Subjective perceptions of organizational change and employee resistance to change: Direct and mediated relationships with employee well-being

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Author Note: This study was supported by an Australian Research Council Discovery Grant DP130101680 awarded to the authors. We would like to thank Mirjana Sandoval for her assistance with data collection.

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Abstract

Researchers have focused on linking objective measures of change exposure such as the number of downsizing activities implemented with employee well-being. This has meant that less attention has been paid to employees’ subjective experience of change. We examined relationships between employees’ perceptions of the extent of change and the frequency of change and insomnia and psychological well-being. We proposed direct and indirect relationships via resistance to change between employees’ subjective experience of change and well-being. Data were collected from 260 employees from a range of different organizations and industries. Respondents completed surveys at two time points, separated by 4 months. Results revealed significant indirect relationships between subjective perceptions of change and insomnia and employee well-being via affective resistance to change at Time 1 and Time 2. In addition, employees’ subjective reports that change was very frequent were initially positively associated with T1 behavioral resistance to change but also were negatively associated with T2 behavioral resistance to change. Discussion focuses on the importance of managing employees’ perceptions of change. Practically, we consider the difficult choices that confront managers when seeking to implement and “sell” change within their organization.

Keywords: Employees’ subjective perceptions of organizational change, resistance to change attitudes, psychological well-being, insomnia
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Large-scale organizational changes occur with increasing regularity (Bughin, Hung Byers and Chui, 2011; De Meuse, Marks and Dai, 2010), and are an important antecedent of employee attitudes (Conway, Kiefer, Hartley and Briner, 2014; van den Heuvel, Demerouti, Bakker and Schaufeli, 2013; Meyer, Hecht, Gill and Topolnytsky, 2010), and behaviors (Conway et al., 2014). A good deal of research also has found that exposure to organizational change negatively influences well-being at work as assessed by a range of indicators including elevated risk of mental health problems (Bamberger et al., 2012; Loretto, Platt and Popham, 2010), increases in poor self-rated health (Ferrie et al., 1998; Kivimäki et al., 2001), adverse sleep patterns (Ferrie et al., 1998), minor psychiatric morbidity (Ferrie et al., 1998; Greenglass and Burke, 2000; Loretto et al., 2010), increases in sickness absence (Vahtera, Kivimaki and Pentti, 1997; Westerlund et al., 2004) and hospital admissions (Westerlund et al., 2004), and increases in stress-related medicine prescriptions (Dahl, 2011; Kivimäki et al., 2007). Many studies have focused on downsizing and restructuring (Kalimo, Taris and Schaufeli, 2003; Kivimäki et al., 2007; Kivimäki, Vahtera, Elovainio and Pentti, 2003; Kivimäki et al., 2000a; Kivimäki, Vahtera, Pentti and Ferrie, 2000b; Kivimäki et al., 2001; Vahtera et al., 1997). Overall, this body of work also suggests that large-scale changes have negative effects on a broad array of physical and psychological indicators of well-being (Benach et al., 2014; Loretto et al., 2010).

While researchers have established that organizational change events are associated with reduced employee well-being (Bamberger et al., 2012; Benach et al., 2014), much of this research has focused on linking broad, objective measures of organizational change events with indicators of employee well-being. For example, researchers have examined objective
measures of change exposure including classifying change into “major” and “minor”
downsizing based on the percentage reduction in hours worked in a period of time (Vahtera et
al., 2004; Vahtera et al., 1997; Westerlund et al., 2004). Other researchers have placed
employees into change exposure groups based on whether employees objectively have
experienced change, are anticipating change, or have not experienced a specific change event
(Ferrie et al., 1998). Other studies have linked the number of downsizing and restructuring
activities experienced with employee well-being (Greenglass and Burke, 2000). While a
focus on objective measures of change exposure has revealed important findings, it has
resulted in less attention being paid to employees’ subjective experience of change (Michel
and González-Morales, 2013; Gover, Halinski and Duxbury, in press). We suggest that a
focus on objective measures of change exposure may result in an underestimation of the
effects of organizational change on employee well-being.

Recent theoretical and empirical work suggests that an employee’s subjective
experience of change may not necessarily align with the objective classification to which they
have been assigned (Loretto et al., 2010). For example, Loretto reported that greater
perceived change was associated with poorer health while an additive score of the number of
changes experienced (an objective measure) was associated with better health. One potential
explanation for these conflicting findings lies in the failure of objective measures to capture
employee sensemaking during change. Theorists have acknowledged that the key to
understanding organizational change processes is the way in which individuals acquire,
organize, and make sense of change (George and Jones, 2001; Loretto et al., 2010; Rafferty
and Griffin, 2006; Weber and Manning, 2001). This perspective suggests that the world does
not consist of events that are meaningful in themselves (Bartunek and Moch, 1987; Weber and
Manning, 2001). Rather, organizational members interact with and affirm the existence of
events, casting them in a particular light through the process of sensemaking (Dutton, 1993).
As such, individual sensemaking processes are essential to understanding employees’
experience of and reactions to organizational change. Therefore, one important contribution
of this study is our focus on employees’ subjective experience of the degree of change and
the frequency with which change occurs as antecedents of employee well-being. We
hypothesize that subjective perceptions of change are indirectly associated with employee
well-being via resistance to change (affective, behavioral, and cognitive: Oreg, 2006).

The second contribution of this study is that relatively little is known about the role of
change attitudes as psychological mediating mechanisms linking organizational change
events with employee well-being. Researchers have identified increased job demands and
reduced autonomy (Bamberger et al., 2012; Kivimäki et al., 2000b; Moyle and Parkes, 1999),
changes in social support (Bamberger et al., 2012; Kivimäki et al., 2000b), and increases in
unhealthy coping behaviors (Kivimäki et al., 2000b) as mechanisms that explain why
organizational change events influence employee well-being. While these mechanisms are
clearly important, research has not yet explored the role of employees’ change attitudes as
potential mediators of the relationships between organizational change and well-being.
However, change theorists have argued that while the failure to successfully implement
planned change may be attributed to many factors, few issues are as critical as employees’
attitudes toward change (Miller, Johnson and Grau, 1994). We hypothesize that employee
affective, behavioral, and cognitive resistance to change (Oreg, 2006) will act as the
psychological mechanisms by which employees’ subjective experience of organizational
change events influence well-being.

The third contribution of this research is that we consider employees’ resistance to
change attitudes at two points in time - early on and later in a change process. While research
has tended to assess change attitudes at a single point in time, employees’ interpretations of
change evolve over time. For example, Isabella (1990) proposed that employees’
interpretations of change evolve through a series of stages – anticipation, confirmation, culmination, and aftermath – each of which involve a different constructed reality, interpretive task, and frame of reference. We explore whether proximal or distal change attitudes display the strongest relationships with employee well-being.

**Subjective Perceptions of Change Events and Employee Well-being**

We first examine relationships between employees’ subjective experience of the degree of change and employee well-being. Next, we explore relationships between the frequency of change and employee well-being.

*Transformational change.* Individuals pay close attention to the content of change and, in particular, to the degree of change occurring in their workplace (Lau and Woodman, 1995; Weber and Manning, 2001). When considering the degree of change occurring in the workplace, authors have distinguished between first-order or incremental change and second-order or transformational change. We focus on employees’ subjective perceptions that transformational change has occurred. Rafferty and Griffin (2006) defined transformational change as an individual’s subjective perception that organizational change has resulted in modifications to the core systems of an organization including traditional ways of working, values, structure, and strategy.

We argue that an individual’s subjective perceptions regarding the extent to which they have experienced transformational change will be directly associated with insomnia and psychological well-being. In particular, any modification to habitual patterns is disturbing as functioning in repetitive ways helps individuals to develop skills that allow them to achieve their goals, and provides them with a sense of control over their environment (Moyle and Parkes, 1999; Schabracq and Cooper, 1998). When major aspects of a workplace such as its culture and typical ways of working change, people experience a great deal of disruption. Indeed, in a study of Australian public servants, Rafferty and Griffin (2006) concluded that
transformational change is experienced by employees as a “shock to the system”, which prompts individuals to deliberate about their position in an organization.

In his review of the factors related to the development, persistence, and treatment of insomnia, Espie (2002) concluded that studies investigating the onset of chronic insomnia have commonly found that stress or the occurrence of major life changes were a factor at the time. A number of empirical studies have revealed organizational antecedents of insomnia including injustice (Greenberg, 2006) and job stress (Greubel and Kecklund, 2011; Kim et al., 2011). Greubel and Kecklund showed that extensive organizational changes including downsizing or a change in job tasks were associated with a small increase in work stress, disturbed sleep, and incomplete recovery and health complaints for employees in a police organization. Anticipation of extensive changes had almost the same effect as actual experience of changes. Based on this theoretical and empirical evidence, we propose that:

\[ H1: \text{Transformational change will be positively associated with insomnia and negatively associated with psychological well-being.} \]

**Frequency of change.** We identify employees’ perceptions of how frequently change occurs as an important aspect of the internal change context that is likely to influence employee well-being. Glick et al. (1995) suggest that the more infrequently that change occurs, the more likely it is to be perceived as a discrete event. In contrast, frequent change is likely to create a sense that the organization is turbulent and is continuously changing. We propose that employees in the same organization, who are exposed to the same change events, are likely to report different subjective experiences of how frequently change occurs in that environment. Different perceptions related to the frequency with which change occurs may arise through a number of processes. For example, individuals who have prior experience with certain types of change may be more sensitive to the occurrence of such changes in the workplace and therefore may be more likely to report that these types of
changes occur very frequently.

Research suggests that the potential for negative outcomes is especially high when employees experience change as occurring very frequently (Bernerth, Walker and Harris, 2011; Dahl, 2011; Huy, 2002). McHugh (1996) argued that a climate of constant change is a source of stress for employees while Bernerth et al. suggest that when change occurs very frequently employees are likely to experience change fatigue. In addition, Rafferty and Griffin (2006) reported that employee perceptions that change occurred very frequently were indirectly negatively associated with job satisfaction and positively associated with turnover intentions via heightened psychological uncertainty. Based on this evidence, we propose that:

**H2: Frequent change will be positively associated with insomnia and will be negatively associated with psychological well-being.**

**Resistance to Change**

While authors have adopted a variety of approaches when defining resistance to change, recent thinking suggests that resistance to change is a multidimensional construct. In particular, Oreg (2006: 74) defined resistance to change as “a tridimensional (negative) attitude towards change, which includes affective, behavioral, and cognitive components”. Oreg argued that the affective component of this attitude is concerned with the negative emotions individuals feel about change including anger while the behavioral component of resistance to change encompasses (negative) actions, or intentions to act, in response to change. In contrast, the cognitive component of resistance to change encompasses negative beliefs about change such as “change is unnecessary” and this “change will not be beneficial”.

**Subjective perceptions of change and resistance to change.** Researchers have argued that change is often emotional and that negative emotions arise as a result of the disruption associated with change (Huy, 2002; Kiefer, 2005). We suggest that subjective perceptions that
change is transformational will be associated with experiencing more negative emotions in relation to change. We also argue that when employees experience changes to key aspects of their work environment such as values, strategy, and structure, then they will experience some discomfort due to the degree of adaptation required. This may then translate into resistance to change in the form of negative actions or intentions to act as people react negatively to this discomfort. We also argue that when employees experience changes to key aspects of their work environment that has substantial implications for their working lives, then it is likely that they will develop negative beliefs about change, resulting in cognitive resistance to change.

H3: Transformational change will be positively associated with affective resistance to change, behavioral resistance to change, and cognitive resistance to change.

Kiefer (2005) reported that the greater the number of changes experienced in the workplace, the more negative emotions are reported on a daily basis. We argue that when change occurs very frequently, then this will increase demands on employees’ to adapt, and will provide an ongoing source of stress and discomfort for employees. As such, this will increase the likelihood of experiencing negative emotions about change (affective resistance to change), displaying negative behaviors as employees struggle to deal with the additional demands presented by very frequent change (behavioral resistance to change), and also will increase the likelihood of experiencing negative beliefs about change, leading to higher insomnia and lower psychological well-being.

H4: Frequent change will be positively associated with affective resistance to change, behavioral resistance to change, and cognitive resistance to change.

**Mediating role of resistance to change.** To date, research has tended to focus on resistance to change as an outcome variable (Oreg, 2003; Shapiro and Kirkman, 1999; van Dam, Oreg and Schyns, 2008). In contrast, we position resistance to change as a critical
mediator of relationships between employees’ subjective experience of change and employee well-being. We draw on the insomnia and psychological well-being literatures to provide a theoretical basis for identifying resistance to change as a mediator. In particular, Kales et al. (1976) proposed an “internalization of psychological disturbances” model of insomnia. This model suggests that unresolved and internalized psychological conflicts lead to emotional arousal, which results in physiological arousal during sleep, resulting in insomnia. Other research suggests that dysfunctional emotional reactivity is likely to mediate the relationship between cognitive and autonomic hyperarousal, contributing to the development and maintenance of insomnia (Baglioni, Speiegelhalder, Lombardo and Riemann, 2010). A number of theorists also have reported that affect-laden cognitions are especially likely to interfere with sleep (Espie, 2002; Thomsen, Mehlsen, Christensen and Zachariae, 2003). For example, Thomsen et al. reported that rumination, defined as “repetitive thoughts focusing on problematic situations or events as well as the emotions and symptoms these evoke and possible consequences” (p. 1294), was significantly associated with both total sleep quality as well as individual indicators of sleep quality.

Other research has focused on individuals’ cognitions as playing a role in the emergence and maintenance of insomnia. For example, Watts, Coyle, and East (1994) demonstrated that worried insomniacs reported a broad range of sleep-interfering thoughts, many of which related to concerns about work and general mental activity. Based on theoretical and empirical evidence, we propose that, when employees perceive that transformational change has occurred and that change is very frequent, this will result in sleep-interfering negative cognitions and negative emotions about change as people grapple with uncertainty and demands placed on them in a changing workplace, which will be associated with insomnia and poorer psychological well-being.

Finally, we also suggest that behavioral resistance to change will mediate
relationships between transformational change and the frequency of change and employee well-being and insomnia. When employees experience large-scale changes to key aspects of their workplace and report that change is occurring very frequently then they are likely to perceive that they have been treated poorly by their organization (Rafferty and Griffin, 2006). Social exchange theory suggests that negative experiences in an organization are likely to result in unfavorable behavior from the subordinate due to the negative reciprocity norm (Blau, 1964). That is, we propose that unfavorable treatment in an organization such as often occurs during organizational change events, may result in the display of in negative actions, or intentions to act negatively in response to change, which will increase insomnia and reduce employee sense of well-being.

**H5:** Affective, behavioral, and cognitive resistance to change will mediate relationships between transformational change and insomnia and psychological well-being.

**H6:** Affective, behavioral, and cognitive resistance to change will mediate relationships between frequency of change and insomnia and psychological well-being.

**Method**

**Sampling Procedure and Sample**

Participants were recruited via email using Research Now, which is an online market research service that provides survey recruitment services. Invitations targeted adult full-time workers who worked more than 20 hours per week and who were currently or soon to be experiencing an organizational change. Employees who met these eligibility criteria were directed to the first online survey, which had a unique identification number that allowed for the respondent to be tracked over the two surveys. Respondents were told that, in appreciation of their choice to participate in the project, they would receive $3 for each completed survey.

Five hundred and fourteen employees completed a survey at Time 1 (T1). However,
30 of these respondents were removed because they spent less than five minutes on the survey (average survey completion time was just over 20 minutes). Next, the first author and a senior research assistant independently reviewed the organizational change descriptions to ensure that respondents were actually experiencing an organizational change event. Twenty-four respondents were removed at this point because they failed to provide a description or provided insufficient information about the organizational change event. As a result, data from 460 respondents (256 males & 204 females) were retained at T1.

Four months after the T1 survey, the 460 participants were invited to take part in a second survey. We selected a 4-month gap between surveys because it was considered to be a sufficient period of time to allow for employees’ subjective perceptions of change and change attitudes to influence employees’ well-being. We received 277 responses (response rate 57%) and all of these individuals were working in the same organization that they were employed in at T1 data collection. However, 17 responses were removed because they completed the survey in less than 10 minutes leaving 260 valid responses.

To assess sampling bias, we conducted a series of t tests comparing the demographic characteristics of those individuals who completed both surveys with individuals who only participated at T1. Individuals who responded at both time points were older than individuals who only responded at T1, \( t(458) = 4.76, p < .001 \) and had a lower organizational tenure \( t(458) = 2.43, p < .05 \), and were more likely to be employed full-time \( t(458) = -3.07, p < .01 \) than individuals who only responded at T1. No significant differences on any of the substantive measures assessed at T1 were found between these two groups.

The matched sample of 260 respondents who provided data at T1 and T2 included 156 (60%) male and 104 (40%) female employees. Participants worked between 20 and 80 hours per week, with an average of 40.2 hours worked per week (SD = 6.65). Just over 25 percent of participants \( n = 66 \) reported being over 50 years of age, followed by participants
who were 36-40 years of age (18.1%, \( n = 47 \)), and individuals who were 46 to 50 years of age (15%, \( n = 39 \)). Two hundred and forty-nine (95.85%) of the sample were employed on a full-time basis. Forty percent of the sample (\( n = 104 \)) had worked in their current organization for 1 to 5 years, followed by 22.3% of individuals who had worked in their organization for 6-10 years (\( n = 58 \)), and 11.5% of participants (\( n = 30 \)) had worked in their organization for 11 to 15 years.

We examined the change descriptions provided by respondents to obtain an overview of the types of changes being experienced by this sample. Analysis revealed that 280 separate changes were reported from the 260 participants. Of those 280 change descriptions, 179 (63.9%) of them involved an organizational restructure. The second most common type of change was changes to the way in which work is done (\( n = 27 \), 9.6%) respondents. The next most common change described modifications to staffing (\( n = 21 \), 7.5%) followed by relocation changes (\( n = 18 \), 6.4%), and service changes (\( n = 16 \), 5.7%). Nineteen change descriptions (6.8%) outlined changes that could not clearly be placed into any of the preceding categories.

**Measures**

**Control measures.** Dispositional resistance to change (DRC) was included as a control measure, and this construct is composed of four dimensions (Oreg, 2003): routine seeking, emotional reaction to change, short-term focus, and cognitive rigidity. DRC has been found to be associated with resistance to change attitudes (Oreg, 2006). We also expect that DRC will influence individuals’ perceptions of the extent of change and the frequency with which change occurs. In addition, evidence (Turgut, Sonntag and Michel, 2013) suggests that dispositional resistance to change is likely to be associated with poor well-being. DRC was assessed with the 17 items developed by Oreg (2003). Response options ranged from 1 (strongly disagree) to 5 (strongly agree). Two items were reverse-scored. This scale had a
Cronbach alpha of .88. We also controlled for organizational tenure (years), role tenure (years), and tenure with supervisor (years).

**Transformational change (T1).** Three items (Rafferty & Griffin, 2006) assessed employees’ subjective perceptions of whether they were experiencing changes to core organizational systems. An example of an item is “I have experienced changes to the values of my work group.” Response options ranged from 1 (not at all) to 7 (a great deal). This scale had an alpha of .88.

**Frequency of change (T1).** Four items (Rafferty & Griffin, 2006) assessed employees’ subjective perceptions regarding the frequency with which change occurred in their workplace. An example item is: “It feels like change is always happening in this organization.” Response options ranged from 1 (strongly disagree) to 7 (strongly agree). This scale had an alpha of .91.

**Resistance to change (T1 and T2).** We used Oreg’s (2006) measures of attitudinal resistance to change. Each of these constructs was assessed with five items. The affective items assessed whether employees experience negative feelings towards change (e.g., “I am afraid of the change”), the behavioral items addressed employees’ intention to act against or for the change (e.g., “I look for ways to prevent the change from taking place”), and the cognitive items involved employees’ evaluation of the worth and potential benefit of the change (e.g., “I believe the change will harm the way things are done in this organization”). Response options ranged from 1 (strongly disagree) to 7 (strongly agree). At T1, affective resistance to change had an alpha of .90 (.84 at T2). Behavioral resistance to change had an alpha of .82 at T1 (.80 at T2). Cognitive resistance to change had an alpha of .87 at both time points.

**Insomnia (T2).** Insomnia has been defined as difficulty initiating or maintaining sleep (Greenberg, 2006) and comprises a number of elements, including subjective sleep
complaints, associated negative daytime symptoms, and severe impairment in vital areas of function (Jansson-Frojmark and Linton, 2008). Poor sleep quality is an important feature of chronic insomnia (Harvey et al., 2008). The drowsiness resulting from insomnia has negative consequences at work including impairing work performance, increasing absenteeism, sick leave (Knudsen, Ducharme and Roman, 2007), and increasing on-the-job accidents (Akerstedt, Fredlund, Gillberg and Jansson, 2002). We used a 6-item scale to assess insomnia (Greenberg, 2006; Jenkins, Stanton, Niemcryk and Rose, 1988). Respondents were asked to indicate the extent to which they had experienced a number of sleep symptoms in the past four months including: a) difficulty falling asleep, b) waking up during the night, c) difficulty staying asleep, d) waking up too early, e) waking up feeling tired, and waking up feeling tired or worn out after my usual amount of sleep. Response options ranged from 1 (strongly disagree) to 7 (strongly agree). This scale yielded an alpha of .95.

**Psychological well-being (T2).** We assessed psychological well-being using the General Health Questionnaire (GHQ; Goldberg et al., 1997). This is a context-free tool for a general evaluation of one’s mental health status in non-clinical populations that assesses anxiety/depression, loss of confidence, and social dysfunction. Ye (2009) reported that while the GHQ consists of both positively and negatively worded items, both sets of items measure the same underlying construct, after wording effects are partialled out. Thus, we assessed psychological well-being using the six positively worded items (Goldberg et al., 1997). The time referent was the last four months. An example of an item is I have “felt capable of making decisions about things”. Response options ranged from 1 (never) to 7 (always). This scale had an alpha of .89.

**Results**

Table 1 displays the means, standard deviations, and zero-order correlations. Zero-order correlations provided support for the inclusion of DRC as a control measure. DRC was
moderately correlated with all variables except for T1 transformational change and T1 frequency of change. DRC was most strongly associated with T2 affective resistance to change ($r = .46, p < .001$).

**Overview of Analyses**

We conducted a 2-step procedure when estimating relationships (Anderson and Gerbing, 1988). First, we estimated a series of nested measurement models where we specified the relations of the observed measures to their posited underlying constructs. We then estimated a series of nested structural models to test the study hypotheses. The fit of the nested models was assessed using both absolute and incremental fit indexes. Cut-off values of .06 for RMSEA (Hu and Bentler, 1999), .08 for the SRMR (Browne and Cudeck, 1993), and greater than .90 for the other fit indices are indicative of a good fitting model (Hu and Bentler, 1999).

Shaver (2005) argued that tests of mediating variables should employ a system of equation techniques that explicitly recognize the potential for correlation in the error terms across estimated equations. This issue can be addressed in LISREL by allowing the off-diagonal elements of the $\Psi$ matrix to be estimated. In order for the model to be identified, a variable that directly affects the mediator ($M$) but does not affect the dependent variable ($Y$) needs to be included if the model is to be identified. We implemented Shaver’s approach when testing structural models. We included three variables (organizational, role, and supervisor tenure) to ensure that the estimated models were identified. We expected that these variables would be associated with the three types of resistance to change but would not be associated with insomnia or psychological well-being. These hypotheses were supported for organizational tenure and role tenure but not supported for supervisor tenure. However, in order to ensure that the models were identified, we included supervisor tenure.

**Measurement models.** To assess the factor structure of the measures, we tested a
series of confirmatory factor analysis (CFA) models. Each model included the 52 items assessing the focal constructs and the four DRC scales (cognitive rigidity, emotional reaction, short-term thinking, and routine seeking). The correlation matrix, consisting of product-moment correlations, was used as the input to LISREL. All model tests were based on this matrix and maximum likelihood estimation was used as implemented in LISREL 9.1. As the three resistance to change constructs were estimated at T1 and T2, autocorrelations between items measured at both T1 and T2 were estimated (Finkel, 1995). We also estimated relationships between the T1 resistance to change constructs and the T2 resistance to change constructs.

We contrasted a series of theoretically feasible measurement models\(^1\). Analyses revealed that the hypothesized 14-factor model was the best fit to the data, \(\chi^2(1396) = 3926.75, p < .001; \) RMSEA = .08, SRMR = .08, CFI = .93, NNFI = .93. The RMSEA was slightly higher than desirable in this model. Browne and Cudeck (1993) suggest that RMSEA values in the range of .08 and .10 indicate mediocre fit. However, as the remaining fit indices were at acceptable levels we classified this as an acceptable fit. All of the model parameters loaded significantly onto their hypothesized latent factor at \(p < .001\), and the latent factors explained substantial amounts of item/scale variance (\(R^2\) ranged from .09 to .87).

**Structural models.** The first structural model estimated was the saturated model, and this model was an acceptable fit to the data, \(\chi^2(1405) = 3946.23, p < .001; \) RMSEA = .08, SRMR = .08, CFI = .93, NNFI = .93. Next, we estimated a more restricted model (Model 2) where we removed relationships between T1 transformational change and T1 frequency of change and T2 outcomes. This model was an acceptable fit to the data, \(\chi^2(1409) = 3948.69, p < .001; \) RMSEA = .08, SRMR = .08, CFI = .93, NNFI = .93. However, comparison of the saturated structural model and Model 2 indicated that there was no significant difference in

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\(^1\) Please contact the first author for details of the nested measurement and structural models tested.
the fit of these two models, $\Delta \chi^2 (4) = 2.46$, n.s. As such, the more parsimonious model – Model 2 – was selected as the best fit to the data. Finally, we estimated an even more restricted model – Model 3. In this model, the relationships between the T1 resistance to change constructs and the T2 outcomes were omitted. This model was an acceptable fit to the data, $\chi^2(1415) = 3958.08$, $p < .001$; RMSEA = .08, SRMR = .08, CFI = .93, NNFI = .93. Comparison of Model 2 and Model 3 revealed that there was no significant difference in the fit of these two models, $\Delta \chi^2 (4) = 9.39$, n.s. Therefore, the more parsimonious model – Model 3 – was selected as the best fit to the data\(^2\). The structural relationships among the latent factors in Model 3 are displayed in Table 2 and shown in Figure 1.

In terms of effect sizes, Model 3 accounted for 1% of the variance in T1 transformational change, 3% of the variance in T1 frequency of change, 33% of the variance in T1 affective resistance to change, 26% of the variance in T1 behavioral resistance to change, 25% of the variance in T1 cognitive resistance to change, 54% of the variance in T2 affective resistance to change, 61% of the variance in T2 behavioral resistance to change, 47% of the variance in T2 cognitive resistance to change, 37% of the variance in T2 insomnia, and 40% of the variance in T2 psychological well-being.

\(^2\) We also estimated structural models that did not include Shaver’s (2005) correlated errors approach. The only difference in the final mediated model was an additional (negative) pathway between T2 behavioral resistance to change and T2 insomnia in the mediated model that did not include Shaver’s correlated errors.

**Hypothesis testing.** Results from Model 3 were used to test hypotheses. Hypothesis 1 and 2 proposed that there would be direct relationships between transformational change and the frequency of change and T2 outcomes. However, the model that was selected as the best fit to the data did not include any direct relationships between T1 transformational change
and frequency of change and T2 outcomes. As such, there was no support for Hypotheses 1 and 2.

Hypothesis 3 was partially supported as T1 transformational change was significantly positively associated with T1 affective resistance to change, $\beta = .14, p < .01$ and T1 behavioral resistance to change, $\beta = .18, p < .05$. In contrast, T1 transformational change was not significantly associated with T1 cognitive resistance to change, $\beta = .12, n.s$. Hypothesis 4 was supported as T1 frequency of change was significantly positively associated with T1 affective resistance to change, $\beta = .14, p < .01$, T1 behavioral resistance to change, $\beta = .19, p < .01$, and T1 cognitive resistance to change, $\beta = .19, p < .01$. In addition, although not hypothesized, we found a significant direct relationship between T1 frequency of change and T2 behavioral resistance to change, $\beta = -.12, p < .05$.

Hypotheses 5 and 6 concern the mediating role of affective, behavioral, and cognitive resistance to change between T1 transformational change and frequency of change and the T2 outcomes. As the direct relationships between the T1 transformational change and T1 frequency of change were not estimated in Model 3, we cannot test for mediating effects because this implies that the total effect $X \rightarrow Y$ is present (Mathieu and Taylor, 2006). Rather, we examined the indirect effects of T1 transformational change and frequency of change on T2 outcomes. Mathieu and Taylor (p. 1039) defined indirect effects as “a special form of intervening effects whereby X and Y are not related directly….but they are indirectly related through significant relationships with a linking mechanism”. In order to determine whether there are significant indirect relationships, we need to demonstrate that there are significant relationships between: 1) T1 transformational change and frequency of change and T1 resistance to change (Hypotheses 3 & 4), 2) T1 and T2 resistance to change, and 3) T2 resistance to change and T2 outcomes.

**Relationships between T1 and T2 resistance to change constructs.** T1 affective
resistance to change was significantly positively associated with T2 affective resistance to change, $\beta = .41$, $p < .01$ and was negatively associated with T2 cognitive resistance to change, $\beta = -.30$, $p < .05$. In contrast, T1 affective resistance to change was not significantly associated with T2 behavioral resistance to change, $\beta = -.24$, n.s. T1 behavioral resistance to change was significantly positively associated with T2 behavioral resistance to change, $\beta = .89$, $p < .001$ but was not significantly associated with T2 affective resistance to change, $\beta = .16$, n.s. or T2 cognitive resistance to change, $\beta = .04$, n.s. Finally, T1 cognitive resistance to change was significantly positively associated with T2 cognitive resistance to change, $\beta = .81$, $p < .001$ but was not significantly related to T2 affective resistance to change, $\beta = -.03$, n.s. or T2 behavioral resistance to change, $\beta = -.05$, n.s.

**Relationships between T2 resistance to change and T2 outcomes.** T2 affective resistance to change was significantly positively associated with insomnia, $\beta = .63$, $p < .001$, and was significantly negatively related to psychological well-being T2, $\beta = -.83$, $p < .001$. In contrast, T2 behavioral resistance to change T2 was not significantly associated with insomnia, $\beta = -.28$, n.s. or with T2 psychological well-being, $\beta = -.12$, n.s. Finally, T2 cognitive resistance to change was not significantly associated with T2 insomnia, $\beta = .01$, n.s. or psychological well-being, $\beta = .37$, n.s.

**Significance of indirect relationships.** The significance of indirect relationships in Model 3 was tested using PROCESS (Hayes, 2012). Preacher and Hayes (2008) discuss a multiple mediation model with $j$ mediators. The *specific indirect effect* of X on Y via mediator $i$ in this model is defined as the product of the two unstandardized paths linking X and Y via that mediator. The *total indirect effect* of X on Y is the sum of the specific indirect effects, $\sum_i (a_i b_i)$, $i = 1$ to $j$. Preacher and Hayes argue that investigating simultaneous mediation by multiple variables should involve two steps. First, researchers need to examine the *total indirect effect* and by doing so determine whether the set of mediators transmits the
effect of X to Y. Second, researchers should then test hypotheses regarding individual mediators in the context of a multiple mediator model which involves examining the specific indirect effects associated with each mediator. Importantly, Preacher and Hayes suggest that a significant total indirect effect is not a prerequisite for investigating specific indirect effects.

Bias corrected (BC) 95% confidence interval estimates were obtained for the total and specific indirect effects in the multiple mediator models based on 1,000 bootstrap samples. There was a significant indirect effect (total indirect effect = .0609; specific indirect effect = .0362, BCI: .0077 to .0795) of T1 transformational change on T1 affective resistance to change, T2 affective resistance to change, and T2 insomnia. In addition, there was a significant indirect effect (total indirect effect = -.0516; specific indirect effect = -.0216, BCI: -.0493 to -.0045) of T1 transformational change on T1 affective resistance to change, T2 affective resistance to change, and T2 psychological well-being.

There was a significant specific indirect effect (specific indirect effect = .0354, BCI: .0044 to .0845) of T1 frequency of change on T1 affective resistance to change, T2 affective resistance to change, and T2 insomnia. Finally, there was a significant specific indirect effect (specific indirect effect -.0211, BCI: -.0489 to -.0020) of T1 frequency of change on T1 affective resistance to change, T2 affective resistance to change, and T2 psychological well-being. In summary, these results provide partial support for Hypotheses 5 and 6.

**Discussion**

We argued that, while researchers know a great deal about the effects of organizational change exposure on employee well-being, studies have focused on objective measurement of change and have ignored subjective perceptions. As such, we focused on two subjective measures of change and hypothesized that these measures would be directly and indirectly associated with employee well-being. Our results revealed that employees’ subjective perceptions of transformational change and the frequency of change at T1 were
indirectly associated with T2 employee well-being through T1 and T2 affective resistance to change. Contrary to our expectations, however, neither T1 transformational change nor T1 frequency of change displayed direct associations with T2 employee well-being. It is important to note, however, that relationships among the Time 1 constructs (subjective perceptions of change and resistance to change) is likely to be influenced by common method variance effects. As such, we would recommend that future studies should separate the measurement of these constructs so as to reduce common method variance effects.

It is particularly interesting that, of the three components of resistance to change, it was affective resistance to change that displayed unique indirect relationships with insomnia and psychological well-being. That is, when employees reported a high degree of transformational change or very frequent change, this was associated with T1 affective resistance to change which in turn was associated with T2 affective resistance to change, and ultimately with T2 insomnia and T2 psychological well-being. Previous research suggests that employee’ interpretations of change shift over time and we sought to identify whether it was earlier or later attitudes to change that predict employee outcomes. Theoretically, our results provide some initial evidence to suggest that proximal emotional responses to change are an important driver of employee well-being. However, it is important to emphasize that because we did not utilize a longitudinal research design where all constructs were measured at each time point we are not able to make causal statements.

The importance of affective resistance to change in this study supports findings from the insomnia literature, which has identified emotional arousal as interfering with sleep (Espie, 2002; Kales et al., 1976; Thomsen et al., 2003). In particular, Kales et al.’s model suggests that unresolved and internalized psychological conflicts lead to emotional arousal, which results in physiological arousal during sleep, resulting in insomnia. Our analysis clarifies that, when we simultaneously account for both negative emotions and negative
cognitions about change, it is negative emotions about change that were uniquely associated with insomnia and poor psychological well-being in this study.

Although not hypothesized, there was a significant negative relationship between T1 frequency of change and T2 behavioral resistance to change. This is interesting because there was a positive relationship between T1 frequency of change and T1 behavioral resistance to change. There are a number of possible interpretations of these results. One interpretation is that employees’ may initially reciprocate perceived ill-treatment from an organization by engaging in behavioral resistance to change as suggested by social exchange theory. However, over time, employees may become exhausted by implementing acts of resistance, especially when they do not see any positive change in their circumstances. As such, there may be a decrease in behavioral resistance to change as employees become exhausted, which can be seen in behavioral disengagement. Alternatively, over time employees may become used to or habituate to the change and therefore at a later date they report that the change is not as bad as they initially expected3. At the current time, we are unable to choose between these two alternative explanations for the relationships among the frequency of change and resistance to change at T1 and T2. Future research could address which of these processes are in operation through conducting a longitudinal examination of the relationships among subjective perceptions of change and resistance to change and employee well-being.

Surprisingly, we did not find any significant direct relationships between employees’ subjective perceptions of change assessed at T1 and the T2 measures of employee well-being. Past evidence linking transformational change with employee well-being has been cross-sectional in nature (Greubel and Kecklund, 2011) and we could not locate any research linking the frequency of change with employee well-being. Thus, we would argue that there is insufficient evidence to draw strong conclusions regarding whether direct relationships

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3 We thank an anonymous reviewer for identifying this potential explanation.
exist between employees’ subjective perceptions of change and well-being. We would recommend that more research is conducted to address these relationships using a stronger methodological approach (i.e., longitudinal and mixed method research).

It also is interesting to note that T1 affective resistance to change was significantly negatively associated with T2 cognitive resistance to change. When employees reported experiencing negative emotions about change earlier on in a change process, they reported fewer negative beliefs about change later on in the change process. One potential explanation is that when people experience negative emotions then they express these negative emotional reactions even if this is in a private setting outside the workplace and this provides a “psychological release”. Venting these emotions may mean that these employees are less likely to ruminate about these negative emotions and therefore to report negative beliefs about change at a later date. Alternatively, individuals who experience negative emotions earlier in a change process may then seek additional support from colleagues and supervisors and by doing so may learn more about the change, which reduces their negative beliefs about change at a later date. It would be very interesting to explore the changes in resistance to change over time and its triggers and how these changes contribute to employee well-being.

Practical Implications

Examination of our findings reveals that the indirect effects structural model accounted for 37% of the variance in T2 insomnia and 40% of the variance in T2 psychological well-being. These results suggest that employees’ subjective responses to change and resistance to change attitudes are accounting for a substantial proportion of the variance in employee well-being. As such, it seems reasonable to conclude that organizations may garner considerable benefits by focusing on employees’ subjective experience of change. In particular, results suggest that a potentially important pathway to insomnia and compromised psychological well-being during organizational change arises from the negative
emotions that an employee experiences in response to change.

We suggest that one reason why negative emotions experienced in relation to change are associated with insomnia and employee well-being is because organizations generally avoid discussing or managing the emotional experiences that inevitably follow organizational change. However, if employees do not have a forum in which to air and discuss their negative emotional responses to change events, then these negative emotions may be internalized and may cause individuals to ruminate on them, leading to increased sleep problems and reduced psychological well-being. To date, relatively little attention has addressed the role of employee emotions during change (Kiefer, 2005). However, work by Huy (2002) suggests that managers’ emotion-attending behaviors can help employees to manage negative emotions that emerge during periods of organizational change. In particular, Huy identified a number of middle managers who formed a social support group that was designed to address employees’ emotional needs during change. Huy (p. 61) argued that this group provided an “emotional buffer against and repair unit for stressful events”. This work suggests that it is important that organizations explicitly consider concrete strategies to assist their employees deal with the negative emotions that are likely to emerge during organizational change processes. Providing social support and developing resources that employees can access during change, such as support groups or counselling services or employee assistance programs are examples of strategies that organizations may consider providing to assist employees dealing with the negative emotions that emerge during organizational change.

Another practical implication is that managers need to begin to consider how employees are likely to respond to change events in terms of how they perceive the extent of change and how frequently they feel that change is occurring. We suggest that organizations should consider the framing and communications around change announcements and management very closely so as to ensure that employees are not overwhelmed by the extent
or frequency with which change occurs in an organization. If an organization can reduce the perceived scale of change, for example, through the way in which they communicate about change such as by “chunking” change into smaller changes then this effort is likely to be beneficial in terms of employee well-being. This strategy may also be beneficial because it can encourage small wins over time, which can enhance the experience of positive emotions about change, which may go some way to negating the effects of negative emotions about change. However, paradoxically, this “chunking” approach may increase employees’ perceptions that change occurs very frequently. As such, there needs to be careful consideration regarding how change is managed and communicated in order to balance the degree of change implemented and the frequency of change occurring.

Finally, we also included DRC as a control variable. Results indicated that higher DRC was positively associated with the frequency of change, and with all three types of resistance to change at both time points, and with higher T2 insomnia. To date, with the exception of Oreg’s (2003) initial work on the construct, relatively little research has examined the impact of DRC on employees’ perceptions of change and their change attitudes. Our work suggests that organizations might consider DRC when recruiting and selecting employees in positions that will involve ongoing changes as individuals with high DRC may need additional support to cope with change.

Limitations and Future Research

Our study has limitations and results should be viewed with these limitations in mind. First, while we assessed psychological well-being and insomnia at T2 we did not control for the initial levels of these variables. As such, we cannot eliminate the possibility that initial differences in psychological well-being and insomnia may explain the differences that we found at T2. For example, it is reasonable to suggest that employees who had low levels of well-being at T1 may be more likely to experience change as transformational and to feel that
change is very frequent because they are already feeling unwell and overwhelmed. In addition, poor employee well-being at T1 may also be associated with higher affective, cognitive, and behavioral resistance to change at T1. If this is the case, then it may be that a vicious cycle is in place where poor well-being begets a poor change experience and poor change attitudes, which predicts poor well-being at a later date. In order to investigate this possibility then future researchers need to conduct a longitudinal study that assesses insomnia and psychological well-being at all time points.

Another potential issue is that we sought to recruit respondents who were just about to experience a change or who had just had an organizational change begin, so as to ensure that employees were in a similar interpretive stage of change. However, it is possible that some of our respondents had been experiencing change for an extended period of time. This may have influenced results because, for example, it may be that negative emotional responses are highest at the earliest stages of change when uncertainty is highest and then decline over time as more information becomes available. Future studies should explicitly ask respondents to provide additional information so as to clarify the interpretive stage of change that they are experiencing at each survey time point. This will allow a clearer analysis of the role of change attitudes at different interpretive stages.

A number of areas for future research emerge after a consideration of these results. We only examined employees’ subjective perceptions of two aspects of organizational change - transformational change and the frequency of change. Also, we did not examine the processes used to implement change. However, researchers have identified three major categories of factors that influence organizational change outcomes including change processes, the content of change, and the change context (Armenakis and Bedeian, 1999; Self, Armenakis and Schraeder, 2007). It is likely that change processes such as change fairness (Gopinath and Becker, 2000; Kernan and Hanges, 2002) also will have implications for
employee well-being. Last, we also focused on resistance to change as a mediator of relationships in the proposed model and suggest that it would be fruitful to examine the role that positive change attitudes such as readiness for change (Rafferty, Jimmieson and Armenakis, 2013), given that researchers have not explored the potentially powerful role that positive change attitudes may play in building and enhancing employee well-being. (Rafferty et al., 2013; Ostroff, Kinicki and Clark, 2002)
References


Table 1

Descriptive statistics and zero-order correlations

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<th>Mean (SD)</th>
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<th>T1 Freq. change</th>
<th>T1 ARC</th>
<th>T1 BRC</th>
<th>T1 CRC</th>
<th>T2 ARC</th>
<th>T2 BRC</th>
<th>T2 CRC</th>
<th>T2 Insomnia</th>
<th>T2 Well-being</th>
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<td>.05</td>
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<td>.10</td>
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<td>(.91)</td>
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<td>.22***</td>
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<td>.16**</td>
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Note: N = 260, *p < .05. **p < .01. ***p < .001.
Table 2
Standardized parameter estimates in Model 3

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<th>Organizational tenure</th>
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Note: * p < .05, ** p < .01, *** p < .001.
Figure 1

Structural relationships in Model 3

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.
Control variables are not included in the figure to enhance readability.