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Beyond Change Management: A Multilevel Investigation of Contextual and Personal Influences on Employees' Commitment to Change

David M. Herold and Donald B. Fedor
Georgia Institute of Technology

Steven D. Caldwell
University of South Carolina–Upstate

The extent to which attitudes toward organizational changes may be affected by contextual (other changes going on) and personal (self-efficacy) factors was investigated with a multilevel design involving 25 different changes. Even after aspects of the change itself were controlled, the interaction between the context and the individual difference explained significant variance in attitudes toward those specific changes. The positive relationship between self-efficacy and commitment to the change was stronger as the amount of simultaneous and overlapping change in the surroundings increased. The implications for research and practice are discussed.

Keywords: change, context, self-efficacy, commitment

The acceptance of and support for organizational changes on the part of organizational members is generally viewed as critical for the success of planned organizational changes (Armenakis, Harris, & Mossholder, 1993; Miller, Johnson, & Grau, 1994). As such, much attention has been focused on better understanding factors that shape employees' responses to change in the hope of improving organizations' ability to impact the degree of support or acceptance displayed for particular change initiatives (Piderit, 2000).

Most of this attention, both from researchers and from practitioners, can be characterized as focusing on the importance of change implementation processes in shaping employees' attitudes and behaviors toward change. Thus, various aspects of the change process, such as procedural fairness (e.g., Brockner, 2002), communication (e.g., Schweiger & DeNisi, 1991), and leadership (e.g., Kotter, 1996), have been linked to both change-specific attitudes, such as openness to the change (e.g., Wanberg & Banas, 2000), and more general attitudes, such as organizational commitment (e.g., Judge, Thoresen, Pucik, & Welbourne, 1999).

The literatures dealing with how to best launch and manage change (both research and practitioner oriented) are quite substantial, well documented, and largely noncontroversial. However, the unfortunate reality is that, in spite of what we think we know about change management, many, if not most, significant organizational change initiatives fail to meet expectations (Burke, 2002; Probst & Raisch, 2005). In fact, widespread commitment to organizational changes seems to be the exception rather than the rule, with terms such as *cynicism, burnout, change du jour,* and *flavor of the month* used to describe employees' support for change.

Assuming that the findings in the change literature are reasonably valid and that we have reasonable confidence in the shared wisdom and prescriptions of change practitioners, we may offer two explanations as to why, despite the many articles and books written on the subject, the outcomes of change efforts are so often disappointing. One explanation is that people are just not applying what they already know about change management. That is, managers are just not creating or communicating a change vision, involving others, celebrating small wins, or being attentive to matters of procedural justice. Although this is certainly plausible for some or even many change efforts, it seems unlikely that it can explain most or all of the disappointments experienced by organizations that are aware of these prescriptions and have access to staffs and consultants who are well versed in aspects of organizational development.

A second explanation is that the focus on change management practices and processes has obscured other important factors that ultimately shape people's reactions to change. Recently, researchers have turned to such issues, helping the field move beyond the well-documented impact of change processes. For example, researchers have found that the perceptions of the outcomes of change (Brockner & Wiesenfeld, 1996; Novelli, Kirkman, & Shapiro, 1995), the extensiveness of the change (Caldwell, Herold, & Fedor, 2004), and the impact of the change at both a job and a work-unit level (Fedor, Caldwell, & Herold, 2006) all affect change reactions. Other investigations of nonchange factors have focused on demonstrating the impact of individual differences on change reactions (e.g., Caldwell et al., 2004; Judge et al., 1999), although such explorations are still tentative in terms of which individual differences and personality variables are the most potent predictors of change reactions.

Another largely neglected yet potentially important extrachange factor that may affect change reactions consists of the context within which a change occurs. Exploring the role of context, while still accounting for previous research findings on the role of different change aspects as well as individual differences, requires that we examine cross-level linkages that may explain the connection among aspects of the change, the change context, and characteristics of the change targets as they might shape change responses. The purpose of the research reported in this article is to

David M. Herold and Donald B. Fedor, College of Management, Georgia Institute of Technology; Steven D. Caldwell, School of Business Administration and Economics, University of South Carolina–Upstate.

Correspondence concerning this article should be addressed to David M. Herold, College of Management, Georgia Institute of Technology, Atlanta, GA 30308-0520. E-mail: david.herold@mgt.gatech.edu

explore such linkages by simultaneously investigating the relationship between context and individual differences, on the one hand, and employees' commitment to a change, on the other, using a meso (e.g., House, Rousseau, & Thomas-Hunt, 1995) or cross-level approach to link the micro and macro variables. In their call for more cross-level research, House et al. (1995) specifically mentioned change as an organizational phenomenon likely to benefit from the joint exploration of micro and macro concepts and the explication of the mechanisms by which these levels might be linked. In particular, this research examines the degree to which a change-specific individual difference (change self-efficacy) and the setting within which the change occurs (extent of other changes going on at the same time) may be related to individuals' commitment to the change, beyond the salient aspects of the change itself that researchers typically study when trying to understand change reactions (aspects of the change content and process).

Change and Commitment

Organizational commitment has received a great deal of research attention, having been found to be related to important organizational outcomes, such as job performance, citizenship, absenteeism, and turnover (e.g., Becker, Billings, Eveleth, & Gilbert, 1996; Maertz, Mosley, & Alford, 2002; Mowday, Steers, & Porter, 1979). Although organizational commitment was originally conceptualized as an employee's attachment to or congruence with the values of the organization, researchers have also documented commitment to other entities, such as organizational subunits, supervisors, or specific activities (e.g., change programs; Becker, 1992; Becker et al., 1996; Brockner, Tyler, & Cooper-Schneider, 1992; Ford, Weissbein, & Plamondon, 2003; Gregersen, 1992; Herscovitch & Meyer, 2002).

In the examination of reactions to organizational change initiatives, change commitment reflects not only positive attitudes toward the change but also alignment with the change, intentions to support it, and a willingness to work on behalf of its successful implementation. This notion of a positive, proactive behavioral intent toward the change makes commitment different from other attitudinal constructs that capture either the absence of negative attitudes, such as resistance to the change (Kotter & Schlesinger, 1979; Piderit, 2000), or positive dispositions toward a change, such as readiness for change (Armenakis et al., 1993) or openness to change (Wanberg & Banas, 2000). Furthermore, commitment to a change has been found to be conceptually and empirically distinct from organizational commitment (Fedor et al, 2006; Ford et al., 2003; Herscovitch & Meyer, 2002) and to be a better predictor of support for change (Ford et al., 2003; Herscovitch & Meyer, 2002).

Change Self-Efficacy

The research on attitudinal reactions to change has used concepts such as uncertainty (Ashford, 1988), loss of control (Ashford, Lee, & Bobko, 1989), fear of failure (Nadler, 1982), and disruptions in sense making (McKinley & Scherer, 2000) as explanations for the negative relationship generally found between organizational change and attitudes. Furthermore, changing circumstances may represent adaptation demands on the individual that are taxing or that exceed the individual's coping resources. Change process factors (e.g., procedural fairness) are often studied as means for mitigating such effects.

Because uncertainty, fear of failure, sense making, and loss of control are largely in the eyes of the beholder and individuals vary in their coping resources to respond to changing demands placed on them, one would expect individual differences to be related to individuals' perceptions of and reactions to change. That is, individual differences ought to be related to people's perceptions of the uncertainty, potential for failure, or loss of control associated with a given change situation as well as how potentially threatening they find such states to be. Recently, researchers have begun to investigate such effects and have found motivational states to influence employees' adaptation to change (Caldwell et al, 2004) and personality dimensions (i.e., the Big Five) to be related to people's strategies for coping with change (Judge et al., 1999).

Self-efficacy, defined as a set of beliefs about one's ability to meet a given set of situational demands (Wood & Bandura, 1989), has been studied extensively in organizational contexts and found to predict outcomes such as performance (Stajkovic & Luthans, 1998) and job attitudes (Saks, 1995). Reviewing the research on self-efficacy and reactions to stressful situations, Cooper, Dewe, and O'Driscoll (2001) concluded that a case can be made "that beliefs about the self and one's abilities may function as effective buffers against the adverse effects of stressful job conditions" (p. 131). If one views the uncertainty, fear of failure, loss of control, and adaptation demands associated with change as potentially stressful job conditions, high self-efficacy should buffer individuals from their adverse effects. That is, more efficacious people should find a given change to be less stressful, onerous, or threatening than less efficacious people.

A question arises, however, about the use of generalized self-efficacy conceptualizations as opposed to more setting- or domain-specific conceptualizations. This is sometimes referred to as the distinction between *trait* and *state* assessments of efficacy (Chen, Gully, & Eden, 2001). Trait assessments reflect beliefs about competence across a wide variety of situations (Judge, Erez, & Bono, 1998), whereas state assessments reflect more task-specific constructs (Gist & Mitchell, 1992). Herold and Fedor (1998), as well as House, Shane, and Herold (1996), have argued that, in general, domain-specific individual differences have greater potential to explain variance in the investigation of domain-specific attitudes or behaviors. Thus, in terms of individuals' attitudes toward change, change-specific self-efficacy should be more proximally related to attitudinal responses to change than should general self-efficacy. In our case, individuals who feel more confident about their ability to handle change (i.e., have high change self-efficacy) should be less negatively affected by the demands placed on them by workplace changes and thus more willing or committed to support such changes than those with low change self-efficacy.

Hypothesis 1: Change self-efficacy will be positively related to individuals' commitment to a given change.

The Role of Change Context

Most research on organizational change examines the content of a specific change (e.g, a layoff, merger, or reorganization) and/or aspects of the change implementation process, such as procedural

justice (e.g., Brockner et al., 1994). What has not been adequately explored is the role played by the larger organizational context in which a given change is embedded and how it may affect change responses. For example, the degree to which a particular change taxes individuals' adaptation resources may well be a function of the extent to which such resources are already being consumed in adapting to other, ongoing environmental events.

In their review of 10 years of change research, Armenakis and Bedian (1999) divided the research into three themes: change content, change process, and change context. Yet all but one of the articles they reviewed in the context category examined external contexts, such as industry and environmental factors, rather than internal contextual variables. The one study to consider intraorganizational context was a meta-analysis (Damanpour, 1991) that linked organizational variables to firms' innovativeness, a special case of organizational change. Thus, very little work has been done to investigate the influence of the internal change environment on individual change participants' responses to specific change initiatives.

In the organization theory and strategy literature, researchers have long argued that organizational actions need to be understood in terms of the organizational environment or context of the firm; such contexts often have been described in terms of their dynamicism, volatility, or turbulence (e.g., Dess & Beard, 1984; Lawrence & Lorsch, 1967). Others (e.g., Cameron, Kim, & Whetten, 1987) have taken the turbulence concept used to describe external environments and applied it to single, discontinuous changes. Still others have described change environments internal to the organization as workplace chaos (Gleick, 1987) or have noted that "the number of variables changing at the same time, the magnitude of environmental change, and the frequent resistance of human systems create a whole confluence of processes that are extremely difficult to predict" (Burke & Litwin, 1992, p. 523).

If we apply this characterization of external environments to the internal environment surrounding specific changes, the investigation of change turbulence provides an intraorganizational, change-specific contextual variable that may help explain individuals' attitudes toward a particular change. In this context, *turbulence* does not refer to the organization's external environment (e.g., Lawrence & Lorsch, 1967), nor is it used to describe a particular change (e.g., Cameron et al., 1987). Rather, it is used to reflect the preponderance of changes going on in the organization at the same time as the focal change—changes that represent additional distractions and adaptation demands and thus form an important part of the context for individuals' reactions to the focal change.

The selection of turbulence as a change context variable that may influence individual commitment to a change is based on two considerations. First, although it is not specifically addressed in the research literature (but is widely recognized in practice and in the popular press), a condition of multiple and overlapping changes better reflects the realities of organizational life—namely, that a given change often exists in a setting characterized by many other changes and distractions and that this environment of multiple changes seems to frustrate individuals. Second, because change places adaptation demands on individuals who presumably possess finite resources, multiple changes imply an increase in such demands (beyond those associated with the target change), creating cumulative effects that need to be considered (Cooper et al., 2001; Holmes & Rahe, 1967). In such contexts, even a necessary and well-planned change may be doomed by the lack of support on the part of affected individuals who are already experiencing change overload. Thus, this focus on change turbulence reflects and combines the traditional organizational literature linking change aspects and employee attitudes (e.g., Armenakis & Bedian, 1999; Ashford, 1988; Brockner et al. 1994; Schweiger & DeNisi, 1991) with the psychological literature on the cumulative effects of multiple changes occurring in people's daily life (e.g., Holmes & Rahe, 1967; Ruch & Holmes, 1971).

Furthermore, if change self-efficacy is associated with perceptions of the threat and uncertainty represented by a given change, then it also ought to be related to the perception of the cumulative threat and uncertainty represented by a constellation of changes. That is, to the degree that those who feel that they can generally handle change perceive less uncertainty or loss of control and experience less threat or fear of failure as a result of a given change, they should also be better able to deal with the pressures created by multiple changes. Conversely, those who find even a single change to be problematic should experience increased discomfort and express reduced levels of support for a given change that is embedded in a context of multiple changes.

Therefore, if change self-efficacy is viewed as a coping resource for a change situation, resulting in greater commitment or willingness to support that change, then change turbulence should moderate this relationship. That is, when a change is embedded in an environment characterized by simultaneous or overlapping changes, individuals' change self-efficacy should be more instrumental in their response to that change than when they have to focus only on the targeted change.

> *Hypothesis 2:* Change turbulence will moderate the change self-efficacy–commitment relationship. In particular, change commitment will be more positively related to change self-efficacy under high- than under low-turbulence conditions.

Going Beyond Change Process and Content

As noted earlier, most of the organizational change literature has focused on the role of change implementation processes (e.g., procedural fairness; Brockner et al., 1994; Caldwell et al., 2004) as shaping employees' attitudes and behaviors toward change. Procedural fairness has been one of the most widely researched change process variables, and a considerable literature exists concerning the impact of fairness on change attitudes (e.g., Brockner, 2002); thus, one could expect it to be related to change commitment.

The impact of any one change on the target person, in terms of increased workload or adaptation demands, is often ignored in studies of change (e.g., Judge et al., 1999; Lau & Woodman, 1995). Yet there is evidence that the direct and personal consequence of the change for affected individuals is important (Brockner & Wiesenfeld, 1996; Caldwell et al., 2004; Fedor et al., 2006). Recent studies that have explored aspects of the change itself, rather than the process used to implement it (e.g., Caldwell et al., 2004; Fedor et al., 2006), have found the magnitude of change at both the job and the work-unit levels to be a potentially important correlate of change commitment. That is, individuals' commitment to a change is a function, in part, of the degree to which the change impacts their own or their work unit's day-to-day routines.

Because change context, expressed here as turbulence, has no research history, whereas change process and, to a lesser degree, change content do, the question arises as to whether individuals can actually distinguish between aspects of the specific change and aspects of its environment when reporting or expressing change-related reactions. That is, can the effects hypothesized explain variance in reactions to change beyond that normally associated with the specifics of the change content or process? To address this question, we chose procedural fairness as a control variable for change process, whereas we chose the impact of the change on the individual and his or her work unit as control variables for change content. Thus, we controlled for the effects of two important aspects of organizational changes previously shown to be associated with change-related attitudes—the magnitude of the change and the fairness with which it is implemented—before testing our hypotheses concerning the effects of the extrachange variables. This allowed for a more conservative test of our hypotheses.

In summary, this study was designed to test whether the hypothesized relationships hold beyond the effects of two important aspects of a focal change—its content and its process. In particular, this research tests the proposition that individuals' commitment to support a change is not just a function of the change itself or how it was managed but rather represents a far more complex calculus that includes aspects of the setting surrounding the change, individual differences, and their interaction. Such a demonstration would expand the research and theorizing about individuals' responses to change by moving the field's theoretical models beyond the limited focus on change-level factors and toward extrachange factors, such as domain-relevant environmental or person-level variables. As House et al. (1995) noted, change is a complex organizational phenomenon that is best understood in terms of its multiple levels and the interactions among these levels.

Method

Sample

Data were collected from 553 employees of 25 organizations in the southeastern United States representing a wide variety of industry sectors, including finance, manufacturing, education, consumer products, and high technology. A manager in each organization served as the contact for this research. This manager was asked to identify a specific change in his or her work unit that was almost or recently completed and was likely to be salient to all members of the work unit. This method of identifying changes to be studied has been used by Caldwell et al. (2004), Fedor et al. (2006), and Herscovitch and Meyer (2002).

Various work process changes and new technology implementations each represented 30% of the changes chosen, reorganizations accounted for 11%, and the remaining 29% were divided among strategy changes, relocations, outsourcing, leadership changes, and downsizing. A measure of percentage complete was used to assess whether managers did, as requested, select a change for study that was far enough along or recently completed so that opinions as to its implementation and outcome were reasonably stable and based on meaningful feedback. The average completion rate was 97.4%.

Each manager was asked to survey everyone possible in the affected work unit about the change. Each potential respondent was contacted by the manager either face to face or via written communications (e.g., memo or e-mail). In this communication, the specific change being studied was identified, the research nature of the study was emphasized, and participation guidelines (i.e., voluntary and anonymous) were explained.

Participants were given directions for accessing a project Web site that contained the surveys and a 2-week window in which to respond. When a participant logged onto the Web site, the nature of the project and consent information were provided. To eliminate same-source bias between individual- and group-level measures, we split the sample such that half the respondents were presented with a survey assessing group-level data, whereas the other half were presented with a survey assessing individual-level data (the surveys were automatically alternated among respondents). The former was designed to capture data on the change environment, change impact, and change processes (Organizational Change Survey), and the latter assessed the individual difference, commitment to the change, and personal impact of the change (Personal Change Survey).

In total, 287 Personal Change Surveys and 266 Organizational Change Surveys were completed. The number of people asked to participate across the 25 work units ranged from 10 to 160, with a mean of 43. The range of respondents per work unit varied from 3 to 70, with a median of 15 and mean of 22, representing an overall 51% response rate.

To further protect respondents' anonymity, we assessed age and organizational tenure using ranges of years. Respondents' ages for the Personal Change and Organizational Change Surveys, respectively, were reported as follows: 25 years or younger (3.1%, 3.1%), 26–35 years (28.7%, 26.9%), 36–45 years (37.7%, 36.1%), 46–55 years (23.3%, 26.9%), and older than 55 years (7.1%, 7.0%). Respondents' organizational tenure was reported as follows for the Personal and Organizational Change Surveys, respectively: less than 6 months (6.9%, 6.7%), 6–24 months (16.3%, 20.9%), 2–5 years (33.5%, 36.2%), 5–10 years (20.4%, 12.3%), and more than 10 years (22.9%, 23.9%). Sixty-nine percent of respondents to both questionnaires were male. Chi-square tests for differences between the distributions of responses across the categories for the three demographics were all nonsignificant (0.78, 6.96, and 1.08 for age, tenure, and sex, respectively). The average of 22 respondents per organization and the return rate of 51.0% reduce the likelihood that managers targeted for participation a small, select group known to be favorably or unfavorably disposed toward the change.

Measures: Group Level

Change turbulence, an independent variable, along with the fairness of the change process and the impact of the change on one's work unit, both control variables, were part of the Organizational Change Survey and are considered group-level variables. That is, such variables reflect events occurring in the work unit that were shared or experienced by all individuals in that unit (Kozlowski & Klein, 2000). Because these variables are theorized as group-level phenomena, there are at least three ways they could be measured. According to Kozlowski and Klein (2000), assessing all of the data (i.e., perceptions of the change, the change environment, and responses to it) from a single source would generate the highest predictive validity. However, these measures would be

subject to same-source response biases. Alternatively, the affected individuals' responses could be averaged for a shared perspective, which would create group-level predictors and significantly reduce bias.

Finally, the most conservative alternative and the one chosen for this study is to average responses from an independent set of individuals who were experiencing the same group-level phenomena as the affected individuals. These measures are sometimes referred to as *shared properties* (Kozlowski & Klein, 2000) or *referent-shift consensus* (Chan, 1998) and are consistent with other research on individual-level outcomes of organizational change (Caldwell et al., 2004; Fedor et al., 2006). All ratings on this questionnaire were on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*).

Change turbulence. This scale used four items to capture the extent to which other change events or environmental distractions provided a backdrop for the change being studied. Items for this scale were "This change occurred during a turbulent time for our work unit," "This change suffered from too many other distractions," "We were still trying to digest earlier changes when we embarked on this one," and "This change would have been easier if we were not already dealing with a number of other changes" ($\alpha = .76$).

Change fairness (control). This three-item scale was taken from Caldwell et al.'s (2004) multilevel study of organizational change and reflects aspects of procedural fairness associated with the manner in which the change was implemented ($\alpha = .86$). A sample item for Change Fairness is "Those affected by the change had ample opportunities for input."

Work unit impact (control). This five-item scale ($\alpha = .85$), taken from Fedor et al.'s (2006) study of commitment to change, assessed the degree to which the change caused disruptions in the work processes, procedures, or routines in the work unit. The lead-in to these items was "This specific change involved . . ." and a sample item is ". . . changes in the work unit's processes and procedures." A confirmatory factor analysis of the group-level measures resulted in a comparative fit index of .91 and a goodness-of-fit index of .88, providing evidence of measurement model adequacy.

Measures: Individual Level

Change commitment, change self-efficacy, and the control variable of job impact were assessed in the Personal Change Survey.

Change commitment. Commitment to the change was assessed with four items ($\alpha = .70$) from Caldwell et al. (2004) and Fedor et al. (2006). Sample items from this scale are "I am doing whatever I can to help this change be successful" and "I have tried (or intend to try) to convince others to support this change." Ratings were on a 5-point scale, from 1 (*strongly disagree*) to 5 (*strongly agree*).

Change self-efficacy. Items for this scale were adapted from Chen et al.'s (2001) work on developing a general self-efficacy scale to create a measure specific to the change domain. This resulted in a six-item scale ($\alpha = .84$) reflecting beliefs about one's competency to deal with and master changing situations. Sample items include "I am able to successfully overcome the challenges of change," "When facing difficult changes, I am certain that I can deal with them," and "I believe I can deal with most any change to which I set my mind." Consistent with Chen et al.'s (2001) methodology, ratings were on a 6-point scale ranging from *very untrue of me* (1) to *very true of me* (6), with higher scores reflecting stronger feelings of efficacy.

Personal job impact (control). To capture the impact the change had on the individual's day-to-day job, we used four items ($\alpha = .80$) from Fedor et al. (2006) to assess the extent to which job demands increased as a result of the change. All items had the lead-in of "As a result of this change. . . ." Sample items for this scale are ". . . I find greater demands placed on me at work" and ". . . I am expected to do more work than I used to." Ratings were on a 5-point scale, from 1 (*strongly disagree*) to 5 (*strongly agree*). A confirmatory factor analysis of the individual-level measures resulted in a comparative fit index of .88 and a goodness-of-fit index of .86, providing evidence of measurement model adequacy.

Analysis

The first step of the analysis was to examine construct validity issues for the three group-level composition variables. We computed R_{wg} scores (James, Demaree, & Wolf, 1984) to examine agreement among group members reporting on the same change. Next, we computed intraclass correlation coefficients (ICC1 and ICC2) to examine the extent to which group membership accounted for members' ratings (Bliese, 2000).

We computed correlations for all variables within their respective level of analysis to determine zero-order relationships within each level (i.e., individual or group level). Because the data were multilevel, we used hierarchical linear modeling to assess the hypothesized relationships. Hierarchical linear modeling provides an appropriate analysis when multiple levels of data are involved by maintaining requirements of independence for the group-level data (Hofmann, 1997). Analysis for each outcome variable begins with fitting an unconditional model (null model) to estimate the total systematic variance in the outcome variable. These models are essentially one-way analyses of variance estimating the within- and between-groups variance. The proportion of the between-groups variance to the total variance is the ICC1 value for the dependent variable. For each null model, a chi-square test is run on the between-groups variance to determine whether the probability that more variance can be explained is significant. Hypothesis testing involved three steps: (a) The control variables were entered into their appropriate equation (Level 1 or Level 2) in the model, (b) the main effects variable (change self-efficacy) was entered in the Level 1 equation, and (c) the interaction variable (turbulence) was entered in the Level 2 "intercepts as outcomes" and "slopes as outcomes" equations. Grand centering of means was used for hypotheses testing. After confirming significance of hypothesized relationships, we ran additional tests using group mean centering (see Hofmann & Gavin, 1998).

Results

Tables 1 and 2 report summary statistics and zero-order correlations for the scales assessed at the group and the individual level, respectively. The median R_{wg} values for turbulence (.69) and ICC2 (.79) were in acceptable ranges, which means that turbulence could reliably distinguish group membership. As expected, the between-groups variances in the individual-level variables (ICC1) that we expected to be affected by the change situation were all reasonably

Table 1
Descriptive Statistics and Correlations: Group Level

Variable	*M*	*SD*	R_{wg}	ICC1	ICC2	1	2	3
1. Change turbulence	2.94	0.93	.69	.28	.79	.76		
2. Change fairness (control)	3.24	1.69	.79	.25	.76	−.33**	.86	
3. Work unit impact (control)	4.10	1.27	.72	.30	.82	.22**	.04	.85

Note. $N = 266$. ICC = intraclass correlation.
** $p < .01$.

high (greater than .10; Bliese, 2000), whereas for change self-efficacy, a more stable individual characteristic, it was quite low (.02).

As reported in Table 1, turbulence was significantly related to both change fairness (−.33, $p < .01$) and work unit impact (.22, $p < .01$), supporting the inclusion of fairness and change magnitude as control variables. For the individual-level measures (Table 2), change commitment was significantly correlated (.37, $p < .01$) with change self-efficacy, whereas job impact was significantly, negatively related to change self-efficacy (−.15, $p < .05$), again suggesting that using it as a control variable will lead to conservative tests of the hypotheses.

Table 3 presents the results from the hierarchical linear modeling analyses. Step 1 focused on the control variables, none of which had significant main effects. Step 2 examined the effects of self-efficacy on change commitment while controlling for the three change-specific variables. Hypothesis 1, which posited that change self-efficacy would be related to change commitment, was supported (coefficient = .326, $p < .01$). Step 3, which tested for the moderating effect of turbulence on the self-efficacy–commitment to change relationship (coefficient = .147, $p < .01$), provided support for Hypothesis 2. Figure 1 illustrates the hypothesized interaction and shows a more positive slope for the relationship between change self-efficacy and change commitment when turbulence is high, with the lowest levels of change commitment corresponding to individuals who are low in change self-efficacy and experiencing turbulent environments.

Given that the control variables had no significant main effects, we reran the analysis without them, but the results did not change. Furthermore, to determine the degree to which the hypothesized interaction was due to within- or between-groups effects, we ran an additional test with change efficacy group mean centered in the Level 1 equation, and we entered the group mean for change efficacy as well as the interaction of the group mean and turbulence variables in the Level 2 equation (Hofmann & Gavin, 1998). Results showed that the interaction between individuals' change self-efficacy and group-level turbulence was only significant for within-group effects. This result is consistent with the notion that individual differences in change self-efficacy are more traitlike and not dependent on the individual's context.

Discussion

The purpose of this study is to demonstrate the need to broaden current approaches to the study of organizational change. According to Armenakis and Bedian (1999), most change research focuses on two aspects of a specific change, either the nature of the change (i.e., the content, or the "what") or the process for implementing the change (i.e., the "how"). In this research, we have gone outside these boundaries to study organizational changes from the perspective of the context in which they are embedded (what else is going on) and the individuals whose behavior is targeted by the change (how well they tend to handle change). In fact, controlling for change content and process had no direct effect on our dependent measure. It should be noted that the absence of significant main effects for the control variables is not unique. Recent studies (Caldwell et al., 2004; Fedor et al., 2006) have shown that the effects of change-related variables, such as job impact or change fairness, are best understood in terms of their interactions with each other or with other variables. Change frameworks will, in the future, need to accommodate these more complex relationships.

Accounting for change contexts and targets in this way extends change research in a new, more multilevel direction. Although others have studied the direct effects of individual differences on individual-level change outcomes (e.g., Judge et al., 1999; Lau & Woodman, 1995) as well as the interaction of individual differences and change process (e.g., Caldwell et al., 2004), the consideration of a context variable interacting with an individual difference to explain individuals' reactions to change is, to the best of our knowledge, unique to this study.

Demonstrating that extrachange factors affect reactions to a given change provides a potential explanation for why even well-managed changes (i.e., implementation following prescriptions of

Table 2
Descriptive Statistics and Correlations: Individual Level

Variable	*M*	*SD*	ICC1	1	2	3
1. Personal job impact (control)	3.36	0.99	.28	.80		
2. Change self-efficacy	5.06	0.69	.02	−.15*	.84	
3. Change commitment	4.06	0.65	.12	.03	.37**	.70

Note. $N = 286$. ICC = intraclass correlation.
* $p < .05$. ** $p < .01$.

Table 3
Results of Hierarchical Linear Modeling for Hypotheses Testing

	Change commitment								
	Step 1			Step 2			Step 3		
Variable	Coeff	*SE*	*df*	Coeff	*SE*	*df*	Coeff	*SE*	*df*
Control									
Personal job impact	.008	.054	283	.045	.044	282	.048	.044	280
Work unit impact	.056	.042	22	.043	.036	22	.050	.037	21
Change fairness	.044	.069	22	.042	.055	22	.017	.064	21
Main effects									
CSE				.326**	.050	24	.271**	.039	23
Change turbulence							−.075	.064	21
Interaction: CSE × Turbulence							.147**	.039	23

Note. The following hierarchical linear model was used to test Hypothesis 2:
Level 1: $CC_{ij} = B_{0j} + B_{1j}(CSE) + B_{2j}(PJI) + r_{ij}$
Level 2: $B_{0j} = G_{00} + G_{01}(Turb) + G_{02}(CF) + G_{03}(WUI) + U_0$.
$B_{1j} = G_{10} + G_{12}(Turb) + U_1$.
$B_{2j} = G_{20}$.
where *CC* is change commitment, *CSE* is change self-efficacy, *PJI* is personal job impact, *Turb* is turbulence, *CF* is change fairness, and *WUI* is work unit impact.
* $p < .01$.

researchers and practitioners) may still meet with resistance on the part of change targets. Good change management practices vis-à-vis a given change apparently are not enough. Change frameworks need to be broadened to more closely approximate the realities of change in organizational settings—context and people matter, beyond the what and how of organizational change. This view is consistent with an interactionist perspective positing that organizationally related responses are a function of the interaction between the individual and situational cues (e.g., House et al., 1996). This study expands the view of the situation to include the change context while examining its interaction with change self-efficacy, an individual characteristic.

At a general level, the most important findings of this study are (a) that individual differences in change-related efficacy can affect one's commitment to change and (b) that individual differences in change efficacy interact with the turbulence of the change setting to influence change outcomes, such as commitment. That is, an aspect of conventional wisdom about change was tested and supported. The study has found that an environment of pervasive change may negatively influence individuals' commitment to a given change, especially for those with low efficacy in dealing with change (Figure 1). These results occurred even when other important aspects of the change—namely, its impact on employees and their work unit and the quality of the change implementation—were considered. For those individuals who are high in change self-efficacy, such environments do not seem to be as problematic.

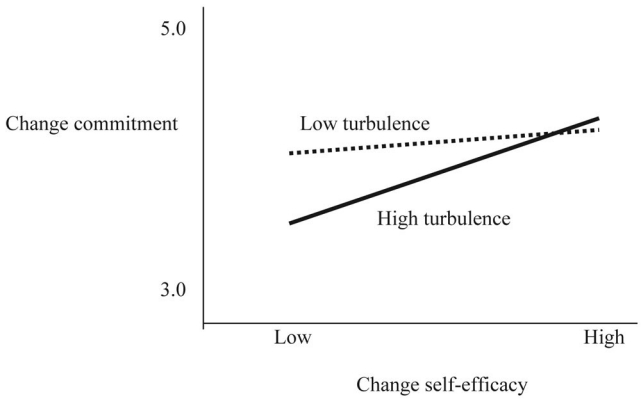

Figure 1. The effects of the interaction between turbulence and change self-efficacy on commitment to the change.

For change research, these findings have several implications. First, at a time when the popular and business press use terms such as *whitewater, whiplash, burnout,* and *change is the only constant* to describe the frequency and severity of changes going on in most organizations, change studies need to use research designs that more closely approximate and account for this reality. Studying one change at a time as if it is occurring in a vacuum relegates systematic variance associated with the effects of turbulence to error term status, thus impeding our understanding of change phenomena.

Second, the results of this study support the calls for more meso research perspectives in the area of organizational change (e.g., House et al., 1995). Most organizational phenomena are too complex to be examined at a single level of analysis. Although single-level research is important for identifying and exploring specific variables (e.g., the importance of procedural justice in implementing change), at some point, research efforts need to expand these findings by exploring them in cross-level frameworks (Dawson, 2003; Pettigrew, 1985).

Third, these results offer additional support for the renewed interest in individual differences in organizational research in general (e.g., House et al., 1996) and in change research in particular (e.g., Caldwell et al., 2004; Judge et al., 1999). Ultimately, individual behaviors determine the success of most organizational changes. Change research needs to continue to focus on the role

played by individual differences in shaping people's responses to change. Moreover, given the strength of the results for change self-efficacy, research on the trainability of specific efficacies (e.g., Eden & Aviram, 1993) should be expanded to include the trainability of change self-efficacy. Finally, if we consider organizational changes as potential stressors, our findings are consistent with the stress literature (e.g., Cooper et al., 2001; Holmes & Rahe, 1967) in demonstrating that stressors have a cumulative effect on individuals and that individual differences can mitigate such effects.

Our findings also have practical implications. First, they alert managers to the fact that, in spite of all that has been written about change management, the content of most change management training programs may need to be adapted and expanded to reflect an emphasis on turbulence management. In other words, carefully following the prescriptions for successful change implementation may still yield unsatisfactory results if extrachange factors, such as the workplace setting in which the change is occurring, are not considered. Simply put, organizations cannot roll out change after change assuming that each change is an independent event. The frequency and severity of the various changes have a cumulative effect on individuals in the organization. As such, change management may be as much about planning, prioritizing, scheduling, and sequencing changes as it is about the management of any given change. Such an approach calls for a broader and more time- and setting-sensitive approach to change management than is found in the typical prescriptions about change, which break change management down into a series of linear steps (e.g., Beer, Eisenstat, & Spector, 1990) that, if followed, will yield positive outcomes.

Second, an increased focus on context management as well as change management places much of the responsibility for successful organizational changes where it belongs, on those managing the organization. Unfortunately, it appears that a lot of current training seminars and popular writings have shifted this burden to the individual organizational member, in essence blaming the victim for poor organizational and personal outcomes. The only change-related book that has been consistently on the *New York Times* best selling business books list is *Who Moved My Cheese?* (Johnson, 1998), a parable intended to encourage individuals to take personal responsibility for adjusting to turbulent or constantly changing organizational environments. It is not a coincidence that there appears an asterisk next to the listing, indicating that bookstores report bulk sales for the book. In other words, corporations are buying large numbers of the book and distributing them to employees. Although such readings and training may increase change self-efficacy, a positive outcome, the management of the change and the change context is a managerial responsibility and cannot be avoided simply by a focus on the change targets.

Third, although organizations hesitate to focus too much on individual differences for fear of making managerial decision making too idiosyncratic and difficult to manage, given the importance of successful change management, an increased emphasis on the role of such differences may be appropriate. This could be done in two ways. First, given the apparent importance of change self-efficacy, organizations could consider selecting or placing individuals who are expected to perform in more turbulent environments on the basis of their capacity or self-perceived confidence to deal with change. Second, organizations could increase efforts to build employees' change self-efficacy by facilitating and supporting smaller changes such that they yield successful outcomes and providing feedback and rewards that reinforce individuals' mastery of increasingly challenging changes. When this is not possible, there may be ways to help individuals develop change-related efficacy skills through such activities as role plays, coaching, and mentoring. In short, just as for research, the practice of change management would do well to focus not only on aspects of the particular change but also on the context in which the change occurs and the individuals undergoing the change.

Study Considerations and Future Directions

In terms of methodology, this study has four advantages. First, as noted, the fact that the results are based on many changes across many industries and companies increases confidence in the generalizability of the results. Second, the fact that the contextual variable was assessed with a separate source from the attitudinal reactions eliminates a serious potential confound we would have faced had we used same-source data. It was unavoidable that the self-efficacy perceptions and attitudinal reactions were from the same source; however, the fact that the main findings involved an interaction of self-efficacy with the contextual variable significantly reduces concerns about potential bias. Third, the random distribution of the two surveys for capturing group- and individual-level responses further reduced the potential for response bias. Fourth, because important aspects of the change were statistically controlled for in the analyses, confidence in the findings is increased.

The limitations of the study can be considered along conceptual and methodological lines. In terms of conceptual concerns, only a single dimension of context, one individual difference, and one attitude toward the change were included in the study. Future research would do well to examine other contextual variables, such as change-related aspects of an organization's culture, resources available to support the change, and the organization's change history. Similarly, other change-relevant individual differences (e.g., Openness to Experience) should be explored, as well as additional outcome measures reflecting change outcomes at the individual, work group, and organizational levels. Furthermore, to protect anonymity and obtain cooperation from the 25 organizations, we did not seek a great deal of information, such as job titles or types of jobs held. It is conceivable that such information would have been useful for improving our understanding of the relationship between a particular change and some of the study variables, such as job impact.

With regard to methodology, one could argue that change turbulence is in the eyes of the perceiver. The fact that we captured turbulence at the work-unit level and from a separate set of respondents represents a methodological strength, but it also represents a potential weakness that needs to be further researched in terms of the determinants of people's perceptions of the change-related turbulence in their environment. Our self-efficacy and change commitment measures could have created ceiling effects given their high means. For self-efficacy, this is not much of a concern, as it still was a significant predictor. However, nonsignificant effects for other predictors may be related to the ceiling effects in the dependent variable. Similarly, although we found significant results with only 25 changes being studied, lack of

power could have been the reason for some of our nonsignificant findings. Furthermore, our data are cross-sectional. Future research needs to track longitudinal responses to change events as they shape individuals' reactions.

Finally, although the measures of job and work-unit impact, change fairness, change self-efficacy, and commitment to the change were anchored in the literature, the change turbulence measure represents a new measurement area. The facts that it is linked to theory from both the organizational and the stress literatures, that agreement existed within groups as to its level in each of the many change settings encompassed by this study, and that its relationships with other variables of interest were theoretically consistent and part of a statistical interaction are all reassuring. Most important, it should be noted that this measure was used to demonstrate a link between a group-level influence and a person-level response. The investigation of such cross-level linkages is encouraged but not often demonstrated by research in this area. Still, the turbulence measure needs to be subjected to additional construct validation efforts, such as further exploration of its components and dimensionality and demonstration that environments with objectively more ongoing changes do correspond to higher turbulence scores.

Conclusion

Organizational transformations, realignments, consolidations, reorganizations, and various technology and systems changes have become the order of the day. The question is not whether organizations will change but rather how fast and who will thrive. Thus, it is not surprising that this topic is of great interest to managers, researchers, teachers, trainers, and change practitioners. Unfortunately, the nature of change research has been quite narrow and not reflective of the complex realities found when change is implemented in organizational settings.

If there is to be greater understanding of the processes for introducing, implementing, and institutionalizing changes in organizations, research models need to move beyond their current preoccupation with elements of the change process and more fully embrace issues of change content, change context, and change participants. The research reported in this article suggests that one can meaningfully expand change models to reflect some of these extrachange factors and that such expansion adds to our understanding of change-related outcomes.

Whereas resistance to change is frequently bandied about as an organizational or managerial construct, it is usually thought to be the product of either the person (e.g., "People just naturally resist change") or the change process (e.g., "Doing such and such will reduce or overcome resistance"). The present research suggests that we need to refine these notions in view of the evidence. We need to develop a greater understanding of the complexities of reactions to a particular change effort. Such reactions are a function not only of what is done and how it is done but also of the context in which it is done and the interaction of individuals' characteristics with that context. Embracing and further researching such complex change frameworks should prove to be a timely and productive endeavor for both researchers and practitioners.

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