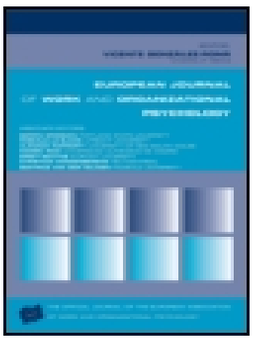

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European Journal of Work and Organizational Psychology

ISSN: 1359-432X (Print) 1464-0643 (Online) Journal homepage: http://www.tandfonline.com/loi/pewo20

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To cite this article: Sarah Turgut, Alexandra Michel, Lisa Maria Rothenhöfer & Karlheinz Sonntag (2016): Dispositional resistance to change and emotional exhaustion: moderating effects at the work-unit level, European Journal of Work and Organizational Psychology, DOI: 10.1080/1359432X.2016.1157583

To link to this article: http://dx.doi.org/10.1080/1359432X.2016.1157583

European Journal of Work and Organizational Psychology, 2016
http://dx.doi.org/10.1080/1359432X.2016.1157583

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Dispositional resistance to change and emotional exhaustion: moderating effects at the work-unit level

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(*Received 2 January 2014; accepted 18 February 2016*)

Organizational change, although essential for business success, may negatively impact employees' well-being. Based on person–environment fit theory, the authors investigate employees' dispositional resistance to change as it impacts emotional exhaustion. Furthermore, the authors examine boundary conditions that may affect dispositional resistance to change and its influence on emotional exhaustion. They take a trait activation approach and test the moderating roles of two work-unit-level internal contextual factors: perceived organizational support and informational team climate. Using a longitudinal research design of 709 participants in 30 work units, multilevel analyses reveal that dispositional resistance to change (time 1) is positively related to emotional exhaustion (time 2). Moreover, a lack of perceived organizational support and a high informational team climate strengthen these effects. The authors conclude that organizations should offer coaching and training programmes to cope with organizational change for employees who are highly change resistant. Furthermore, personal and organizational development strategies should consider the insights gained from the study regarding internal contextual factors that moderate change management processes.

Keywords: emotional exhaustion; organizational change; perceived organizational support; resistance to change; team climate

Introduction

Frequent changes are ubiquitous in the workplace. According to previous research, employees facing altered work settings may experience increased stress that may damage their well-being (Michel & Gonzàlez-Morales, 2013; Oreg, Vakola, & Armenakis, 2011). However, employees' reactions to change differ due to individual dispositions (Oreg et al., 2011; Vakola, Armenakis, & Oreg, 2013). Employees are likely to handle change better if they are change-oriented, resilient, conscientious, cognitively flexible, and emotionally intelligent (Caldwell & Yi, 2011; Oreg et al., 2011; Su, Chung, & Su, 2012; Vakola, Tsaousis, & Nikolaou, 2004). In contrast, individuals who are dispositionally resistant to change will respond negatively, for example, in decreased job performance (Oreg, 2003). Although extant research suggests that change is harder to cope with for dispositionally change-resistant employees, to our best knowledge studies have not yet considered whether change-resistant traits impact on stress reactions.

Person–environment fit theory (French, Caplan, & Harrison, 1982) explains why dispositional resistance to change may cause emotional exhaustion. The theory proposes that when individual characteristics fail to fit with environmental/organizational demands, individuals experience higher levels of both strain and stress (Edwards, Caplan, & Harrison, 1998). Employees who are dispositionally resistant to change may experience a more pronounced misfit to organizational demands during times of change, which may lead to increased stress reactions such as emotional exhaustion. This gap in previous research is of particular interest because the success of organizational change initiatives is highly dependent on employees' support and well-being (Oreg, 2006). Furthermore, it has been shown that the cumulative stress resulting from misfit may impair employees' mental and physical health (Edwards et al., 1998). Hence, it is crucial to explore how dispositional resistance to change and employees' emotional exhaustion are related, and whether potential negative effects can be minimized.

Knowledge of potential moderators is particularly important for practitioners since they can rather influence working conditions than employees' personalities or factors of the outside economy. Therefore, our second aim is to investigate whether internal contextual factors (i.e., factors reflecting organizations' internal conditions) serve

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as boundary conditions for the effect of dispositional resistance to change on emotional exhaustion. For investigating potential boundary conditions, we build on trait activation theory (Tett & Burnett, 2003; Tett & Guterman, 2000), which holds that individuals express certain personality traits as a function of trait-relevant situational cues (i.e., in this study internal contextual factors). The basic tenet of this theory describes that persons are likely to act according to a latent personality trait when a current situation provides or lacks certain characteristics (i.e., situational cues). Thus, the predictive value of a trait is specific to the surrounding circumstances, which are considered trait-relevant whenever a person's responses or lack thereof indicate their individual level of the respective trait (Tett & Burnett, 2003). In the context of organizational change, it is hence likely that the activation of an employee's dispositional resistance to change (and thus its effects on emotional exhaustion) may vary according to the situational cues provided by relevant internal contextual factors.

We focus on perceived organizational support and informational climate within work units as internal contextual factors since they were found to be of importance within the change context (Wanberg & Banas, 2000). Perceived organizational support is defined as a general belief that the organization values their employees' contribution and cares about their well-being (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Ongoing change may impact general beliefs; particularly if the change is implemented top-down regardless of employees' agreement as in this study's context. Hence, perceived organizational support is closely related to the change process, and thus it is likely that the level of organizational support is a cue that triggers, or deactivates, employees' dispositional resistance to change. Informational team climate refers to the perceived exchange of information within the team. In times of imposed change, the content of team-member interactions is likely to focus on change-related emotional stress reactions (Oreg, 2003). Hence, higher informational team climate may activate employees' dispositional resistance to change, which may trigger cross-over effects occurring when employees share stressful thoughts (Bolger, DeLongis, Kessler, & Wethington, 1989; Westman, 2001).

Rather than addressing these internal contextual factors at the individual level, we focus on the work unit's perception thereof. This has two major advantages: First, a higher-level perspective reflects the nature of these constructs during change, as whole work units simultaneously underwent change in the present study's setting. Accordingly, focusing on the work unit's aggregate perspective allows for balancing irrelevant personal variation that cannot be related to the more comprehensive change setting, and thus allows focusing only on trait-relevant cues. Secondly, a higher-level conceptualization may provide more valuable insights for interventions: For practitioners, it may prove more feasible to assess and address work units' perceptions of support and informational climate than individuals' perceptions thereof, for example, by designing efficient workshops for work units.

In summary, we contribute to the occupational health and change literature by being first to longitudinally investigate the effect of dispositional resistance to change (time 1), measured with two subscales, on emotional exhaustion (time 2) at the individual level, thereby offering new insights into the relationship between individual characteristics in the context of change and emotional exhaustion measure of stress reactions. Second, by addressing potential moderating effects of internal contextual factors at the work-unit level we offer insights into potential starting points for interventions. Moreover, we go beyond earlier studies and respond to the call for longitudinal and multilevel studies on organizational change and its consequences (Oreg et al., 2011; Probst, 2010). Third, by applying trait activation theory to the theoretical framework of person–environment fit theory, we expand the use of trait activation theory to the investigation of change-related stress reactions.

Dispositional resistance to change and emotional exhaustion

Change processes such as merging, downsizing, and restructuring have been shown to cause burnout (Burke & Greenglass, 2001; Hu & Schaufeli, 2011; Paulsen et al., 2005), a state reflecting prolonged exposure to work stress (Dunford, Shipp, Boss, Angermeier, & Boss, 2012) or strain (Gaines & Jermier, 1983). At the core of burnout is emotional exhaustion, defined as the feeling of "being over-extended and depleted of one's emotional resources" (Maslach, Schaufeli, & Leiter, 2001, p. 399). Emotional exhaustion is a crucial outcome when studying stress in organizations due to several reasons: It is assumed to occur early in burnout formation, thus giving opportunity for intervention; it is both highly affective and chronic, suggesting that it is an adequate indicator of cumulative work stresses, and it has proven more applicable to a wide variety of different jobs than other dimensions of burnout (Gaines & Jermier, 1983). Moreover, emotional exhaustion has been shown to be reactive to changes in an employees' work setting such as being a newcomer or switching jobs in an organization (Dunford et al., 2012).

Meta-analytical findings indicate that high levels of emotional exhaustion are associated with specific personality traits such as locus of control or self-esteem (Alarcon, Eschleman, & Bowling, 2009), but studies have not yet tested the relationship with a change-related personality trait. However, the relationship to dispositional resistance to change, a stable personality trait, seems highly relevant in understanding employees' emotional exhaustion because individual differences in handling

change predict their specific reactions in the face of change (Oreg, 2003).

Dispositional resistance to change reflects "an individual's tendency to resist or avoid making changes, to devalue change generally, and to find change aversive across diverse contexts and types of change" (Oreg, 2003, p. 680). Research has shown that dispositional resistance to change and its four subscales are significantly related to the affective reaction to a specific change (Oreg, 2006). Since emotional exhaustion comprising a strong affective component in turn has been described as a psychological strain resulting from change experiences (Bernerth, Walker, Walter, & Hirschfeld, 2011; Petrou, Demerouti, & Häfner, 2015), a relationship with dispositional resistance is likely to exist.

In the present study, we focus on two of the four dimensions, that is, routine seeking which "involves the extent to which one enjoys and seeks out stable and routine environments" and emotional reaction which "reflects the extent to which individuals feel stressed and uncomfortable in response to imposed change" (Oreg et al., 2008, p. 936). By definition, these dimensions are more strongly related to affective aspects in the context of imposed change than the other two subscales of the resistance to change construct and this proposition has also been empirically tested and confirmed (Oreg, 2003). By focusing on these two subscales, we further take the specific change context of the present study into account: We conducted the study in a company known as a stable employer allowing for high tenure and giving employees the opportunity to establish fixed routines at work which may be attractive to highly routine-seeking individuals who may then be especially put off by change. Moreover, the change in the company was imposed by management and could not be circumvented by individuals, therefore making emotional reaction to imposed change an essential outcome (cf. Oreg, 2003).

According to person–environment fit theory (French et al., 1982), a misfit between individual characteristics and the environment elicits stress and negatively affects individual health and well-being (Edwards et al., 1998). Hence, employees who are resistant to change may perceive that their abilities or needs have a pronounced misfit with the demands of the changing organizational environment. Consequently, change is likely to cause them to experience higher stress (Michel & Gonzàlez-Morales, 2013). Thus,

Hypothesis 1: Dispositional resistance to change (time 1) will be positively related to emotional exhaustion (time 2).

Work-unit-level moderating effects

Perceived organizational support

One factor that might provide relevant cues is perceived organizational support, that is, employees subjectively perceiving that the organization generally cares about their well-being (Eisenberger et al., 1986). On the individual level, perceived organizational support is positively related to performance, job satisfaction, work engagement, and organizational commitment, and negatively associated with strains, turnover intentions, and withdrawal behaviours (for a review, see Rhoades & Eisenberger, 2002). In the context of change, perceived organizational support was found to be related to a positive evaluation of the change (Fuchs & Prouska, 2014).

Perceived organizational support thus may be a boundary condition that is likely to influence employees' reactions to change. While the effects of organizational change and the experienced support level likely vary between different units when a change process is gradually implemented, members of the same work unit are generally exposed to common influences and experiences (Kozlowski & Klein, 2000). Consequently, work-unit members will develop shared perceptions of the environment and create their unique social context (Anderson & West, 1996; Tucker, Jimmieson, & Oei, 2013) affecting individual reactions to change (Rafferty & Jimmieson, 2010). Hence, it is plausible that a work unit's aggregate perception of support constitutes crucial characteristics of the change situation. In previous research, perceived organizational support at an aggregated level was shown to be influential (Jin & Zhong, 2014). It thus seems likely that it may also be relevant at the work-unit level in the context of organizational change.

More specifically, the trait activation approach suggests that the shared perception of organizational support is a situational cue that may interact with dispositional resistance to change (Tett & Guterman, 2000). If the work unit shares a common understanding that the organization cares about employees' opinions and well-being and supports them in times of change, this may reduce apprehensions regarding a change and its consequences. Hence, resistance to change as a trait may be deactivated, and may decrease the perceived misfit reducing emotional exhaustion. Therefore, we hypothesize,

Hypothesis 2: Perceived organizational support will moderate the relationship between dispositional resistance to change (time 1) and emotional exhaustion (time 2). That is, high perceived organizational support will reduce the positive relationship between dispositional resistance to change (time 1) and emotional exhaustion (time 2).

Informational team climate

Another relevant internal contextual factor that may be relevant for the trait of dispositional resistance to change is team climate. This construct describes the "shared objectives or vision, group participation and safety, team support for innovation, and the group's task orientation" (Anderson & West, 1996, p. 53). In this study, we focus on the informational facet of the more heterogeneous construct team climate. This facet describes open and comprehensive information sharing (Brodbeck & Maier, 2001), and thus seems particularly relevant to change contexts (Wanberg & Banas, 2000).

As co-workers in a work unit share their thoughts and interact regularly, they develop consensual views of their team climate (Rafferty & Jimmieson, 2010), which foster "an awareness of the situation or context in which the team is functioning, and adjust their behaviors accordingly" (Jun, Butler, & King, 2007, p. 270). Through their interactions, members of the same work unit are thus likely to receive the same information regarding change, and to perceive the informational climate similarly. Accordingly, these individuals' are surrounded by the same situational cues in terms of informational team climate, implying that a conceptualization of this construct at the work-unit level is adequate.

As work-unit members openly share their perceptions of the change process and discuss the strain they are experiencing, the change situation may become more salient. Thus, following the rationale of trait activation theory, informational team climate is a situational cue that is likely to activate dispositional resistance to change, thereby enhancing the perceived misfit, that is, the trait's positive effect on emotional exhaustion. Therefore, employees working in units with high informational team climate are expected to have stronger crossover effects of emotional exhaustion (Westman, Bakker, Roziner, & Sonnentag, 2011). Hence,

> *Hypothesis 3:* Informational team climate will moderate the relationship between dispositional resistance to change (time 1) and emotional exhaustion (time 2). That is, a high informational team climate will strengthen the positive relationship between dispositional resistance to change (time 1) and emotional exhaustion (time 2).

Figure 1 depicts the proposed research model.

Method

Study context

We conducted our study at a production plant of a large German company in the automotive industry. The company and the plant have been undergoing frequent top-down organizational changes for several years. During the last few years, the company dissolved a merger, implemented a new management concept, introduced semi-annual plant shutdowns, reduced work hours because of recession, and intensified a standardized production system that constrained employees' decision latitude and caused temporary work contracts to expire. At the time of our study, some changes had been completed while others were still progressing. Due to the comprehensive nature of the changes within the organization, it seems unlikely that employees perceived the change processes as discrete events (Weick & Quinn, 1999) which employees might appraise as unpredictable, increasing the likelihood of stress and fear (Rafferty & Griffin, 2006). We thus evaluated general change rather than specific change episodes or projects.

Because the changes affected working conditions plant-wide, we can assume they impacted both individuals and work units. Particularly in large companies, organizational change is unlikely to affect every part of the company simultaneously and identically. For example, new production systems or new organizational structures were introduced in several steps, so that different departments were affected at different time points and work-unit members made different experiences during the process. Moreover, departments generally deal with the same change in substantially varying ways (Arnetz, 2005).

By including two levels of analysis, we avoid violating the independent observations assumption that can occur with a hierarchical data structure (Raudenbush & Bryk, 2002). Supporting this procedure is the multilevel rationale that "top down-effects, from teams to individuals are generally more powerful than bottom-up effects, from individuals to teams" (Westman et al., 2011, pp. 564–565).

Sample and procedure

We collected data at two time points (August–September 2011 and October–November 2012) using paper-based or identical online questionnaires. We first informed

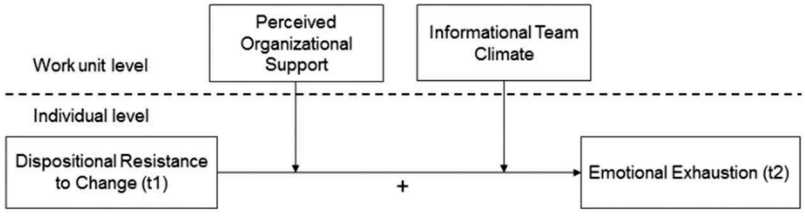

Figure 1. The research model.

participants about the purpose of the study, assured them of confidentiality, and informed them that they were allowed to complete the questionnaire during their paid working time. We asked the supervisors to remind employees that their participation was important to improve occupational health promotion. At both time points, we invited all of approximately 6,500 employees of the production plant to participate and employees could freely choose to take part. In total, 1,841 employees completed the questionnaire in 2011 and 1,935 in 2012. To match the data from the first survey in 2011 and the second survey in 2012, we used individual codes that guaranteed data anonymity. The sample for this study thus included 709 persons who had participated at both measurement times.

As 38.5% of participants from the first data collection took part in the second measurement, we considered effects of non-random dropout. First, we computed chi-square tests to analyse differences for employees who participated in both data collection waves and those who dropped out. Analyses showed that significantly more men than women ($\chi^2(1) = 19.01$, $p < .001$) and blue-collar workers than white-collar employees ($\chi^2(1) = 71.58$, $p < .001$) dropped out before time 2. We found no significant differences for age.

Furthermore, we conducted attrition analysis according to Goodman and Blum (1996) to test if non-random sampling affected the final data set and thus might have affected results. Following their four-step procedure, we first assessed if attrition affected the probability of being included in the final sample based on the study variables. To do so, we ran a multiple logistic regression and results indicate non-random sampling on three variables: dispositional resistance to change ($b = -0.30$, $p < 0.01$), emotional exhaustion ($b = -0.17$, $p < 0.05$), and informational team climate ($b = 0.18$, $p < 0.01$). Second, we assessed the effects of non-random sampling on means and found significant differences between the means of the focus study variables: dispositional resistance to change ($t(1600) = 5.31$, $p < 0.001$), emotional exhaustion ($t(1837) = 5.12$, $p < 0.001$), informational team climate ($t(1826) = -4.38$, $p < 0.001$), and perceived organizational support ($t(1809) = -2.80$, $p < 0.01$). That is, the analyses revealed that the study sample had lower scores for emotional exhaustion and dispositional resistance to change but higher scores of perceived organizational support and informational team climate. Third, we assessed the effects of non-random sampling on variances. The results reveal that the variances are not equal for dispositional resistance to change ($F(1,1600) = 4.33$, $p < 0.05$), but equal for the other variables. Fourth, we assessed the effects of non-random sampling on the relationships among the variables. That is, we ran regression analyses using (1) the sample containing all participants that took part at time 1 and (2) the study sample containing participants who took part in both years. This analysis revealed that the proposed relationship between dispositional resistance to change (time 1) and emotional exhaustion (time 1) did not differ between the two samples. The relationships are positive and significant in both cases: t1 ($\beta = .45$, $p < 0.001$), both years ($\beta = .38$, $p < 0.001$).

To study work-unit-level influences (as proposed in Hypothesis 2 and Hypothesis 3), we allocated participants to work units according to the department and shift they indicated in the questionnaire. We used this operationalization because shift times influence employee well-being (Peterson, 1985). The work units were defined as two or more employees sharing a common goal (e.g., producing a specific car part, repairing machines, or designing production processes). Members of the work units were interdependent in terms of goals and tasks: they produced a specific part or supported production and did not act independently; instead, they relied on their work-unit co-workers for work pace and quality. The size of the production plant dictated that some work units included more than 200 members, but even large units interacted daily following standard communication procedures to address common problems or share best practices. All 30 work units in the company participated in our survey, the number of respondents from each work unit ranged from 1 to 205. With regard to the response rates, there are two work units from which only one person responded to the questionnaires in both data collection waves, from nine work units we counted 2–5 respondents, in eight work units there were 6–10 employees responding, six work units had 11–20 respondents, in six work units we found 21–50 employees returning both questionnaires, and in three work units we counted between 51 and 205 respondents.

The final sample included 87.4% men, a representative percentage for the automotive industry and the specific plant; 38.5% were blue-collar workers; 61.5% reported being white-collar workers. Participants' ages were assessed in categories: 34.7% were 35 years old or younger; 45.8% were 36–50 years old; and 19.5% were 51 years old or older. The production plant operates on three shifts: day shifts that include flexible office hours (41.6% of our participants), rotating shifts that change weekly between morning and afternoon shifts (37.2%), and night shifts that remain steady (21.2%). Supervisors made up 18.6% of the sample. Regarding company tenure: 9.3% had 1–5 years; 35.3% had 6–15 years; 24.2% had 16–25 years; and 31.2% had more than 25 years. Regarding educational levels: 16.9% held university degrees; 8.9% had high school diplomas; 47.6% had junior certificates; 23.7% had technical degrees; 2.9% had no or other degrees.

Measures

To assess the study variables, our questionnaire used well-validated scales with all items rated on a five-point Likert-type scale ranging from 1 = *strongly disagree* to

5 = *strongly agree*. All items were presented in German language, although they are cited in English for the purposes of this article. Scales that were unavailable in a validated German version were translated from their original English version into German and back-translated into English to ensure congruence with the original items (Brislin, 1980). In doing so, we translated the items of the validated scale from English into German. A bilingual psychologist familiar with the content of the scales back-translated the translated German items into English. As a last step, we independently compared the translated English items with the ones from the original scale. If we noted a dissonance, we repeated the procedure until we achieved congruence.

Dispositional resistance to change (time 1)

We employed two subscales of the resistance to change scale (Oreg, 2003) due to the specific change context of the present study (outlined above). Five items assessed routine seeking: "I generally consider change to be a negative thing"; "I'll take a routine day over a day full of unexpected events any time"; "I like to do the same old things rather than try new and different ones"; "Whenever my life forms a stable routine, I look for ways to change it"; "I'd rather be bored than surprised." Four items measured emotional reaction: "If I were to be informed that there's going to be a significant change regarding how things are done at work, I would probably feel stressed"; "When I am informed of a change of plans, I tense up a bit"; "When things don't go according to plan, it stresses me out"; "If my boss changed the criteria for evaluating employees, it would probably make me feel uncomfortable even if I thought I'd do just as well without having to do any extra work." To improve scale reliability, we had to exclude one item of the emotional reaction subscale ("Whenever my life forms a stable routine, I look for ways to change it"), leaving eight items for testing our hypotheses. In line with previous research (Michel, By, & Burnes, 2013; Oreg, 2003), we aggregated the subscales to an overall score with Cronbach's alpha of .70.

Emotional exhaustion (time 2)

To assess emotional exhaustion, we used a subscale of the validated German version (Enzmann & Kleiber, 1989) of the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996). We used seven items: "I feel emotionally drained from work"; "I feel used up by the end of the workday"; "I feel fatigued when I get up in the morning and have to face another day on the job"; "Working with people all day is really a strain for me"; "I feel burned out from my work"; "I feel frustrated by my job"; "I feel I'm working too hard on my job." Cronbach's alpha for this scale is .83.

Perceived organizational support (time 1)

We assessed perceived organizational support using five items of a scale by Eisenberger et al. (1986): "[The organization] … cares about my opinions"; "… really cares about my well-being"; "… strongly considers my goals and values"; "… would forgive an honest mistake on my part"; "… shows very little concern for me." Cronbach's alpha of this scale is .82.

Informational team climate (time 1)

We measured informational team climate using three items of the participative safety subscale from the German version (Brodbeck & Maier, 2001) of the team climate inventory (Anderson & West, 1996): "We share information generally in our team rather than keeping it to ourselves"; "People keep each other informed about work-related issues in the team"; "There are real attempts to share information throughout the team." Before the participants answered the questions, they indicated which work unit they belonged to so that we could allocate them to their work unit and clarify the frame of reference. Cronbach's alpha of this subscale is .82.

Control variables

To clarify the direction of causality and to consider potential confounding variables, we controlled for emotional exhaustion (time 1), dispositional resistance to change (time 2), perceived change impact (time 1), socio-demographic data, and number of work-unit members.

Socio-demographic controls

The control variables were assessed with one item each using dichotomous categories: gender (1 = female, 2 = male) and position (1 = employee without managerial responsibility, 2 = leadership position with managerial responsibility). Gender was included as there are mixed findings in the literature indicating that gender differences with regard to emotional exhaustion may exist (Adriaenssens, De Gucht, & Maes, 2015; González-Morales, Rodríguez, & Peiró, 2010). Position was included as managerial responsibilities are associated with higher job demands and therefore with a higher risk of emotional exhaustion (Jacobshagen, Amstad, Semmer, & Kuster, 2005; Maslach et al., 2001).

Emotional exhaustion (time 1)

To ensure that our study findings hold true over and above the impact of emotional exhaustion at time 1, we controlled for this variable. We measured emotional exhaustion at time 1 in the same way we measured emotional

exhaustion at time 2 (described above). Cronbach's alpha is .82.

Dispositional resistance to change (time 2)

As a trait, we expected dispositional resistance to change not to vary substantially between both measurement times. To investigate if the effect of dispositional resistance to change at time 1 is not affected by its measurement at time 2, we included dispositional resistance to change (time 2) as a control. We assessed dispositional resistance to change at time 2 as we measured dispositional resistance to change at time 1 (described above). Cronbach's alpha is .71.

Change impact (time 1)

To assess change impact, we used five items from a scale by Caldwell, Herold, and Fedor (2004) which reflect the perceived individual change impact on each person's job demands, expectations, and responsibilities. Changes that have greater influences on an individual's job have been linked to more negative reactions (Michel, Stegmaier, Meiser, & Sonntag, 2009), so we controlled for perceived change impact to ensure that our study findings are not confounded by the extent to which the participants perceive the consequences of the change. For example, "I am expected to do more work than I used to." Cronbach's alpha is .83.

Group size

We controlled for the number of respondents of each work unit, i.e., group size, to ensure that differences in numbers did not impact the findings (M = 23.63, SD = 40.05).

Validating the measurement model

Before evaluating the research questions, we used the SPSS Amos 22 software package to verify the measurement model via structural equation modelling. The model included the four latent variables that are relevant to our hypotheses (dispositional resistance to change at time 1, emotional exhaustion at time 2, and the two proposed moderators perceived organizational support and informational team climate at time 1) with the items loading on the factors according to the scales they belonged to. This model achieved a satisfactory fit on all indices except the χ^2 test, $\chi^2(203) = 598.40$, $p < 0.01$; CFI = .92; TLI = .90; RMSEA = .05, thereby confirming the assumed factor structure. Additionally, discriminant validity was assessed using the procedure described by Fornell and Larcker (1981). For each pair of latent variables, the two factors' Average Variance Extracted is larger than their squared correlation (see Table 1). This establishes discriminant validity according to the Fornell–Larcker criterion by showing that the items are indeed more indicative of the construct they were intended to measure than of any other construct (see Campbell & Fiske, 1959).

Table 1. Average Variance Extracted (AVE) and squared correlations.

Variable	1	2	3	4
1. Dispositional resistance to change t1	**.27**			
2. Emotional exhaustion t2	.23	**.42**		
3. Perceived organizational support t1	.02	.20	**.50**	
4. Informational team climate t1	.01	.15	.26	**.61**

Note: AVE values are displayed in bold on the diagonal.

Data analysis

As our study design and research question generated a hierarchical data structure with persons nested in teams, we applied multilevel analysis, that is, hierarchical linear modelling (HLM). The main advantage of applying the multilevel analysis in a work-unit-level context is that it maintains the requirements of independence for work-unit-level data and also avoids ecological fallacy (Hox, 2010; Probst, 2010) so that work-unit-level effects are not mistaken for individual-level effects and data interpretation is not negatively affected.

Computations were executed with HLM 7.0. For running the analyses, we centred the study variables to facilitate interpretation of the intercept and variance (Hox, 2010). We centred individual-level variables (emotional exhaustion at time 1 and time 2, resistance to change at time 1 and time 2, change impact) around the group mean. That is, the intercept refers to the mean of a work unit. The moderators (perceived organizational support and informational team climate) were centred around the grand mean; thus, the intercept reflects the mean of all the participants in this sample. The socio-demographic control variables and group size were included in the equation without centring.

We analysed data from different levels and tested for cross-level interactions as we investigated individual- and work-unit-level variable interaction effects on the individual-level outcome. To create work-unit-level variables and to capture the work-unit perspective, we aggregated the individual responses within a work unit, which means moving the variables at the lower individual level to the higher work-unit level (Hox, 2010). Thus, the work-unit variables consist of the average response of all participating work-unit members who participated, so we estimated the results using a restricted maximum likelihood method (Hox, 2010). This estimation method does not allow the use of a χ^2-test, so we also estimated the results using full maximum likelihood estimation, which avoids this disadvantage. A

comparison of the results revealed no significant differences between both estimation methods. Hence, we report the results of the full maximum likelihood estimation.

To test the hypotheses, we first calculated a null model that included the intercept as the only predictor. After fitting the null model, we analysed Model 1 which contains the control variables besides the intercept. We calculated Model 2 by adding the predictor variable and the moderating variables to the equation. In Model 3, we additionally entered the interaction terms of the predictor and the moderators. After each calculation of a new model, we tested whether the model fit improves from model to model by computing the difference scores of the respective likelihood statistics and submitting this difference to a χ^2-test.

Data aggregation

We chose to aggregate our data using a direct consensus model for perceived organizational support and a reference-shift model for informational team climate according to Chan's (1998) categorization. More precisely, we assume that members of one work unit experience similar organizational support, and therefore the rationale for the aggregation of individuals' perceived organizational support to a higher-level construct follows from the consensus that we expect among members' perceptions. The same logic holds for informational team climate, with the difference that we asked members about the team's (rather than their individual) communication behaviour, thereby shifting the entity that the items referred to from the individual to the team. According to Chan (1998), these two types of model composition can be justified by determining high values on in-group agreement scores, which we hence proceed to calculate.

To determine the agreement between work-unit members, we calculated median r_{wg} values (James, Demaree, & Wolf, 1984). Moreover, we computed intra-class correlation coefficients describing the inter-rater reliability as a ratio of the between-group to the total variance components of the outcome variable (ICC_1) and the reliability of group perceptions as work-unit means (ICC_2) (Bliese, 2000). To estimate the ICC_1, we obtained a significant F-statistic from a one-way analysis of variance as a sufficient criterion for data aggregation (Bliese, 2000). For ICC_2 and r_{wg}, values between .60 and .70 are assumed to be sufficient (Lance, Butts, & Michels, 2006). In the present analysis, the results obtained for perceived organizational support are: $ICC_1 = .06$, $F\ (26, 471) = 1.81$, $p < .001$, $ICC_2 = .54$, and $r_{wg} = .70$. The results for informational team climate are $ICC_1 = .02$, $F\ (26, 474) = 1.37$, $p < .1$, $ICC_2 = .30$, and $r_{wg} = .62$. The results show acceptable values for perceived organizational support as a work-unit-level construct but arguable support for aggregation of values for informational team climate. The ICC_1 value of informational team climate is marginally significant and the r_{wg} value is acceptable (Lance et al., 2006). Regarding the small ICC_2 value, "group-level analyses are unlikely to reveal relationships that are not already evident in individual-level analyses" (Bliese, 1998, p. 369). Thus, the study findings are likely to be a conservative estimation so that the effect of informational team climate may be underestimated. However, the reported ICC_1 and ICC_2 values are comparable with other aggregated constructs in the organizational behaviour literature (Liao & Chuang, 2007; Nohe, Michaelis, Menges, Zhang, & Sonntag, 2013). Acknowledging this restricting factor, we proceeded with data aggregation as previous research has done.

Second, to examine whether HLM was suitable for our data, we calculated the between-group and within-group variance components of the outcome variable. Therefore, we must estimate the null model. The analysis of the dependent variable, emotional exhaustion (time 2), yielded a between-group variance (ICC) of 12%, suggesting that an examination of the predictor variables at the individual and the work-unit level using HLM is appropriate.

Results

Descriptive results

Table 2 shows the means, standard deviations, and correlations of all study variables. Above the diagonal are the correlations of the individual-level measures and below the diagonal are the correlations of the work-unit level as well as the aggregated individual-level variables. Regarding the change context, the mean of change impact ($M = 3.89$) shows that the study participants perceived a high impact. Moreover, the assumption that organizational change is related to higher stress reactions is supported by the significant correlation of change impact and emotional exhaustion ($r_{time\ 1} = .43$, $p < .01$, $r_{time\ 2} = .35$, $p < .01$). Furthermore, the correlation of emotional exhaustion and position ($r_{time\ 1} = -.15$, $p < .01$, $r_{time\ 2} = -.14$, $p < .01$) indicates that employees showed higher levels of emotional exhaustion than did supervisors.

Testing the research hypotheses

Table 3 shows the results of the multilevel analysis for emotional exhaustion (time 2) as an outcome variable and dispositional resistance to change (time 1) as the predictor. Model 1 showed a significant improvement over the null model ($\Delta -2 \times \log = 514.39$, $\Delta\ df = 6$, $p < .001$). The control variable emotional exhaustion (time 1) was significant ($b = 0.61$, $p < .001$) as well as dispositional resistance to change (time 2) ($b = 0.23$, $p < .001$) and position ($\beta = -0.10$, $p < .05$).[1] Model 2 showed further improvement over Model 1 ($\Delta -2 \times \log = 12.15$, $\Delta\ df = 3$, $p < .01$). While emotional exhaustion (time 1) ($b = 0.61$, $p < .001$), dispositional resistance to change (time 2)

Table 2. Means, standard deviations, and correlations of the study variables.

	Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
	M			2.57	2.41	2.47	2.59	3.89	—	—			
	SD			0.74	0.58	0.58	0.75	.76	—	—			
1	Emotional exhaustion t2	2.44	0.30	—	.32**	.38**	.71**	.35**	−.14**	−.07			
2	Dispositional resistance to change t1	2.37	0.24	.30*	—	.65**	.38**	.20**	.02	.04			
3	Dispositional resistance to change t2	2.45	0.22	.10	.64**	—	.31**	.17**	.05	.01			
4	Emotional exhaustion t1	2.44	0.37	.59**	.43**	.46*	—	.43**	−.15**	−.04			
5	Change impact t1	3.85	0.29	.63**	−.02	.13	.43*	—	.09*	.08*			
6	Position[1]	—	—	—	—	—	—	—	—	.13*			
7	Gender[2]	—	—	—	—	—	—	—	—	—			
8	Perceived organizational support	3.14	0.42	−.57*	.08	−.12	−.30	−.57**	—	—	—		
9	Informational team climate	3.68	0.42	−.45*	−.09	.03	−.29	−.12	—	—	.66**	—	
10	Group size	23.63	40.05	.21	.10	.06	.31	.09	—	—	−.07	−.04	—

Notes: Below diagonal: work-unit level data ($N = 30$), above diagonal: individual-level data ($N = 709$). $^{**}p < .01$, $^{*}p < .05$. [1]1 = employee, 2 = leadership position. [2]1 = female, 2 = male.

Table 3. Multilevel estimates for resistance to change predicting emotional exhaustion (time 2).

	Null model			Model 1			Model 2			Model 3		
	Estimate	*SE*	*t*	Estimate	*SE*	*t*	Estimate	*SE*	*t*	Estimate	SE	*t*
Intercept	2.54	0.04	57.90***	2.61	0.12	22.23***	2.62	0.11	24.25***	2.61	0.11	23.26***
Position[1]				−0.10	0.05	−2.13*	−0.09	0.05	−2.01*	−0.10	0.05	−2.18*
Gender[2]				−0.07	0.05	−1.60	−0.07	0.04	−1.63	−0.07	0.05	−1.46
Emotional exhaustion t1				0.61	0.03	20.50***	0.61	0.03	20.44***	0.62	0.03	20.73***
Dispositional resistance to change t2				0.23	0.04	6.11***	0.29	0.04	7.76***	0.29	0.04	7.71***
Change impact t1				0.04	0.03	1.37	0.04	0.03	1.47	0.04	0.03	1.66
Group size				0.00	0.00	1.42	0.00	0.00	1.54	0.00	0.00	1.54
Dispositional resistance to change t1							0.10	0.03	3.29**	0.11	0.03	3.24**
Perceived organizational support							−0.37	0.16	−2.24*	−0.37	0.16	−2.23*
Informational team climate							0.08	0.21	0.39	0.08	0.21	0.39
Dispositional resistance to change t1 × perceived organizational support										−0.40	0.16	−2.43*
Dispositional resistance to change t1 × informational team climate										0.42	0.17	2.45*
−2 × log			1572.44			1058.05			1045.90			1042.45
Δ −2 × log						514.39***			12.15**			3.45†
Δ *df*			3			6			3			2
Level 1 variance	0.53			0.25			0.25			0.25		
Level 2 variance	0.07			0.03			0.03			0.03		

Notes: $N = 709$ work unit members, $N = 30$ work units. Unstandardized regression coefficients are reported. $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$, $^{\dagger}p < .1$. [1]1 = employee, 2 = leadership position. [2]1 = female, 2 = male.

(b = 0.29, p < .001), and position (β = −0.09, p < .05) remained significant controls, and perceived organizational support was another significant predictor (b = −0.37, p < .05), dispositional resistance to change (time 1) also proved a significant predictor of emotional exhaustion (time 2) (b = 0.10, p < .01). Thus, Hypothesis 1 is supported.

Model 3 showed no significant improvement over Model 2 (Δ −2 × log = 3.45, Δ df = 2, p = n.s.). Emotional exhaustion (time 1) (b = 0.62, p < .001), dispositional resistance to change (time 2) (b = 0.29, p < .001), position (b = −0.10, p < .05), and perceived organizational support (b = −0.37, p < .05) remained a significant influence on emotional exhaustion (time 2) as well as dispositional resistance to change (time 1) (b = 0.11, p < .01). The interaction between dispositional resistance to change (time 1) and perceived organizational support was significant (b = −0.40, p < .05). To analyse the interaction in more detail, we conducted simple slope tests using an online HLM calculator (Preacher, Curran, & Bauer, 2006). We chose one standard deviation above the mean (high perceived organizational support) and one standard deviation below the mean (low perceived organizational support) as conditional values of perceived organizational support. For high perceived organizational support, the simple slope positively relating dispositional resistance to change (time 1) to emotional exhaustion (time 2) was non-significant (z = −0.11, p = .29). For low perceived organizational support, the simple slope positively relating dispositional resistance to change (time 1) to emotional exhaustion (time 2) was significant (z = 0.22, p < .01). That is, for dispositionally change-resistant individuals, low perceived organizational support strengthened the positive effect of their dispositional resistance to change (time 1) on emotional exhaustion (time 2) (see Figure 2). Thus, Hypothesis 2 is supported.

The interaction between dispositional resistance to change (time 1) and informational team climate was also significant (b = 0.42, p < .05). The same conditional values were chosen for the simple slopes test of the informational team climate interaction with dispositional resistance to change (time 1) (one standard deviation above the mean = high informational team climate, one standard deviation below the mean = low informational team climate). For high informational team climate, the simple slope positively relating dispositional resistance to change (time 1) to emotional exhaustion (time 2) was significant (z = 0.15, p < .05). For low informational team climate, the simple slope positively relating dispositional resistance to change (time 1) to emotional exhaustion (time 2) was not significant (z = −0.06, p = .45). That is, for persons who are resistant to change, high informational team climate strengthened the positive effect of dispositional resistance to change on emotional exhaustion (time 2) (see Figure 3). Thus, Hypothesis 3 is supported.

Discussion

Based on person–environment fit theory (French et al., 1982), our first aim was to evaluate the impact of dispositional resistance to change (time 1) on emotional exhaustion (time 2). Our longitudinal study design supports our hypothesis that dispositional resistance to change positively affects emotional exhaustion. In line with trait activation theory (Tett & Burnett, 2003; Tett & Guterman, 2000), we examined boundary conditions for this effect. Hence, our second aim was to scrutinize internal contextual factors—perceived organizational support and informational team climate—as they affect the relationship between dispositional resistance to change (time 1) and emotional exhaustion (time 2). Both variables significantly moderate the positive relationship between dispositional resistance to change (time 1) and emotional exhaustion (time 2).

We hypothesized that perceptions of strong organizational support will reduce adverse effects of dispositional resistance to change by trait-deactivation. The data reveal that perceptions of low organizational support strengthen the positive relationship between

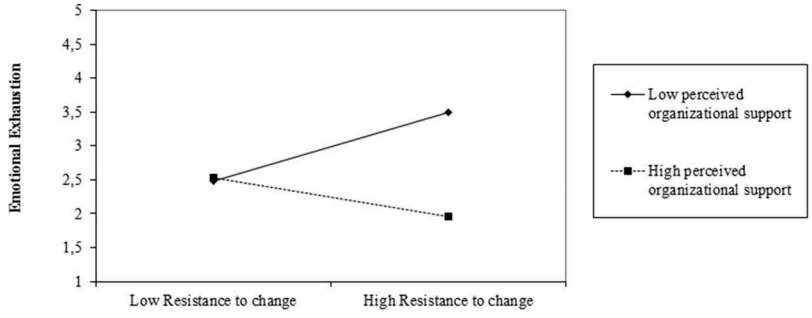

Figure 2. Dispositional resistance to change (time 1) and perceived organizational support interaction effects on emotional exhaustion (time 2).

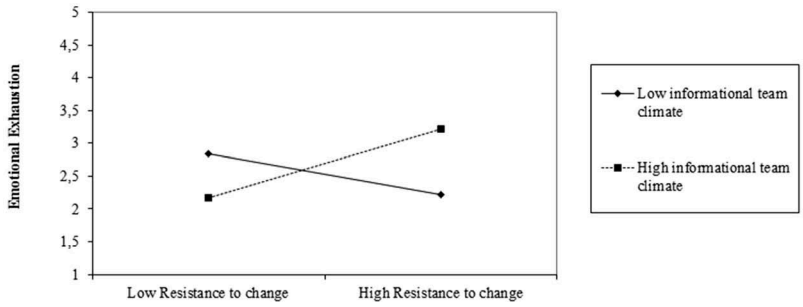

Figure 3. Dispositional resistance to change (time 1) and informational team climate interaction effect on emotional exhaustion (time 2).

dispositional resistance to change (time 1) and emotional exhaustion (time 2). Although our results show effects opposed to the hypothesis, they are conclusive for trait activation, that is, in the present study, the lack of certain situational cues—organizational support—increased trait activation. Although trait activation theory focuses more on the existence of certain cues than on their absence, this finding suggests that the lack of situational cues is also highly relevant.

As predicted, informational team climate enhanced the positive effect of dispositional resistance to change (time 1) on emotional exhaustion (time 2), indicating that open and frequent interactions between work-unit members provide relevant situational cues that in turn activate the trait of dispositional resistance to change. The work unit-members' interactions also create crossover effects that increase negative consequences for employees who are highly resistant to change (Westman et al., 2011). Besides confirming the predictions of trait activation theory, this finding aligns with previously reported negative effects of close social interactions with team members who share the same stress; exchanging stressful thoughts and experiences reinforces stress appraisals and generates identical or augmented stress reactions (Westman et al., 2011). Thus, positive team atmospheres featuring frequent interactions can "act as a double-edged sword, becoming dysfunctional and spreading the exhaustion" (Westman et al., 2011, p. 572).

In addition to our hypotheses tests, our data show that employees without managerial responsibilities were more emotionally exhausted than supervisors, which might seem surprising because leadership positions are associated with higher demands and responsibilities (Jacobshagen et al., 2005). However, supervisors are deeply involved active participants who are aware of change processes, which could positively influence their emotional exhaustion in the face of change (Wanberg & Banas, 2000). In contrast, nonmanagerial employees are less informed and less involved in change processes, which may explain why change had a larger impact on their stress reactions (Sonntag, Benz, Edelmann, & Kipfmüller, 2001; Sonntag & Nohe, 2014).

Our combined findings make several contributions to the literature. First, we extend change research by showing that dispositional resistance to change positively influences emotional exhaustion. These findings are of particular importance as emotional exhaustion is considered "a unique quality of working life indicator with the potential to estimate the cumulative effects of work stresses" (Gaines & Jermier, 1983), and as employees' responses to such stress have been connected to increased absence from work, physical illnesses, and mental health (for a meta-analytical overview, see Darr & Johns, 2008). In this light, our findings suggest that dispositional resistance to change may be highly relevant not only to the single variable of emotional exhaustion, but also to employees' more general health and well-being. Second, we add new insights into internal contextual factors as boundary conditions at the work-unit level. We do so by conceptualizing internal contextual factors as situational cues that activate dispositional resistance to change, thereby also supporting the applicability of the trait activation theory in the context of organizational change. Third, using a longitudinal data set and applying multilevel analysis including cross-level interactions, we methodologically advance knowledge on interrelations of a change-related trait, internal contextual influences, and emotional exhaustion. Our results show that individual characteristics and internal contextual factors interact to exert impacts on emotional exhaustion. Fourth, concerning theoretical implications, to our best knowledge, we are the first to apply trait activation theory to predict stress reactions in the context of organizational changes. We demonstrate that this theory proves valuable in addition to person–environment fit theory in explaining moderating effects on emotional exhaustion. Therefore, we show that trait activation theory is a promising theory to clarify the role of traits and situational cues in

predicting employees' stress reactions, which may thus also be used to study stress-related impacts on physical and mental health.

Limitations and implications for future research and practice

Our study has certain limitations that provide opportunities for future research. First, we used self-reported data only, which might affect our results. Study participation was voluntary, so a self-selection bias may have affected our results. Analyses reveal that participants who dropped out between the two measurement points are significantly different from those who remained in the study sample. Dropouts have higher scores in dispositional resistance to change and emotional exhaustion and lower scores in perceived organizational support and informational team climate; thus, we can speculate that they may have been more strained and therefore did not complete the questionnaire. Nevertheless, the range of emotional exhaustion (time 2) in our sample (*minimum* = 1, *maximum* = 4.71) implies that highly emotionally exhausted participants took part in the study. Another interpretation is that dropping out was an expression of resistance towards organizational actions. From a reciprocity perspective, we can speculate that the dropouts were disappointed that the organization implemented no feasible measures after the first survey. The lower scores in perceived organizational support indicate that they felt that the organization failed to appropriately return the favour, so they declined to participate a second time (cf. Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). That is, the non-random dropouts highlight the relevance of our research: If high dispositional resistance to change, high emotional exhaustion, and specific boundary conditions foster resistance towards the employer's requests or even turnover, it is crucial to understand these relationships and to develop approaches to mitigate these effects. Although our data suggest non-random attrition which may impact the study results and its generalizability, attrition analysis did not reveal effects of non-random sampling on the relationships among variables. According to Goodman and Blum (1996), this is important because "to the extent that these patterns of relationships are similar, researchers can feel more confident about performing longitudinal analyses on their data that contain non-random sample attrition" (p. 636). Second, we examined only employees of one German company operating internationally, so our results may have limited external validity. A high percentage of men work in the industry, as the sample reflected. Acknowledging the skewed gender distribution that may have biased our findings, we controlled for gender effects but found no significant impact on the analysed relationships. Third, the work units we analysed differed in group sizes, so we included group size as a control and found no significant influence on the results. A related limitation concerns the missing information on work-unit response rates since we have no information of the percentage of participation of each work unit. Moreover, as mentioned, the low r_{wg} and ICC values of informational team climate imply that we may have underestimated the effect of informational team climate due to data aggregation, that is, the crossover effect might actually be stronger. It would therefore be interesting to replicate this study using a more homogenous sample without gender or cultural biases to avoid possible distortions and to achieve higher reliability scores of this internal contextual factor. Fourth, the focus on subscales of our independent (two subscales of dispositional resistance of change) and dependent variable (emotional exhaustion as a subscale of burnout) may limit the conclusion of our findings. Although emotional exhaustion is the core component of burnout (Maslach et al., 2001) and widely used as an indicator of burnout in many studies (e.g., Bernerth et al., 2011; Nikolova, Van Ruysseveldt, De Witte, & Syroit, 2014; Petrou et al., 2015), including all burnout subscales in future research may lead to a more comprehensive understanding of burnout in the change context. With regard to dispositional resistance to change, we assume that the subscales routine seeking and emotional reaction are highly relevant for the context of our study and are also highly correlated with the other two subscales; however, they may not represent the broader construct of resistance to change as proposed by Oreg (2003). Moreover, the measure of dispositional resistance to change we used achieved a weaker reliability than did the other measures, indicating that the construct is either more heterogeneous than expected or is not optimally assessed by the eight items of the two subscales we employed. Regarding the measurement of perceived organizational support and informational team climate, we used aggregated scores of individual assessments which might differ from a consensual evaluation and do not take account of the potentially meaningful variation among work-unit members' collective judgements. Future research should test a different approach to the measurement of work-unit level constructs such as a dispersion-composition model. Fifth, to investigate the suggested deactivation process, future studies may find it fruitful to consider other internal contextual factors that may buffer dispositional resistance to change effects, such as decision latitude, supervisor support (Michel et al., 2013), or workplace learning opportunities (Nikolova et al., 2014). Besides the crossover effect of informational team climate, it would be interesting to consider other internal contextual factors that may adversely affect emotional exhaustion at different levels of analysis, such as organization or management levels (e.g., low trust in management and poor

leadership styles). Shedding light on such relations may be a starting point for health promotion approaches. Furthermore, it may be fruitful to relate dispositional change resistance to clinical syndromes or physical health outcomes other than emotional exhaustion as previous research has shown that organizational change correlates with various symptoms, for example, heart problems, musculoskeletal pain, and sleep disorders (Gustafsson & Saksvik, 2005). By studying these outcomes and relevant boundary conditions, a more comprehensive protection of employees' well-being during change may become feasible. Moreover, future research should investigate whether work units that include a high percentage of highly change-resistant employees will have different work-unit outcomes.

Practical implications

Our study offers practical implications for organizations undergoing change by showing the importance of individual characteristics and internal contextual factors. Although it is well known that employees' change-resistant behaviours affect organizational success, we show that dispositional resistance to change also affects employees' emotional exhaustion. To avoid negative effects of organizational change on employees' stress levels and thus in the long run on their more general well-being, occupational health management should act jointly with personal and organizational development to develop integrated strategies to create healthy work environments in times of change. This is especially relevant due to the fact that organizations depend on both change processes and healthy employees and cannot afford a trade-off between the two.

Trainers and coaches could provide better support in times of change by identifying and targeting employees that are high in dispositional resistance to change, or by offering support opportunities to all employees, which resistant employees may then join based on self-selection. Coaches could foster health by enhancing resources, helping employees adapt to changing job demands, and showing them how to deal with losing job duties or characteristics they value (Michel & Bickerich, in press) which might improve communication within work units and increase feelings of organizational support. Relevant to organizational development and involved practitioners are the findings that perceived organizational support and informational team climate have different effects. In terms of perceived organizational support effects, companies should closely examine whether they are offering relevant help in times of change or whether they are failing to meet a specific work-unit's needs. Regarding informational team climate effects, team-building interventions for work units might be useful to counteract risks of change-related crossover effects on employee well-being, for example, by preventing rumours in times of change (Bordia, Jones, Gallois, Callan, & Difonzo, 2006). The results highlight that the varying experiences of work units matter and should therefore be regularly evaluated and addressed during change, for example, by conducting surveys, group discussions, or workshops for work units.

Acknowledgement

We thank Lea Lempert for her support in preparing this article.

Disclosure statement

No potential conflict of interest was reported by the authors.

Note

1. In our analyses, we tested if group size had a significant effect on our findings by including group size as a predictor and testing its interactions with all study variables. The data reveal no significant impact of group size.

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