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What is This?

Profound organizational change, psychological distress and burnout symptoms: The mediator role of collective relative deprivation

Roxane de la Sablonnière[1], Francine Tougas[2], Édith de la Sablonnière[3] and Régine Debrosse[4]

Abstract

The reasons underlying some individuals' negative reactions to profound societal and organizational changes are still unclear. We argue that collective relative deprivation (i.e., feelings of discontent arising from group-based threat) mediates the relationship between perceptions of change and employees' psychological reactions. Specifically, we tested the hypothesis that when employees perceive organizational change to be negative and rapid, they are more likely to sense collective relative deprivation. This sense of collective relative deprivation, in turn, leads to higher levels of psychological distress and burnout symptoms. We tested the mediator role of collective relative deprivation among a group of nurses, and confirmed these hypotheses through a path analysis and a bootstrap procedure. The discussion underlines both theoretical and applied contributions, particularly in the modern context of vast and profound organizational changes.

Organizational change has become a well-researched topic in the last two decades (Thurlow & Mills, 2009). More than 5100 references to this term have been listed in psycINFO since 2000 alone. This is congruent with statistics concerning the magnitude of changes taking place in organizations: In 1996, an American Management Association report indicated that 84% of US companies were in the process of at least one

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major change (Peak, 1996). Noting the many major changes that have recently impacted organizations, Self and Schraeder (2009) go as far as to assert that "organizations experience change on an ongoing basis" (p. 167). It is in this context that researchers have investigated the consequences of different dimensions of change on employees (Caldwell, Herold, & Fedor, 2004; Herold, Fedor, & Caldwell, 2007; Weick & Quinn, 1999). In this paper, we focus on perceived the valence and the pace of organizational changes and their associated outcomes.

Research shows that employees facing organizational changes often react negatively. For example, lower well-being (Marks, 2006; Martin, Jones, & Callan, 2005), less job satisfaction (Bordia, Hunt, Paulsen, Tourish, & DiFonzo, 2004; Brown, Zijlstra, & Lyons, 2006; Cole, Harris, & Bernerth, 2006; Martin et al., 2005; Nelson, Cooper, & Jackson, 1995), and stress (Ashford, 1988; McHugh, 1997) have been widely associated with such changes. Researchers observed that the perception of change, whether organizational (Cole et al., 2006; Jimmieson, Terry, & Callan, 2004; Osthus, 2007; Probst, 2003; Rafferty & Griffin, 2006) or societal (de la Sablonnière, Tougas, & Lortie-Lussier, 2009; Goodwin, 2006; Sampson, 1989), impact individuals' well-being. Not all individuals react negatively to change, however, and as such, individual differences accounting for positive reactions, including hope, self-efficacy, optimism, and resilience, have also been investigated (e.g., Avey, Wernsing, & Luthans, 2008).

In sum, research provides evidence that major changes trigger a wide range of responses. In order to explain why some employees experience negative outcomes following an organizational change, analysts have turned to mediators that have been the focus of research on coping, stress, and emotions (Amiot, Terry, Jimmieson, & Callan, 2006; Fugate, Kinicky, & Prussia, 2008). Others proposed and found that feelings of uncertainty mediated the relationship between organizational change and psychological well-being (Jimmieson et al., 2004) or job satisfaction (Rafferty & Griffin, 2006). However, research has yet to identify the mechanism through which

organizational change may or may not translate into negative reactions. The goal of this paper is to redress this gap in the literature. To do so, we refer to the theory of relative deprivation.

Relative deprivation theory

Relative deprivation is defined as a feeling of dissatisfaction occurring as a result of invidious comparisons (Crosby, 1976; Runciman, 1966, 1968; Walker & Pettigrew, 1984). Relative deprivation includes two components: Cognitive and affective. The cognitive component refers to the comparison of an individual's own situation to a particular point of reference, while the affective component is the resulting feeling of discontent. The concept of relative deprivation was developed to explain why individuals react differently to a particular set of circumstances (Tougas & Beaton, 2008). More precisely, the way individuals view their conditions in comparison to that of others was found to trigger underlying positive or negative feelings, and the outcome of this comparison subsequently orients their reactions to particular situations (D'Ambrosio & Frick, 2007; Dambrun, Taylor, McDonald, Crush, & Méot, 2006; Pettigrew et al., 2008). As such, relative deprivation is considered a key factor when examining why individuals react positively or negatively across similar contexts.

Relative deprivation theorists proposed two useful distinctions pertaining to the type of comparisons individuals use to assess their situations. The first distinction concerns the point of departure of the comparison process and derives from Runciman's (1966) conceptualization of relative deprivation. When an individual unfavourably compares his/her own situation in contrast to another individual's situation, this results in a feeling of discontent called egoistical (or *personal*) relative deprivation. Unfavorable comparisons at the collective level, in which an individual compares him/herself as part of a group to another group, give rise to feelings called fraternal (or *collective*) relative deprivation.

The second distinction refers to the object of comparisons. Most researchers have conceptualized

relative deprivation on the basis of *social* comparisons involving individuals' personal or collective conditions in contrast to that of others (Olson & Hafer, 1996; Walker & Pettigrew, 1984). Social comparisons are relevant in stable contexts. However, in contexts of rapid and profound change, social psychologists have identified *temporal* comparisons as more prominent (Albert, 1977; Albert & Sabini, 1974; Brown & Middendorf, 1996; de la Sablonnière, Tougas, & Perenlei, 2010; Mummendey, Mielke, Wenzel, & Kanning, 1992). *Temporal* relative deprivation involves unfavorable comparisons across time: Present conditions constitute the anchor of temporal comparisons, which are contrasted with past and/or expected future conditions (Albert, 1977; Brown & Middendorf, 1996; Wilson & Ross, 2001). In this paper, we focus on *temporal* collective relative deprivation—i.e., unfavorable in-group comparisons across time.

Collective relative deprivation as a mediator: An integrative model

According to relative deprivation theorists, analysts studying the consequences of relative deprivation should take into account the point of departure of comparisons, whether they are at the personal level or at the collective level (Pettigrew et al., 2008; Walker & Mann, 1987). This is consistent with Pettigrew's assertion that, "the strongest relationships between relative deprivation and dependent measures occur when the level of reference for both measures is the same" (Pettigrew et al., 2008, p. 387; see also Smith, Pettigrew, Pippin, & Bialosiewicz, in press). Accordingly, it has been demonstrated that personal relative deprivation triggers reactions that exclusively concern the person, whereas collective relative deprivation generates responses exclusively at the group level (Smith & Ortiz, 2002; Walker & Mann, 1987). For example, Walker and Mann (1987) have shown that only personal (as opposed to collective) relative deprivation can predict psychological stress (i.e., personal outcomes). Similarly, a meta-analysis by Smith and Ortiz (2002) has shown that collective comparisons are not significantly related to

personal outcomes such as depressive symptoms. Finally, Pettigrew and his colleagues (2008) have provided evidence of no direct relationship between personal relative deprivation and prejudice.

In this paper, we propose that in certain circumstances collective relative deprivation can in fact influence individuals on the personal level. For example, in a situation where a corporate division is entirely restructured, if employees feel dissatisfied after comparing their past and current work conditions, they might take action as a group. They may also exhibit personal reactions, such as reduced work motivation, psychological distress and physical or emotional exhaustion (burnout). To our knowledge, research has yet to establish that collective relative deprivation is related to personal outcomes in the context of rapid change. In order to fill this gap, we tested the hypothesis that the more an individual feels dissatisfied when comparing his/her past and present group conditions, the more likely he/she is to be personally affected in terms of higher levels of psychological distress and burnout symptoms. By testing this core hypothesis, we also aimed to show that some theoretical predictions about dramatic social change can also apply to major organizational change; by extension, we provide evidence demonstrating that discontented feelings triggered by disadvantageous group comparisons also impact personal lives.

Hypotheses

Previous research has shown that relative deprivation can mediate indirect relationships between particular situational circumstances and individual outcomes—but no direct relationship between these factors should be expected. For instance, Moore (2003) has found that personal relative deprivation mediated the link between family income and personal future expectations of Palestinian high school students. We aimed to extend these results to the specific context of organizational change, and thus we hypothesized that collective relative deprivation mediates the relationship between organizational change and personal outcomes:

Hypothesis 1a   We predict a significant indirect (but not direct) relationship between perceived organizational change and psychological distress, where collective relative deprivation mediates the relationship.

Hypothesis 1b   We predict a significant indirect (but not direct) relationship between perceived organizational change and burnout symptoms, where collective relative deprivation mediates the relationship.

Researchers suggest that organizational change can trigger feelings of threat (Devos, Buelens & Bouckenooghe, 2007; Oreg, 2006; van Dijk & van Dick, 2009). Changes are demanding because they compel individuals to re-evaluate their situations (Albert, 1977; Albert & Sabini, 1974; Brown & Middendorf, 1996; Mummendey et al., 1992). Literature on company mergers has provided evidence that the more employees feel threatened following a merger, the less they identify with (Terry, Carey, & Callan, 2001) and the less they feel committed to (Mottola, Gaertner, Bachman, & Dovidio, 1997) the post-merger organization. Moreover, studies have shown that social changes trigger feelings of temporal collective relative deprivation (de la Sablonnière, Tougas, & Lortie-Lussier, 2009). For example, in two studies conducted in Russia and Mongolia, de la Sablonnière, Tougas, and Lortie-Lussier (2009) observed that as perceptions of rapid and negative social changes become increasingly prominent, individuals express more feelings of temporal collective relative deprivation. We predict that a similar process could occur within the context of organizational changes; thus:

Hypothesis 2   The more individuals perceive organizational change as rapid and negative, the more they experience temporal collective relative deprivation.

Previous research supports the idea that collective relative deprivation influences outcomes at the group level (e.g., de la Sablonnière & Tougas, 2008). In addition, studies have demonstrated that there is a relationship between personal feelings

of threat and personal outcomes in the context of organizational change. For instance, studies have shown that employees associating an organizational change with personal feelings of threat tend to be less opened to this change (Devos et al., 2007) and less creative (Zhou, Shin, & Cannella, 2008). However, as stated earlier, research has yet to establish that collective feelings of threat, such as collective relative deprivation, could be related to personal outcomes in the context of rapid and negative organizational change. Some studies support this argument by suggesting that collective feelings can generate personal reactions (Crocker & Major, 1989; de la Sablonnière, Auger, Sadykova, & Taylor, 2010; Smith & Tyler, 1997; Taylor, 1997, 2002; Zagefka & Brown, 2005). For example, Zagefka and Brown (2005) have found evidence suggesting that collective relative deprivation predicts life satisfaction and self-esteem. In accordance with this line of research, we predict that:

Hypothesis 3a   The more individuals feel collective relative deprivation, the more they will report psychological distress.

Hypothesis 3b   The more individuals feel collective relative deprivation, the more they will report burnout symptoms.

Method

Participants

This study focuses on nurses implicated in a major Health Care reform in a regional hospital in Canada. During the past decade, major changes in the Canadian population, such as the increasing proportion of the elderly, have produced inevitable transformations in the Health Care System (Beaulieu, 1999; Colin, 2004; Fournier, 1999; Hamelin Brabant, Lavoie-Tremblay, Viens, & Lefrançois, 2007; Langlois, 1999; Touati & Denis, 2005). These changes have, in turn, affected both patients and health care employees (Health Canada, 2004). Nurses represent one of

the most profoundly affected sectors of health care employees (Langlois, 1999; Rached & Michel, 1999). This study focuses on nurses' reactions to vast organizational changes. Our participants consisted of 109 nurses whose ages ranged between 21 and 58 years ($M = 35.68$, $SD = 10.27$). In total, 94% were women. In all, 58.4% were full-time workers, 34.7% were part-time workers and 5.9% were occasional workers (2.0% did not specify). All the nurses were recruited from a regional hospital where they worked 8.15 years, on average.

Procedure

Questionnaires were mailed to the homes of 365 nurses employed in a Canadian hospital. The packet included a letter describing the study and indicating that participation was voluntary and confidential, as well as a prepaid envelope addressed to researchers. Overall, 29.9% of the recipients agreed to participate in this project. The response rate might have been affected by the fact that the study was approved by the very organization that was in the course of implementing major changes within the hospital. The letter of presentation included the logos of the hospital and the University of Ottawa, and was signed by both the researchers and the authorities of the hospital. Nevertheless, since our response rate is above the minimum of one standard deviation of the average, i.e., 35.7% ($SD = 18.8$), it is acceptable according to statistical standards (Baruch & Holtom, 2008).

Questionnaire

Pace of negative changes   We assessed nurses' perceptions of the pace of negative change using a procedure that had been validated in previous research. We presented nurses with three questionnaire items, which were selected in collaboration with the hospital staff. These items referred to the changes that occurred in the nurses' workplace in the past two years regarding: (a) the number of tasks, (b) the scope of tasks, and (c) the scope of responsibilities. Each item was accompanied by two response scales. Firstly, the nurses evaluated the valence of change on a Likert-type scale from 1 (very positive changes) to 7 (very negative changes). Secondly, they were asked to estimate the speed of changes on a Likert-type scale from 1 (very slow changes) to 7 (very fast changes). For each participant, we computed three scores by multiplying the valence by the speed of change for each question, and then we calculated the average of the three scores. This method was shown in previous studies to be more effective than using separate scores for each question (e.g., de la Sablonnière, Tougas, & Lortie-Lussier, 2009). We interpreted the final scores to mean that the higher the score—the more negative and rapid were the changes perceived to be by the nurses. The Cronbach alpha for the three scores of this scale was satisfying ($\alpha = .76$).

Temporal collective relative deprivation   Temporal collective relative deprivation refers to unfavorable in-group comparisons across time. Our measure was designed to assess how participants perceive the changes that affected all nurses in their hospital collectively. Nurses were asked to evaluate these four items by comparing their current situation with their situation two years ago. More precisely, we asked whether: (a) they experience more instability and insecurity in the management of work and health care; (b) they receive less recognition from their employers; (c) they have more circumstances within the new work environment to which they must adapt (e.g., location and material); and (d) they have less time to care for patients and patients' families. Our measure of relative deprivation is in line with previous research (e.g., Dambrun et al., 2006; de la Sablonnière & Tougas, 2008). Each item in the questionnaire was preceded by the statement, "compared to two years ago." Each of the four items was accompanied by two response scales. The first scale evaluated participants' agreement with the statement on a Likert scale from 1 (totally disagree) to 7 (totally

agree). The second scale determined nurses' level of satisfaction with the changes on a scale from 1 (totally satisfied) to 7 (totally dissatisfied). For each participant, we computed a final score by averaging the eight items. The Cronbach alpha for this scale was satisfying ($\alpha = .88$).

Psychological distress   In order to assess our participants' level of psychological distress, we used a shortened and previously validated French version of the *Psychiatric Symptoms Index* (Ilfeld, 1976; Préville, Boyer, Potvin, Perrault, & Légaré, 1992). This self-report instrument includes 14 items that assess four dimensions: depression (e.g., How often did you feel hopeless about the future?), anxiety (e.g., How often did you feel nervous or shaky inside?), anger (e.g., How often did you lose your temper?), and cognitive disturbance symptoms (e.g., How often did you have trouble remembering things?). Participants were asked to respond to each item using a Likert-type scale from 1 (Never) to 4 (Very often). The internal consistency of this scale was high ($\alpha = .90$).

Burnout symptoms   We measured our participants' burnout symptoms using the previously validated French version of the *Maslach Burnout Inventory-Human Services Survey* (MBI-HSS; Dion & Tessier, 1994; Maslach, Jackson, & Leiter, 1996). This self-report instrument is divided into three subscales: (a) emotional exhaustion (e.g., I feel emotionally drained from my work), (b) depersonalization (e.g., I've become more callous towards people since I took this job), and (c) personal accomplishment (e.g., I have accomplished many worthwhile things in this job). All 22 items were answered on a Likert-type scale from 1 (Never) to 7 (Everyday). The Cronbach alpha of this scale was satisfying ($\alpha = .88$).

Analyses

We performed our analyses in three steps. In the first step, preliminary analyses concerning data normality, linearity, missing data, and common variance were conducted. In the second step, we evaluated predictive models through a path

analysis using AMOS (Arbuckle, 2007; Byrne, 2001). When we assessed the adequacy of different models, we considered more than one fit indices (Bollen & Long, 1993; Hoyle & Panter, 1995): The chi-square (χ^2), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). The value of the CFI is considered adequate when over .90 (Bentler, 1990), whereas the RMSEA indicates a reasonable approximation error when below .08 (Browne & Cudeck, 1993).

In the third step of our analysis, we used a bootstrap technique from the Amos statistical package (Yung & Bentler, 1996). By generating many samples out of our original sample ($N = 5000$), the bootstrap procedure allowed us to test the mediator role of temporal collective relative deprivation. According to MacKinnon, Krull, and Lockwood (2000), mediation occurs when indirect effects are significant. The bootstrap procedure is useful in testing a mediation relationship because it provides reliable estimates of direct and indirect effects (Bollen & Stine, 1990; Preacher & Hayes, 2004; Shrout & Bolger, 2002). Moreover, the confidence intervals that are calculated through this procedure are more valid than those that are calculated through the traditional Sobel test (Cheung & Lau, 2008; Lockwood & MacKinnon, 1998). The bootstrap procedure is also useful in generating less type II errors (Cheung & Lau, 2008; Shrout & Bolger, 2002).

Results

Following the preliminary analyses, we excluded the results of 8 participants due to missing data. We analyzed the results of the remaining 101 participants, which is a sufficient sample size to test our model because the ratio between the sample size and the seven parameters is superior to 10:1 (Kline, 1998). As shown in Table 1, all the variables in the model are normally distributed, as indicated by the kurtosis and skewness values. Table 1 also reproduces the means, standard deviations, and correlations between the variables. Because our data were collected using one

Table 1. Descriptive statistics and correlations among variables

		M	SD	Skewness	Kurtosis	1	2	3	4
1	*Pace of negative changes*	22.60	9.20	.49	.28	—			
2	*Temporal collective relative deprivation*	5.05	.82	.87	.21	.43**	—		
3	*Psychological distress*	1.93	.53	.89	.44	.23*	.40**	—	
4	*Burnout symptoms*	1.89	.78	.27	−.74	.16	.44**	.62**	—

*p < .05; **p < .01, two-tailed.

method, we deemed it important to compute the Harman's one-factor test, as suggested by Podsakoff and his colleagues (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986). The results of this analysis showed that the common method variance does not represent a significant issue in our results. Specifically, the unrotated factor solution of the exploratory factor analysis indicated that 12 factors emerged with Eigenvalues greater than 1, indicating that no single factor accounted for the majority of the variance. In addition, the first factor accounted for 27% of the variance, suggesting that common method variance is not problematic in our research.

In the second step of our analysis, the results of the path analysis revealed that the proposed model adequately fit the data (see Fig. 1). Indeed, fit indices met the set criteria (χ^2 (2, N = 101) = 1.226, p = .542; CFI = 1.00; RMSEA = .00), and all intercepts were significant (p < .01). According to the model, the more the nurses perceived organizational changes as negative and rapid, the more they reported feelings of collective relative deprivation, thus supporting hypothesis 2. As predicted, we also found significant and positive associations between nurses' feelings of collective relative deprivation and their self-reported psychological distress (Hypothesis 3a), as well as between nurses' collective relative deprivation and their burnout symptoms (Hypothesis 3b).

Our results also supported the mediator role of collective relative deprivation (Hypothesis 1a and 1b). The standardized indirect effect between the pace of negative changes and psychological distress, mediated by temporal collective relative deprivation, was .172 (p < .01, lower bound = .067, upper bound = .282). The standardized

indirect effect between the pace of negative changes and burnout symptoms was .188 (p < .01, lower bound = .085, upper bound = .295). These findings show that the pace of negative changes *indirectly* affects employees on the personal level.

Although we did not predict a direct relationship between the pace of negative change and the psychological distress and burnout symptoms, we tested two alternate models that included these direct relationships. The first model tested for the direct effect of the pace of negative changes on psychological distress, and this standardized effect was of .089 (p = .29, lower bound = -.042, upper bound = .214). The second model tested for the direct effect of the pace of negative changes on burnout symptoms, and this standardized effect was of -.073 (p = .38, lower bound = -.202, upper bound = .064). These results imply that change does not significantly predict psychological distress and burnout symptoms *directly*. These findings support our prediction that change only *indirectly* predicts psychological distress and burnout symptoms. Moreover, these results underline the key role of temporal collective relative deprivation as a mediator.

Finally, the bootstrap analysis indicated that the relationships between the variables of the model are stable, as illustrated in Table 2. Indeed, the standardized estimated means of the bootstrap subsamples are equal to the standardized estimates from the original sample.

Discussion

In the modern world of continual change, it is crucial to understand the processes that underlie
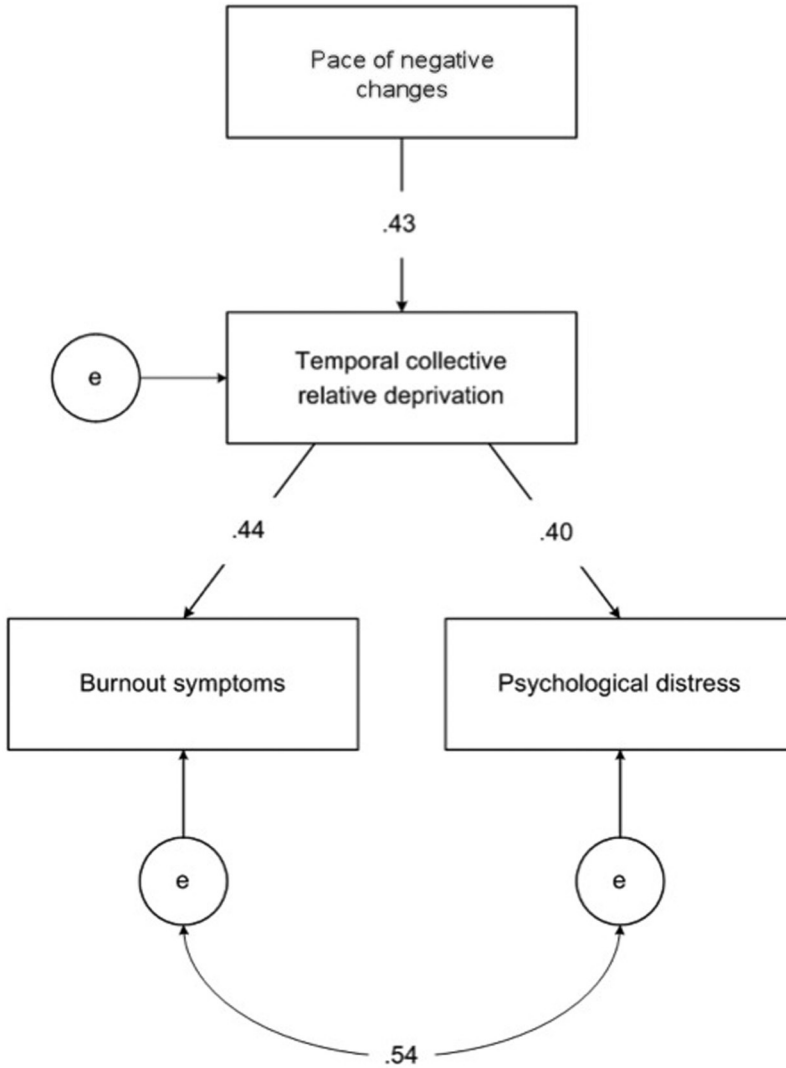
Figure 1. Temporal collective relative deprivation mediates the relationship between the pace of negative changes and psychological reactions of employees.

individuals' negative reactions to major changes. Whether these major changes occur in a society or in an organization, the design of support strategies for individuals who are affected by such changes could benefit from a more comprehensive understanding of these processes. This study focused on the reactions of Canadian nurses to important reforms in the Health Care system taking place within their hospital. More precisely, we

tested the hypothesis stipulating that collective relative deprivation mediates the responses of nurses to vast organizational changes. We predicted that perceiving changes as negative and rapid would trigger a chain of psychological reactions, starting from feelings of collective relative deprivation to psychological distress and burnout symptoms. By doing so, we aimed to demonstrate that collective issues transcend the barrier

Table 2. Bootstrap results ($N = 5000$)

		Standardized regression coefficient			
		M	Lower bound	Upper bound	p
1.	Pace of negative social changes → Temporal collective relative deprivation	.43	.22	.60	.001
2.	Temporal collective relative deprivation → Burnout symptoms	.44	.30	.57	.000
3.	Temporal collective relative deprivation → Psychological distress	.40	.22	.56	.000

between the collective and the personal. In fact, collective issues can profoundly affect individuals' personal lives as individuals' definitions of their collective and personal levels are deeply interconnected.

Our analyses supported the model presented in this study. We predicted and demonstrated that perceiving organizational changes as rapid and negative is associated with feelings of collective relative deprivation, which in turn generates psychological distress and burnout symptoms. Moreover, we found that organizational changes, even if perceived as rapid and negative, do not on their own engender psychological distress and burnout symptoms; in order for these consequences to take place, individuals must not only acknowledge that their group's conditions have declined on account of these changes, but they must also be dissatisfied with the current collective conditions. These results confirm the mediation role of collective relative deprivation in the link between organizational changes and personal outcomes.

Furthermore, our findings confirm our hypotheses concerning the connection between the collective and the personal levels. As such, our results are in line with Taylor's collective identity theory (1997, 2002), which states that because the foundations of personal identity are in collective identity, it follows that personal outcomes are influenced by collective identity issues (see also de la Sablonnière, Pinard Saint-Pierre, Taylor, & Annahatak, 2011; Usborne & Taylor, 2010). In the present study, we demonstrated that feelings of discontent stemming from the perception that the group situation

has deteriorated over time produce distress and burnout symptoms.

The present study can be inserted in the corpus of research focusing on personal outcomes of dramatic social change. Dramatic social change involves "profound societal transformations that produce a complete rupture in the equilibrium of social structures because their adaptive capacities are surpassed" (de la Sablonnière, Taylor, Perozzo, & Sadykova, 2009, p. 325; see also Parsons, 1964; Rocher, 1992). As such, dramatic social change unfolds in a very similar manner to the transitions that occur in the workplace following organizational transformations. Dramatic social change, whether organizational or societal, is a fundamental social issue because it can profoundly affect anyone and everyone (de la Sablonnière & Usborne, 2012). For this reason, it is crucial that we understand the consequences of collective changes at the personal level.

Limitations

One of the limitations of this study involves the common method variance. Although this method had been criticized in the past (Crampton & Wagner, 1994; Spector, 2006), and remains a controversial issue (Williams, Cote, & Buckley, 1989), we have taken the necessary steps to ensure the accuracy of our results by using Harman's one factor test (Podsakoff & Organ, 1986; Podsakoff et al., 2003). However, this "post-hoc" procedure has some downsides (Podsakoff et al., 2003). As many statistical experts have argued (Campbell & Fiske, 1959; Lindell & Whitney, 2001), data are

ideally collected using a variety of methods, such as non-paper-based methods, non-computerized questionnaires, or non-self-report questionnaires (that is, by asking several individuals to answer questions about a participant, as opposed to asking participants to answer questions about themselves). However, avoiding the common method variance is particularly difficult when researching individuals' attitudes and perceptions, as was the case in our study. Nevertheless, future research should replicate the present study using different data gathering methods.

A second limitation concerns the context of this study. We targeted employees' perceptions of organizational change as the point of departure for a series of psychological reactions related to their collective and personal situations. In other words, we focused on the changes per se as the triggering factor of employees' responses to organizational reforms. However, there is a possibility that employees reacted not only to new structures or procedures, but also to the way in which these changes were introduced and implemented. We have shown that the rapidity with which changes are introduced influences employees' responses. Some studies suggest that the manner in which organizations introduce and implement reforms is also important (Cooney & Sewell, 2008; Gibney, Thomas, Zagenczyk, & Masters, 2009; Neves & Caetano, 2009). For example, Neves and Caetano (2009) have shown that trust in supervisors mediates employees' reactions to change and their work outcomes. Thus, it seems that extending our predictive model by considering perceptions of the organization and its management in contexts of change is imperative in order to fully account for employees responses.

Implications

This study has practical implications, particularly because the majority of American companies are in the process of at least one major change (Peak, 1996). Mental health issues, such as depression, are related to increased absenteeism and reduced productivity at work (Adler et al., 2006; Lerner

et al., 2004; Lerner & Henke, 2008), and often translate into higher labor costs (Stewart, Ricci, Chee, Hahn, & Morganstein, 2003), both employees and organizations would benefit from interventions aiming at reducing negative effects of organizational change. The results of this study suggest that a stepwise approach would be most effective to this end. Interventions should first target the change itself. Accordingly, efforts could be made to reduce the pace of change or justify why it is necessary to implement change rapidly.

Our findings also suggest that promoting the positive outcomes of the changes would benefit employees and organizations. Deploying such efforts could reduce the emergence of feelings of threat, such as temporal collective relative deprivation. Psychological support should also be made available to employees who feel threatened by organizational transformations, and who would thus be more at-risk for psychological distress and burnout. Organizational managers must not ignore that as a result of organizational reforms, individuals lose their jobs, are transferred to alternate departments, or demoted. The very existence of organizational transformations can be perceived as a threat to individuals' job security, and it is managers' responsibility to consider the personal well-being of their employees.

As Tichy (2001) noted, the success rate of mergers in terms of whether employees maintain a sense of continuity despite vast organizational changes, remains an under-researched area. Recent studies have suggested that the less employees perceive continuity and coherence in their organization before and after a merger, the less they identify with the post-merger organization (Bartels, Douwes, de Jong, & Pruyn, 2006; Ullrich, Wieseke, & van Dick, 2005; van Knippenberg, van Knippenberg, Monden, & de Lima, 2002). The present study is in line with this work in showing that the pace and valence of changes influence the psychological reactions of employees. When transformations are implemented in a fast pace and are perceived negatively, employees lose their markers and feel overwhelmed.

To conclude, the findings of this study should be considered by organizations planning major transformations. Future research should focus on

efficient interventions following organizational changes. Major changes can vastly impact the lives of individuals. Thus, it is necessary to understand the psychological mechanisms underlying individuals' reactions to such changes in order to promptly intervene and propose efficient coping strategies.

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