tend to be those having more positive projections of the potential consequences of organizational change, as well as those who are more supportive of organizational change. On the basis of this literature, we hypothesize that higher levels of resilience (self-esteem, optimism, and perceived control) will be associated with higher levels of openness to the changes occurring within a reorganizing workplace (Hypothesis 1).

### Context-Specific Variables

We conducted a review of the organizational change and organizational justice literatures to identify variables specific to a given change situation that would be likely to affect employee openness toward a specific change. The following five variables, as portrayed in Figure 1, were identified as likely to be of high importance: receipt of information about the change, participation in the change process, change-specific self-efficacy, available social support, and personal impact of the changes. These proximal, context-specific variables are potentially more malleable or responsive to organizational intervention efforts than the more dispositional individual-differences variables (self-esteem, generalized perceived control, and optimism) contained within cognitive adaptation theory.

*Information* about the changes that will occur and how they will affect the organization is necessary. Without adequate information, individuals may be uncertain about what specific changes will occur, how a given change will affect their job and organization, or how to respond to a change (Milliken, 1987). In addition to improving attitudes toward a given change, information received about organizational change helps to reduce employee anxiety and uncertainty (K. I. Miller & Monge, 1985; Schweiger & DeNisi, 1991). For example, in Schweiger and DeNisi's (1991) study, employees in one plant received a planned program of information concerning a merger with another organization (i.e., a realistic

merger preview), whereas employees in a second plant received only limited information. Employees in the first plant experienced less uncertainty and perceived the company to be more trustworthy, honest, and caring than did employees in the second plant.

*Participation* refers to allowing workers to have input regarding a proposed change. Kotter and Schlesinger (1979) stressed that, to increase acceptance of change, managers need to listen to employees' suggestions and heed their advice.

*Change-related self-efficacy* is an individual's perceived ability to handle change in a given situation and to function well on the job despite demands of the change. Portraying the importance of change-specific self-efficacy, Conner (1992) suggested that individuals will not perform well in change contexts when they are not confident about their abilities. According to Armenakis et al. (1993), "individuals will avoid activities believed to exceed their coping capabilities, but will undertake and perform those which they judge themselves to be capable of" (p. 686). Bandura (1977) argued that domain-specific self-efficacy depends on the specifics of a situation and can be increased through organizational interventions that enhance mastery of the situation.

*Social support* refers to the availability of another individual to turn to for information, affection, comfort, encouragement, or reassurance. Individuals with more social support tend to experience higher levels of mental and physical health during stressful life events (cf. Mallinckrodt & Fretz, 1988). Social support from coworkers can be helpful to an individual attempting to cope with an organizational change that has had an impact on his or her daily work life (Shaw, Fields, Thacker, & Fisher, 1993).

Finally, *personal impact* refers to the net perceived effect that a particular change will have on an individual or his or her working environment. Ashford (1988) found that individuals who perceive that a workplace change will affect them more directly (e.g., cause more disruption to their jobs) experience greater stress. On the basis of this body of literature, we propose that higher levels of change information, participation, change-related self-efficacy, and social support and lower levels of personal impact will be related to higher levels of openness to the changes occurring within a reorganizing workplace (Hypothesis 2).

### Work-Related Outcomes

The literature suggests that negative attitudes toward change can have negative consequences for an organization. For example, Rush, Schoel, and Barnard (1995) found that perceived pressures of change among state government employees were associated with increased stress, which, in turn, was associated with lower job satisfaction and increased intentions to quit. Similarly, in Schweiger and DeNisi's (1991) study, employees at two plants involved in a merger exhibited decreased levels of job satisfaction, organizational commitment, and intentions to stay with their organization. Irritation at work (the tendency to become angry, aggravated, or annoyed) is also likely to peak among individuals who find a particular change stressful, frustrating, or distasteful (Fossum, 1989; Spector, 1997). On the basis of this literature, we propose that lower levels of openness to the changes occurring within a reorganizing workplace will be related to lower levels of job satisfaction, higher levels of work-related irritation, and increased intentions to quit (Hypothesis 3). Finally, individuals with low levels of openness toward a major series of organizational

changes may actually decide to leave the organization. We propose that lower individual levels of openness to the changes will be related to higher levels of turnover (Hypothesis 4).

## Method

### Change Context

The participants in this study were members of two state chapters of the National Association of Housing and Redevelopment Officials (NAHRO), a professional association of individuals working in the areas of public housing and community development. At the time of the study (which began in November 1996), NAHRO members were embroiled in a climate of change as a result of the restructuring of HUD programs and public housing industry regulations. The background of the situation merits some discussion. In the early 1990s, federal budget cutting was proceeding in Congress under the belief that federal bureaucracy, with its "one size fits all" orientation and its tendency to micromanage, was a significant problem. During this time, several major scandals involving the mismanagement of HUD programs came to light. Calls arose in Congress and intensified after the 1994 election that HUD itself should be abolished and that public housing should be completely privatized. In an apparent effort to forestall the critics, the HUD secretary at the time submitted a plan calling for a radical reorganization of HUD and its programs, the first major reorganization in 30 years (Manegold, 1995).

The changes in total can be described as "second-order" or "gamma" changes (i.e., changes involving radical or major modifications of an established framework or method of operating) rather than "first-order" or "alpha" changes (i.e., incremental changes occurring within an established framework or mode of operations; Bartunek & Moch, 1987). The changes were multidimensional (e.g., involving reorganization and decentralization of multiple operations) and multilevel (e.g., occurring at national, state, and local levels) and involved numerous paradigm shifts. The set of proposed changes could also be described as Type E (elimination) change, presented as a means to increase program effectiveness and efficiency (cf. Albert, 1992). The changes collapsed HUD's 60 programs into three block grants, called for replacing public housing with a voucher system for rent subsidies, and drastically altered operating procedures that had been in place for three decades. Some of the changes were instituted immediately and implemented over time on a temporary basis, whereas others awaited further congressional action. The net effect of the enacted and proposed changes was shock throughout the industry, creating a climate of uncertainty and anxiety as local housing officials struggled to adapt and wondered what specific changes would come next. Because the nature of this change was continuous and ongoing, the present study was not meant to be a before-and-after investigation of attitudes toward a single change; rather, we examined the predictors and outcomes of attitudes toward the changes in the midst of a change process.

### Procedure and Participants

NAHRO members were surveyed three times for this study. The predictors (the resilience and contextual variables) were assessed at Time 1. The attitudinal outcome measures (specific attitudes toward the changes and work-related outcomes) were assessed at Time 2 (2 months later). The second wave of data was collected to allow an assessment of the attitudinal outcomes separately from the predictors so as to reduce concerns about method bias. Actual turnover was assessed 14 months later (Time 3).

Data collection for Time 1 took place at two state NAHRO conferences in November 1996. Time was scheduled during the opening session of each conference for attendees to complete the survey. Of 209 individuals registered for the two conferences, 173 (83%) completed surveys. The Time 2 data were assessed via surveys mailed to 161 of the Time 1 respondents who had expressed willingness to be involved in a follow-up study.

Surveys were returned by 77% of the Time 1 participants ( $n = 133$ ). Time 3 turnover information was assessed by calling each housing authority office. We successfully obtained information on turnover for 130 (98%) of the 133 Time 2 respondents.

To assess possible nonresponse bias, we compared individuals who responded to both the Time 1 and Time 2 surveys ( $n = 133$ ) and individuals who responded only to the Time 1 survey ( $n = 40$ ) on the variables that had been assessed at Time 1 (self-esteem, optimism, perceived control, and the context-specific variables). There was a tendency for Time 2 respondents to have higher levels of optimism and change-related self-efficacy. However, effect sizes were small, and when a Bonferroni correction for number of  $t$  tests was performed (Rosenthal & Rosnow, 1991), the differences between Time 2 respondents and nonrespondents were not significant.

The 130 individuals (33 men and 97 women) who responded in all three waves were the focus of our analyses. Participants' average level of education was 13.9 years ( $SD = 1.8$ ), and their mean age was 46.5 years ( $SD = 10.1$ ). Average tenure in the housing-community development field was 9.8 years ( $SD = 7.8$ ). The participants were from 85 different housing authorities across the two states. The mean office size was 13.5 employees ( $SD = 22.8$ , mode = 4).

### Measures

**Personal resilience.** Four items from the widely used 10-item Self-Esteem Scale (Rosenberg, 1965) were used to measure self-esteem. Respondents answered each item (e.g., "I feel that I have a number of good qualities") on a 4-point scale ranging from *strongly disagree* (1) to *strongly agree* (4). Evidence has been highly supportive of the instrument's validity and reliability (cf. Crandall, 1973; Rosenberg, 1965). The shortened version of the scale was used as a result of time constraints imposed on us in administering the survey at the opening session of the conference. The shortened version was based on items with the highest item-total scale correlations in a study by Cozzarelli (1993). Results in Major et al. (1998) showed that correlations between this shortened scale and other scales were typical of correlations with the full version. Although it is not ideal to shorten a well-known instrument such as the Rosenberg scale, data available from a study by Wanberg (1997) show that the complete scale score is correlated .91 with the shorter scale score.

The eight-item Life Orientation Test (LOT; Scheier & Carver, 1985; revised by Scheier, Carver, & Bridges, 1994) was used to assess optimism. Respondents answered each item (e.g., "I'm always optimistic about the future") on 5-point scales. Recent debate on the discriminant validity of the LOT was initiated by Smith, Pope, Rhodewalt, and Poulton (1989), who criticized the instrument as possessing a high degree of overlap with measures of neuroticism or trait anxiety. However, Scheier et al. (1994) supported the discriminant validity of the test by demonstrating that relationships among optimism, depression, and coping remain significant even when the effects of neuroticism, anxiety, perceived control, and self-esteem are controlled. Despite these most recent findings, readers may want to note the possible overlap between the LOT and the trait of neuroticism.

Perceived control was assessed with the seven-item Mastery Scale (Pearlin, Menaghan, Lieberman, & Mullen, 1981; Pearlin & Schooler, 1978). Pearlin and Schooler (1978) defined mastery as the "extent to which one regards one's life-chances as being under one's own control in contrast to being fatalistically ruled" (p. 5). Mastery Scale items tap a person's global or generalized tendency to feel personal control over life events (e.g., "What happens to me in the future mostly depends on me" and "I can do just about anything that I set my mind to"). The scale has been widely used in coping and stress research, and this research has demonstrated that higher levels of perceived control are associated with higher levels of problem-focused coping, psychological health, and physical health (cf. Armstrong-Stassen, 1994; Folkman, Lazarus, Gruen, & DeLongis, 1986; and Scheier et al., 1994). Responses were made on a 4-point scale ranging from *strongly disagree* (1) to *strongly agree* (4).

**Context-specific variables.** Items used to assess the five context-specific variables are shown in the Appendix. All items were answered on 7-point Likert scales ranging from *strongly disagree* (1) to *strongly agree* (7). In inference to these context-specific variables, it might be noted that because of the multiple locations ( $n = 85$ ) and office sizes ( $M = 13.5$  employees,  $SD = 22.8$  employees), NAHRO members did not always receive the same levels of information, support, and possibilities for participation, and there was variability as well in personal impact and the challenge components of the change for individuals across offices.

Information was assessed with four items based on a scale used by V. D. Miller et al. (1994). Participation was assessed with four items tapping the extent to which employees perceived that they had input into the change process. Change-specific self-efficacy was assessed via a four-item measure from Ashford (1988). Social support was assessed with the three-item social support scale developed by Caplan, Cobb, French, Harrison, and Pinneau (1975). Finally, personal impact was assessed with one item. Confirmatory factor analysis of the five contextual variables suggested that one of the participation items fit better with the information items. This item was dropped. Results of a confirmatory factor analysis of the contextual variable items conducted without this item supported the five-factor structure (comparative fit index: .91; nonnormed fit index: .89; LISREL 8.20; Jöreskog & Sörbom, 1993). The contextual variables were scored so that a high score indicated higher levels of each construct.

**Openness toward changes.** Openness to the changes being faced was assessed with a seven-item, modified version of an openness toward organizational change scale developed by V. D. Miller et al. (1994). Modifications were made to make the scale appropriate for the changes our sample was facing. The directions read as follows: "We would like to know how you feel about the specific changes that you are currently facing in your job as a result of the consolidation of HUD programs and regulatory changes. Please answer the following items with this scale." Scale options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Exploratory factor analyses suggested a two-factor structure for this scale. Confirmatory factor analysis using LISREL 8.20 also supported this structure with good fit indexes (comparative fit index: .94; nonnormed fit index: .90) and by demonstrating that the two-factor structure fit the data significantly better than the one-factor structure. The first factor portrays the willingness to accommodate or accept the specific changes (i.e., "I would consider myself open to the changes," "I am somewhat resistant to the changes," and "I am quite reluctant to accommodate and incorporate these changes into my work"), and the second factor depicts whether individuals viewed the changes as positive or negative for themselves, their clients, and the organization (e.g., "Overall, the proposed changes are for the better" and "I think that the changes will have a negative effect on the clients we serve"). On the basis of this factor-analytic work, the decision was made to report two scale scores: (a) change acceptance and (b) positive view of the changes.

**Work-related outcomes.** Job satisfaction (e.g., "All in all, I am satisfied with my job") and intention to quit (e.g., "I often think about quitting") were assessed via two 3-item scales from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1983) that use 7-point responses. Work-related irritation (e.g., "When you think of yourself at your job nowadays, how much of the time do you feel irritated or annoyed?") was assessed with a 3-item scale (Caplan et al., 1975). Responses ranged from 1 (*never or a little of the time*) to 4 (*most of the time*).

**Turnover.** This variable was coded 1 if the person had left his or her job as of Time 3 of our study and 0 otherwise. Thirteen (10%) individuals had left their jobs and the organization as of Time 3.

**Control variables.** Age and education were controlled on the basis of findings that older and less educated individuals tend to be less positive about change (cf. Kirton & Mulligan, 1973). Whether the respondent was a manager of other workers was also controlled (0 = no, 1 = yes), given that managers may have greater access to information and more opportu-

Table 1  
Means, Standard Deviations, Coefficient Alphas, and Correlations Among Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Age	46.45	10.14	—																	
2. Education	13.93	1.80	-.07	—																
3. Manager	0.67	0.47	.12	.27	—															
4. T1 self-esteem	13.06	1.85	-.03	.12	.05	<b>.66</b>														
5. T1 optimism	22.84	3.75	.08	.25	.06	.55	<b>.82</b>													
6. T1 perceived control	23.08	3.45	-.16	-.00	-.06	.38	.45	<b>.65</b>												
7. T1 resilience	-0.01	0.80	-.05	.15	.02	.80	.83	.76	<b>.84</b>											
8. T1 information	16.66	4.98	.11	-.16	-.06	.02	-.10	.06	-.01	<b>.87</b>										
9. T1 participation	10.65	4.03	.10	-.00	.07	.00	-.04	.20	.07	.38	<b>.72</b>									
10. T1 change self-efficacy	20.92	3.50	-.07	.05	-.08	.15	.15	.21	.21	.18	.15	<b>.61</b>								
11. T1 social support	8.63	2.26	-.29	-.03	-.22	.17	.02	.18	.15	.23	.14	.13	<b>.44</b>							
12. T1 personal impact	5.45	1.24	.08	-.03	.10	.06	.01	-.07	.00	.16	.05	-.03	.05	—						
13. T2 change acceptance	15.40	3.01	-.09	-.02	-.06	.19	.15	.16	.21	.21	.09	.26	.12	-.03	<b>.76</b>					
14. T2 positive change view	18.41	4.28	-.05	-.00	-.05	.10	.11	.06	.11	.24	.26	.14	.15	.09	.56	<b>.85</b>				
15. T2 job satisfaction	17.82	2.83	.10	-.01	.14	.07	.18	.04	.12	.05	.07	.15	.09	-.08	.33	.24	<b>.88</b>			
16. T2 work irritation	5.08	2.00	-.21	-.03	-.06	-.06	-.18	-.05	-.12	-.04	-.10	-.16	.03	.14	-.29	-.26	-.55	<b>.87</b>		
17. T2 intention to quit	6.83	4.15	-.16	.06	.05	-.16	-.17	-.07	-.16	-.14	-.03	-.14	-.11	.04	-.31	-.27	-.65	.42	<b>.88</b>	
18. T3 turnover	0.10	0.30	-.08	-.02	-.15	-.05	-.01	.12	.02	-.02	-.12	-.15	.11	-.10	-.02	-.12	-.22	.22	.20	—

Note. *N* = 130. Decimals in correlations have been omitted. Correlations above .16 are significant ( $p < .05$ ). Alpha coefficients appear in boldface on the diagonal. T1 resilience represents a composite of T1 esteem, T1 control, and T1 optimism. T1 = Time 1; T2 = Time 2; T3 = Time 3.

panies for participation in the change than do nonmanagerial employees. Three other variables were considered as control variables. Tenure in the housing field and number of employees working in the office were assessed as a result of the possibility that individuals who had worked in the field longer or those who lacked coworkers may have had more difficulty adapting to the changes. Gender was also examined for its potential relevance. These three variables were not significant in the regression equations, and dropping them did not change the regression results. Therefore, they were not used in the study's analyses.

## Results

### Descriptive Statistics and Preliminary Analyses

Table 1 reports variable descriptive statistics and correlations. The low alpha value for the social support scale (.44) was expected and not problematic in that the three scale items addressed different sources of social support (i.e., immediate supervisor, coworkers, and nonwork sources). As anticipated, respondents often reported receiving support from one source and not from another.

The intercorrelations among the three individual-differences variables ranged from .38 to .55 (see Table 1). Reducing potential concerns regarding our shortened self-esteem measure, the correlations between self-esteem and optimism (.55) and between self-esteem and perceived control (.38) mimicked the pattern reported by Aspinwall and Taylor (1992); in their study, the two correlations were .67 and .26, respectively. To address potential multicollinearity concerns in the regression equations, we standardized the scores for self-esteem, perceived control, and optimism and used the average of the three variables as an overall indicator of "resilience." These three variables were similarly combined into one indicator by Major et al. (1998) and Wanberg (1997), with the justification that they are strongly linked in a theoretical sense as personal resource variables and have been shown empirically to demonstrate similar relationships with stress outcomes. The resil-

ience composite was included along with the separate scales in the correlation matrix.<sup>1</sup>

### Tests of Hypotheses

Multiple regression (Hypotheses 1–3) and logistic regression (Hypothesis 4) were used to test our hypotheses. Structural equation modeling was not used because of our small sample size and correspondingly small item-parameter-to-participant ratio (Hoyle, 1995).

Hypotheses 1 and 2 suggested that the individual-differences and contextual variables would be predictive of openness to the organization's changes. In partial support of Hypothesis 1, personal resilience was significantly related to change acceptance but not to a positive view of the changes (see Table 2). In partial support of Hypothesis 2, perceived information and higher levels of change-related self-efficacy were associated with increased change acceptance. A higher degree of participation was related to a more positive view of the changes. Availability of support systems and perceived personal impact of the changes were not related to either of the change openness subscales.

<sup>1</sup> Analyses were computed with self-esteem, optimism, and perceived control as individual variables in the equations being presented for comparison purposes. The results were identical to those presented in the tables, with three exceptions. First, self-esteem, optimism, and perceived control were not significant predictors in the equation predicting change acceptance. The composite, on the other hand, was significant. Second, in the equation predicting job satisfaction, optimism was significant with a positive coefficient, whereas the composite was not significant. Finally, in the equation predicting turnover, perceived control was significant with a positive coefficient, whereas the composite was not significant. There were no changes in significance among any of the other predictors.

Table 2  
Regression Results Predicting Openness to Change Variables

Variable	Time 2 change acceptance ( $\beta$ )	Time 2 positive view of changes ( $\beta$ )
Control		
Age	-.08	-.07
Education	-.03	.02
Manager (0 = no, 1 = yes)	-.02	-.05
Individual differences		
T1 resilience	.18*	.08
Context specific		
T1 information	.19*	.16
T1 participation	.00	.20*
T1 change self-efficacy	.18*	.05
T1 social support	-.00	.04
T1 personal impact	-.05	.07
Multiple R	.36*	.35
R <sup>2</sup>	.13*	.12
Adjusted R <sup>2</sup>	.07*	.06

Note.  $N = 130$ . T1 = Time 1.

\*  $p \leq .05$ .

Hypothesis 3, predicting that openness toward the changes would be related to job satisfaction, work-related irritation, and intention to quit, was partially supported. Table 3 shows the results of three regression equations in which job satisfaction, work-related irritation, and intention to quit were regressed on the two openness to change factors (see the first equation under each outcome variable in Table 3). As expected, change acceptance was positively related to job satisfaction and negatively related to work irritation and intention to quit. A positive view of the changes was

not related to these three work outcomes in the equation shown. Note, however, that when positive view of the changes was entered into the regression without change acceptance (supplementary analysis not shown in Table 3), it was a significant predictor of all three outcome variables in the direction expected. The lack of significance of a positive view of the changes in the regressions shown in Table 3 was due to this variable's correlation with change acceptance ( $r = .56$ ).

Although not specifically hypothesized, the second column under each outcome variable in Table 3 depicts job satisfaction, work-related irritation, and intention to quit regressed on the complete set of predictors. Although it appears as if the two openness to change factors are not significant when the other predictors are included in the equation, both openness factors were significant predictors of all three outcomes when only one of the openness variables was included in the equation at a time. The resilience and context-specific variables were not related to the work outcomes, with the exception of personal impact, which was a significant predictor of work irritation. Although Figure 1 suggests that the effects of resilience and the context-specific variables on the work outcomes may be mediated by openness to change, further analysis did not support any mediating effects. Specifically, resilience and the context-specific variables remained nonsignificant predictors of the outcomes when the openness to change variables were removed from the equation (Baron & Kenny, 1986).

The lack of a relationship between resilience and the work outcome variables was in contrast to other research suggesting that the components of resilience are positively correlated with, for example, job satisfaction (cf. Judge et al., 1998). We surmised that the lack of an observed relationship might have been due to

Table 3  
Regression Results Predicting Work-Related Outcomes

Variable	T2 job satisfaction ( $\beta$ )		T2 work irritation ( $\beta$ )		T2 intention to quit ( $\beta$ )	
	Equation 1	Equation 2	Equation 1	Equation 2	Equation 1	Equation 2
Control						
Age	.11	.17	.24**	-.26**	-.20*	-.24**
Education	-.04	-.07	-.04	-.00	.03	.05
Manager (0 = no, 1 = yes)	.17	.21*	-.05	-.07	.05	.01
Individual differences						
T1 resilience		.03		-.05		-.10
Context specific						
T1 information		-.07		.07		-.03
T1 participation		-.02		-.02		.10
T1 change self-efficacy		.09		-.11		-.06
T1 social support		.15		-.01		-.12
T1 personal impact		-.11		.17*		.08
Openness to change						
T2 change acceptance	.31**	.27*	-.24*	-.19	-.25*	-.19
T2 positive view of changes	.08	.10	-.15	-.18	-.14	-.16
Multiple R	.40**	.44**	.40**	.46**	.39**	.44**
R <sup>2</sup>	.16**	.19**	.16**	.21**	.15**	.19**
Adjusted R <sup>2</sup>	.12**	.12**	.13**	.14**	.12**	.12**

Note.  $N = 130$ . Only the control variables and openness to change variables were included in Equation 1. Personal resilience and the contextual variables were also included in Equation 2. T1 = Time 1; T2 = Time 2.

\*  $p < .05$ . \*\*  $p < .01$ .

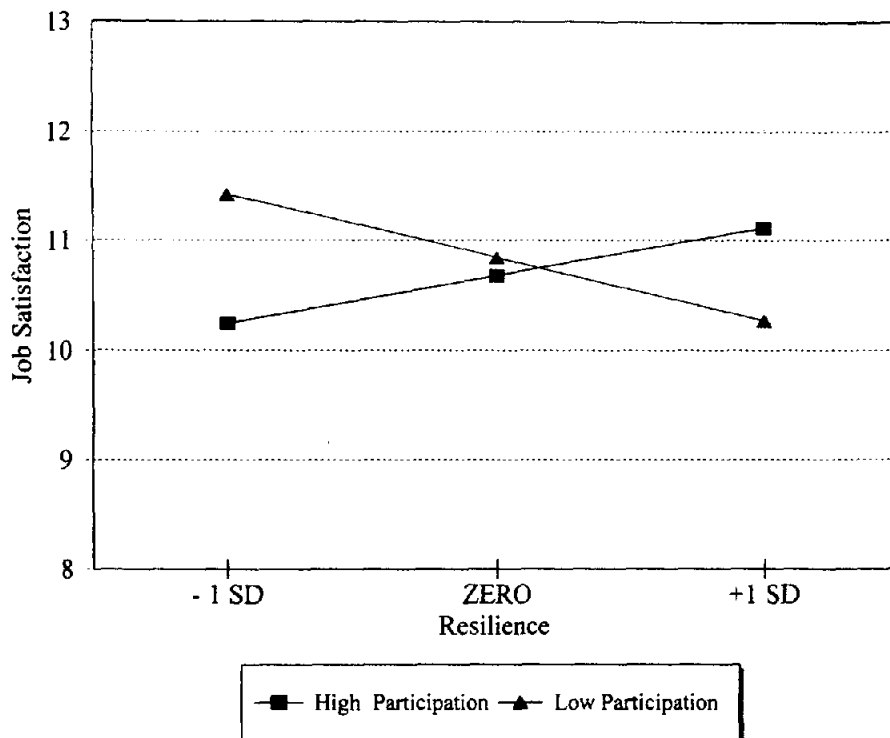


Figure 2. Plot of interaction between resilience and participation in the prediction of Time 2 levels of job satisfaction.

moderator effects. In a post hoc analysis, we tested all of the possible interactions between resilience and contextual variables (five interactions) to assess their incremental value as predictors of the outcome variables over and beyond the main effects depicted in Table 3. One interaction was significant in the prediction of job satisfaction, with an increment in  $R^2$  over the full equation shown in Table 3 of .037 ( $p < .01$ ). This interaction is portrayed in Figure 2. As depicted in Figure 2, resilience was positively related to job satisfaction for individuals who reported high levels of participation in the change process. However, resilience was negatively related to job satisfaction for individuals who reported low levels of participation in the change process.<sup>2</sup> This finding suggests that the relationship between resilience and job satisfaction was dependent on the extent to which individuals participated in the change process.

Hypothesis 4 suggested that openness to the changes would be related to turnover. This hypothesis was tested via logistic regression, a method appropriate for predicting a dichotomous outcome variable. The hypothesis was not supported, as shown in the first equation in Table 4. Although not hypothesized, the last three columns in Table 4 show turnover regressed on the other study variables. For example, it is useful to assess whether any of the contextual variables were related to turnover above and beyond resilience or the other study variables. Job satisfaction (column 2), work irritation (column 3), and intention to quit (column 4) were included in the equations separately as a result of issues of construct overlap that arose when all three variables were included in the equation at once (correlations between these variables ranged from .42 to .65). Lower job satisfaction and increased intentions to

quit at Time 2 of the study were related to higher levels of turnover at Time 3. Increased work irritation closely missed significance in its relation to turnover ( $p = .056$ ). No other study variables were related to turnover.<sup>3</sup>

## Discussion

One objective of this study was to examine the extent to which individual differences predict employee openness to a series of organizational changes. Supporting our expectations, resilience was related to higher levels of change acceptance. Resilience, however, was not predictive of a more positive view of the changes. It seems that resilience is associated with increased likelihood of accommodating a required change at work and not necessarily related to agreement with whether that change is beneficial to the organization and its clients.

A second objective was to assess five context-specific variables as predictors of openness toward the specific changes. A higher level of participation was associated with a view that the changes

<sup>2</sup> We also tested these five interactions in the prediction of the two openness to change variables. None of the interactions between resilience and context-specific variables were significant predictors of openness to change.

<sup>3</sup> The turnover represented ( $n = 13$  individuals) was not due to organizational downsizing. Instead, when reasons were available, the turnover was due to retirement and leaving for other job opportunities. It should be recognized that the relatively low turnover base rate limited the size of the relationships observed (cf. Steel & Griffeth, 1989).

Table 4  
*Logistic Regression Results Predicting Turnover at Time 3*

Variable	Time 3 turnover (b)			
	Equation 1	Equation 2	Equation 3	Equation 4
Control variables				
Age	-.02	-.01	.01	.01
Education	.04	.02	.10	-.04
Manager (0 = no, 1 = yes)	-1.00	-.32	-.64	-.66
Individual differences variables				
T1 resilience		.13	.22	.18
Context specific variables				
T1 information		.02	.02	.03
T1 participation		-.15	-.12	-.17
T1 change self-efficacy		-.18	-.15	-.19
T1 social support		.30	.25	.39
T1 personal impact		-.34	-.36	-.36
Openness toward change factors				
T2 change acceptance	.06	.16	.13	.16
T2 positive view of changes	-.13	-.07	-.06	-.05
Work outcomes				
T2 job satisfaction		-.26*		
T2 work irritation			.33	
T2 intention to quit				.23*
Model $\chi^2$	5.7	17.1	16.0	18.8
df	5	12	12	12
Classification accuracy (%)	90	91	92	92

Note.  $N = 130$ . Presented are four different logistic regression equations predicting turnover. The values in the table are unstandardized logistic regression coefficients. T1 = Time 1; T2 = Time 2.

\*  $p \leq .05$ .

would be beneficial. Increased information and self-efficacy for dealing with the proposed changes were associated with greater change acceptance. Interestingly, information and participation are major components of theories of organizational justice (cf. Cobb, Wooten, & Folger, 1995). Cobb et al. noted that issues of justice are important to consider during times of organizational change and that concerns involving fairness will arise during most change efforts.

The final objective of this study was to examine the possible relationships between change openness and job satisfaction, work irritation, intention to quit, and actual turnover 14 months later. Results demonstrated that individuals with lower levels of change acceptance reported less job satisfaction, more work irritation, and increased intentions to quit. A positive view of the changes was also associated with these work outcomes in the direction expected when change acceptance was taken out of the equation. Neither change openness factors were direct predictors of turnover 14 months later. However, because a low level of change acceptance was related to job satisfaction and intentions to quit, and because job satisfaction and intentions to quit were related to later turnover, the possible effects of change attitudes should not be discounted. As anecdotal support for the possible impact of change on turnover, one participant noted, "I love my job, but the new changes are tough on me. If a comparable job comes along with less stress and good pay, I will change jobs."

These results have implications for both practitioners and researchers. For managers, one important finding is the relationship between change-related self-efficacy and change acceptance. Employees may be reluctant to incorporate new procedures, technol-

ogy, or other changes into their work if they are anxious about their ability to perform their job after the change (Coch & French, 1948). To lessen employee resistance, managers should ensure that adequate training is provided to employees and should take steps to bolster employees' confidence in their abilities to accommodate workplace change. Our findings also suggest that individuals with high levels of resilience, as opposed to individuals with low levels of resilience, will be most likely to benefit from participation in change processes.

Future research on potential moderators of the usefulness of participation of employees in change contexts would be useful. Such research might benefit from viewing change from the perspective of psychological ownership (cf. Dirks, Cummings, & Pierce, 1996). Dirks et al. (1996) suggested that an employee's sense of ownership over his or her job, organization, or a change process can play a role in either facilitating or impeding change. They also suggested that the relationships among participation, psychological ownership, and resistance to change need to be better understood.

Some organizations are undergoing efforts to develop inventories to assess managers' tendencies to resist change. Given that organizations need individuals who can adapt easily to change, this step seems warranted. However, another important question in need of study is under what conditions openness to change may be undesirable rather than desirable. Clearly, organizations should not seek a workforce of individuals willing to happily concede to any change proposed. Individuals willing to openly question change play important roles through challenging the logic of organiza-



tional decisions, at times saving organizations from costly and foolish changes.

Two primary limitations of this study should be noted. First, our sample size was small, and the internal consistency values for three of our measures (self-esteem, perceived control, and change self-efficacy) were low (.66, .65, and .61, respectively). Our small sample size may have increased Type I error, and the low internal consistencies may have attenuated true relationships between our constructs. Second, our measures were primarily self-report in nature. Our use of a longitudinal design and the way in which we separated assessments of our predictors and outcomes reduced common method bias, yet non-self-report data, such as performance measures or coworker ratings of how a study participant was coping with the change, would have been desirable. Given that this study is one of only a few that have examined individual reactions to change, its results can provide direction and support for future research in this area. Future research, however, should attempt to incorporate a larger sample size and non-self-report measures.

The results of this study and the implications outlined should be interpreted in light of the study's context and sample. Enhancing the study's generalizability is the fact that our participants represented many organizations (e.g., public housing authorities) of varying sizes. The changes affected the various housing authorities in similar, yet sometimes different, ways. As a result, our data reflect ranges of experience with change, especially with regard to contextual variables. A limitation to generalizability is the nature of the change faced by the study participants. Predictors and outcomes of attitudes toward single, discrete changes (such as a new telephone system) may differ. The nature of the changes that we investigated (a series of complex changes within an ongoing change climate), however, is becoming increasingly common in today's workplace.

In summary, people by nature are creatures of habit, and organizations will continually face that fact. Whereas existing research on organizational change has been focused heavily at the macro or organizational level, further research is needed to assess individual-differences and contextual factors related to resistance to change and to assess and extend the generalizability of the results of the current study.

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(Appendix follows)

## Appendix

## Contextual Factor Items

## Information

1. The information I have received about the changes has been timely.
2. The information I have received about the changes has been useful.
3. The information I have received has adequately answered my questions about the changes.
4. I have received adequate information about the forthcoming changes.

## Participation

1. I have been able to ask questions about the changes that have been proposed and that are occurring. (This item was dropped from the scale on the basis of factor-analytic information.)
2. I have been able to participate in the implementation of the changes that have been proposed and that are occurring.
3. I have some control over the changes that have been proposed and that are occurring.
4. If I wanted to, I could have input into the decisions being made about the future of HUD programs.

## Change-Related Self-Efficacy

1. Wherever the restructuring takes me, I'm sure I can handle it.
2. I get nervous that I may not be able to do all that is demanded of me by the restructuring. (reversed)
3. I have reason to believe I may not perform well in my job situation following the restructuring. (reversed)
4. Though I may need some training, I have little doubt I can perform well following the restructuring.

## Social Support

How much is each of the following people available and willing to listen to your concerns about this change?

1. Your immediate supervisor (boss).
2. Other people at work.
3. Your significant other, friends, and relatives.

## Personal Impact

1. The changes will have a highly significant impact on my job and on individuals who need public housing.

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