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The Fair Share – Multilevel Distributive Justice as Cross-Level Moderator for the Impact of Restructuring Perceptions

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ABSTRACT



Drawing on the conservation of resources (COR) theory, we analyze multilevel restructuring impact perceptions and their association with emotional exhaustion. We explore whether distributive justice at the individual (perceived distributive justice), team, and organizational levels (distributive justice climate) moderates the association of restructuring impact and emotional exhaustion. In total, 1523 employees, nested in 166 teams and 26 organizations, participated in our study. To test our hypotheses, we used Bayesian multilevel modelling. We found positive associations between restructuring impact and emotional exhaustion on all three organizational levels. Distributive justice at the team level cross-level moderated the relationship between restructuring impact and emotional exhaustion at the individual level. Our study contributes a multilevel understanding of restructuring impact, possible consequences for emotional exhaustion, and the moderating role of distributive justice. Furthermore, it substantiates COR theory's caravan passageway notion, which as yet lacks empirical support.

MAD statement

This article empirically tests the Conservation of Resources Theory's central concept of caravan passageways, proving cross-level resource bundles can buffer restructuring impact. Using Bayesian multilevel modelling we show, that restructuring impact and emotional exhaustion are related to each other on various organizational levels and that multilevel distributive justice constitutes resource caravans, which provide support for individuals. We add to change literature by contributing to the understanding of complex cross-level restructuring conditions, and the meaningfulness of higher-order contextual factors for individual outcomes. This is particularly relevant in terms of designing working conditions in order to avoid negative restructuring consequences for individuals.

KEYWORDS

Multilevel modelling;
restructuring reactions;
distributive justice;
emotional exhaustion;
conservation of resources
theory

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Organizational restructuring can be understood as a drastic change of organizational structures and pivotal routines in contrast to minor changes at the workplace. It has a significant impact on job characteristics (e.g. workload or work intensity; Saksvik et al., 2007) as well as resource availability and distribution (Otto et al., 2013). The latest European Working Conditions Survey (Eurofound, 2017) highlighted the prevalence and importance of restructuring and reported that on average 25% of employees in the EU28 experienced these drastic changes in their workplace (within two years before data gathering), particularly in the northern countries (42% in Germany, where this study was conducted; Rohrbach-Schmidt & Hall, 2020). This prevalence implies a high relevance for employees as 'restructuring recipients' (Oreg et al., 2013). The dichotomous measure of whether or not restructuring has occurred fails to consider its actual impact on employees' working conditions (Rafferty & Jimmieson, 2017). Hence, for employees, the restructuring impact (RI, see Table 1 for a list of all constructs and abbreviations) rippling through the organization and affecting their direct work environment and daily work is more important (Caldwell, 2013). RI can be defined as restructuring-related events occurring in employees' work units (Fedor et al., 2006), affecting all organizational levels (Hobfoll et al., 2018). Therefore, it is relevant to take a multilevel perspective to improve the understanding of individual outcomes and as a precondition for practical recommendations.

Based on conservation of resources (COR) theory (Hobfoll, 1989), and particularly its caravan passageway notion (Hobfoll, 2011), our objective is to test whether perceptions of both restructuring impact (RI) and perceived distributive justice (PDJ) at the individual level can be aggregated to the team and organizational level in terms of distributive justice climate (DJC) and in how far team and organizational DJC constitute resource caravans, which provide support for individuals across different organizational levels.

COR theory is grounded in the notion that humans have a motive to protect and expand their resources (i.e. valued features such as objects, states and conditions;

Table 1. Overview of constructs, definitions, and measures.

	Abbreviation	Definition or description	Measure
Restructuring impact	RI	RI can be defined as restructuring-related events occurring in employees' work units (Fedor et al., 2006)	Employees rated four items from Fedor et al. (2006) on a five-point Likert scale, for example: 'As a result of this restructuring I find greater demands placed on me at work.'
Perceived Distributive Justice	PDJ	PDJ is the extent to the allocation of an outcome is consistent with the goals for a particular situation (Colquitt, 2001)	Employees rated three items from Colquitt (2001) on a five-point Likert scale, for example: 'Does your outcome reflect the effort you have put into your work?'
Distributive Justice Climate	DJC	DJC is the shared perception of PDJ among members of a team or organization.	Individual ratings of PDJ are aggregated to the team or organizational level.
Emotional Exhaustion	EE	EE is a state of physical and emotional depletion that can result from excessive job demands and continuous hassles (Wright & Cropanzano, 1998)	Employees rated four items from Demerouti et al. (2003) on a five-point Likert scale, for example: 'After my work, I regularly feel worn out and weary.'
Work Engagement (control)	WE	WE is defined by high activation and positive emotions such as energy, dedication, readiness for action and support (Bakker et al., 2011)	CEOs and leaders rated two items from the COPSQ (Burr et al., 2019) on a five-point Likert scale, for example: 'I am enthusiastic about my job.'

Halbesleben et al., 2014), preventing stress (Hobfoll & Freedy, 1993). It describes three basic scenarios, in which stress occurs, that is (a) if resources are threatened, (b) if resources are lost or (c) if resource investment does not result in anticipated return (Hobfoll & Freedy, 1993). The perceptions of loss, threat or lack of reciprocity are particularly salient in periods of overload (Shirom, 1989), for which organizational restructuring is a typical example (Hobfoll & Freedy, 1993, p. 118). Compared to minor internal changes (e.g. introduction of new work tools in single teams), these drastic cases of change are characterized by their severe breadth and depth (Dahl, 2011) and are 'much more significant than commonplace changes' (de Jong et al., 2016, p. 93), which likely triggers RI on different organizational levels.

From a COR theory perspective, RI will trigger resource investment (i.e. increased efforts to address increased workload, qualitative demands and responsibilities; Fedor et al., 2006) as a defence of remaining resources in order to prevent further resource loss (Ito & Brotheridge, 2003). This resource investment is based on 'the hope that their [the employees'] investment will be duly reciprocated' (Halbesleben & Wheeler, 2011, p. 610). Employees may perceive that their resource investments will be futile, if the expected rewards do not materialize and the expectation of reciprocity is not met (Hobfoll & Freedy, 1993). A prominent concept depicting the principle of equity and reciprocity (Adams, 1965; Blau, 1964) is perceived distributive justice (PDJ), defined as individuals' assessment of 'the extent that the allocation of an outcome is consistent with the goals for a particular situation' (Colquitt, 2001, p. 389).

COR theory can further be drawn upon to understand the multilevel relationship of RI and EE on team and organizational levels (cf. Jiang et al., 2014) and their meaningfulness for the individuals. Hobfoll and Freedy (1993) argue that employees majorly concur in terms of how they perceive their work environments, which constitutes a contextual reality shared in teams and organizations. This suggests that resources do not only exist individually (Hobfoll, 2011) but their availability is also grounded in the team and organizational pool of shared resources, resulting in a distributive justice climate (DJC) and creating passageways in which resources are supplied or shared (Hobfoll et al., 2018). This can provide cross-level support to individuals concerning the threat or actual loss of resources during restructuring (Hobfoll & Freedy, 1993). Accordingly, we address the RI-EE association and the moderating role of distributive justice and analyze main and interaction effects on three different organizational levels (individual, team and organizational), thereby contributing to the COR theory and restructuring literature in various respects.

First, Hobfoll et al. (2018) suggest that the empirical COR theory's application should focus more on the resource interplay between individuals and their context (i.e. team, organization). Even though COR theory explicitly refers to the importance of reciprocity (Halbesleben & Wheeler, 2011), only very few studies consider PDJ/DJC as a moderating factor for restructuring consequences (cf. Elovainio et al., 2010; Piccoli & De Witte, 2015). Thus, we contribute to COR theory literature by exploring whether resource loss and resource caravans (here DJC) interact across organizational levels.

Second, Oreg et al. (2011) called for studies that consider data at the organizational rather than just the individual level. In the present study, we capture multilevel restructuring and RI data. Thereby, we extend multilevel considerations and empirical evidence in restructuring based on shared perceptions at the team and organizational levels (cf.

Rafferty & Jimmieson, 2010). We contribute to understanding the complexity of cross-level restructuring conditions, and the meaningfulness of higher-order contextual factors for individual outcomes (Bouckennooghe et al., 2019; Bouckennooghe et al., 2021; Hobfoll et al., 2018).

Restructuring, Its Impact on Salient Working Conditions and Emotional Exhaustion

There are various prominent types of restructuring, including downsizing or layoffs (Datta et al., 2010), mergers and acquisitions (cf. Cartwright & Schoenberg, 2006), and major workplace reorganizations in terms of structures and pivotal routines (Probst, 2003), often related to resource reduction and layoffs. Restructuring can have a negative impact on various individual outcomes including physical and psychological well-being (de Jong et al., 2016; Rafferty & Jimmieson, 2017), because it affects individuals' work contexts in terms of their resource-demand balance significantly (Nikolova et al., 2014) and implies both resource loss and effortful investment needs (Hobfoll & Freedy, 1993). Rather than the quantitative and qualitative demands of daily work (Caldwell, 2013; Caldwell et al., 2004) the threat of resource loss will be more important to employees in times of pivotal change (Hobfoll & Shirom, 2000). However, the same restructuring could be experienced as having a minor impact on a team or members of this team and a major impact on other teams or for their members (Fedor et al., 2006). Hence, studies need to capture more proximal restructuring outcomes for employees and their teams (Lau & Woodman, 1995). Caldwell et al. (2004) measure RI by capturing concrete changes in workload, job demands, expectations and responsibilities due to restructuring (Caldwell, 2013). This approach is in line with COR theory's statement that 'framing individual resources is only meaningful within an ecological context' (Hobfoll, 2011, p. 118). During restructuring, these contexts change considerably, requiring an adaptive process to adjust individual and context resources. From a COR theory perspective, RI captures the individuals' cognitive assessment of the restructuring's job alterations and triggers employees' resource investment with the aim of preventing resource loss spirals (Hobfoll & Freedy, 1993). RI refers to increased (quantitative) workload and demands as regards qualitative work characteristics such as responsibilities and new tasks (Fedor et al., 2006). These aspects are known antecedents of burnout (Aronsson et al., 2017), particularly EE as its most salient (Maslach & Leiter, 2008; Nielsen et al., 2021) yet under-researched aspect in the context of restructuring (Oreg et al., 2011; 2013).

From a multilevel perspective, there is growing evidence that perceptions of shifts in the fit of personal and environmental resources at the individual level can be aggregated to the team and organizational level (Caldwell et al., 2004; Fedor et al., 2006; Rafferty & Jimmieson, 2010) in terms of organizational climates (Schneider et al., 2013). There is evidence that members of the same team or organization develop shared perceptions of the restructuring process. These are based on frequent discussions in order to understand or make sense of the workplace changes that unfold themselves in the course of the restructuring measures (Nielsen et al., 2021) and result in collective RI climates. According to Maslach et al. (2001), contextual (i.e. higher level) factors such as climates are relevant for strain and exhaustion. Bliese and Halverson (1998a) suggested that there are commonalities in terms of teams' well-being reactions

to their working conditions. They found that teams shared their perceptions of stress and psychological well-being as a reaction to increased work demands and workload. Following this notion, we hypothesize (based on individual perceptions and their aggregation at the team and organizational level):

H1: Restructuring impact will be positively related to emotional exhaustion on individual, team, and organizational level (i.e. (a) individual restructuring impact – individual emotional exhaustion; (b) team restructuring impact – team emotional exhaustion; (c) organizational restructuring impact – organizational emotional exhaustion).

COR Theory's Reciprocity Notion and the Moderating Potential of Distributive Justice (PDJ and DJC)

COR theory combines the concepts of resource utilization and the occurrence of stress in case of resource depletion (Hobfoll & Freedy, 1993). Given that resources are finite, their distribution and potential allocation perturbations in restructuring will be highly relevant. Employees will develop resource-distribution-related expectations and goals so that Halbesleben et al. (2014, p. 1339) suggest a more specific and goal-oriented resource definition as 'anything perceived by the individual to help attain his or her goals' (Halbesleben et al., 2014, p. 1339). The definition implies that anything can act as a resource, if the related investment efforts are compensated by goal attainment (i.e. reciprocal resource rewards within the team or the organization). The importance of reciprocity is thus an inherent part of COR theory (Halbesleben & Wheeler, 2011; Hobfoll & Freedy, 1993). Its gain paradox principle (Halbesleben et al., 2014) states that particularly in the case of imminent resource loss, investment efforts and successful re-gains are important.

As previously stated in terms of H1, RI requires strong individual resource investment. Whether or not RI is related to negative individual outcomes may be influenced by perceptions of fair resource distribution (e.g. Caldwell et al., 2004; Elovainio et al., 2005; Fedor et al., 2006). If an individual perceives that those supportive resources are available or that their resource investment will be rewarded and achieve its goals, the potentially negative consequences of RI for EE might be mitigated. If, on the other hand, this reward is unlikely, the impact will be more severe, as 'both the invested resources and the expected gains are lost' (Hobfoll & Freedy, 1993, p. 123). Halbesleben and Wheeler (2011) maintain, that such a reciprocity deficit 'may be the most critical (aspect) when it comes to work-related strains such as exhaustion (p. 612)'. PDJ captures reciprocity, equity, equality, and thus the perception that efforts in terms of resource investments are adequately rewarded (Colquitt, 2001). Lack of PDJ implies that resource investment may fail its purpose, thus inducing even higher resource loss and increasing the detrimental RI-EE association.

Specifically for the relationship of restructuring and EE as an individual outcome, we could identify only one study by Piccoli and De Witte (2015) who found that the relationship of job insecurity (as a restructuring proxy) and EE was moderated by lack of reciprocity and PDJ in particular. Due to the central meaning of reward equity in situations of resource investments in terms of preventing loss spirals (Halbesleben & Wheeler, 2011; Hobfoll & Freedy, 1993), we refer to PDJ as a potential moderator for the association between RI and EE at the individual level and hypothesize:

H2: Perceived distributive justice will moderate the relationship between restructuring impact and emotional exhaustion at the individual level such that the relation will be less positive if the perceived distributive justice is high rather than low.

Distributive Justice Climate as Case for COR Theory's Caravan Passageway Principle in Restructuring

COR theory emphasizes the role of shared appraisals in the same workplace (i.e. in the same teams and organizations; Hobfoll & Freedy, 1993). Shared perceptions create environments that can foster resilience and, hence, mitigate potentially negative circumstances or alterations at work (Hobfoll, 2011). Individuals can only successfully invest resources to prevent negative RI outcomes (i.e. going along with or putting effort into increased workload, responsibilities, and qualitative demands; Caldwell et al., 2004; Fedor et al., 2006), if these investments are likely to be reciprocated. Investment efforts may depend on the availability of shared resource bundles at the team or organizational level, referred to in COR theory as resource caravans (Hobfoll, 2011). The environments create so-called 'passageways' in which resources are supplied or shared to protect the resources of individuals, teams, or whole organizations.

COR theory's concepts of resource caravans and passageways state that higher-order resources at the team or organizational level have distinguishable properties (Hobfoll, 2011; Hobfoll et al., 2018) referred to as team – or organizational climate (Burke & Green-glass, 2001; Rafferty & Jimmieson, 2010). Climates can be defined 'as the shared perceptions of and the meaning attached to the policies, practices, and procedures that employees experience, and the behaviours they observe getting rewarded and that are supported and expected' (Schneider et al., 2013). Employees experiencing RI will exchange views extensively and share rumours with each other about changing working conditions in order to make sense of the new situation and to prepare themselves (Bordia et al., 2006). Higher-order climates emerge based on these perceptions of work environment changes in the sense of the favourable or unfavourable handling of certain aspects, including explicitly the observation of getting rewarded in the team and organization (Schneider et al., 2013). DJC's shared perception of reward fairness might therefore be a particularly important resource caravan at the team and organizational level during restructuring. Changes in DJC may trigger the teams' joint resource investments to regain their fit with the organizational requirements (Hobfoll et al., 2018).

The caravan passageway principle would suggest that DJC as a shared resource could moderate the RI-EE association, yet the authors of COR theory criticize that the concept is as yet insufficiently substantiated by empirical evidence (Hobfoll et al., 2018). In change literature, there are only a few studies that consider the moderating role of other justice components for individual outcomes (e.g. procedural or interactional justice at the team level; Caldwell et al., 2004; Fedor et al., 2006; Rafferty & Jimmieson, 2010). Based on the COR theory's resource caravan passageway concept and its implication of collective higher-order climates with their own quality (Hobfoll, 2011; Hobfoll et al., 2018; Kozlowski & Klein, 2000), we hypothesize:

H3: Distributive justice climate at the team level will moderate the relationship between restructuring impact and emotional exhaustion at the individual level such that the relation will be less positive if distributive justice climate is high rather than low.

H4: Distributive justice climate at the organizational level will moderate the relationship between restructuring impact and emotional exhaustion at the individual level such that the relation will be less positive if distributive justice climate is high rather than low.

Method

Sample and Research Design

This study forms part of a larger research project on employee well-being and leadership in the context of organizational restructuring. The research project received ethical approval from the Institutional Review Board (No. 022_2019) of the first author. The participating organizations were recruited via newsletters, professional networks, and professional contacts of the project team. The sample consists of 26 organizations from various industries in Germany. As an incentive for their participation, the organizations were offered a detailed feedback report and five leaders from each organization were invited to participate in a two-day leadership training. From each organization, at least one member of the executive board and five lower-level leaders with their teams had to participate. In total, we invited 34 CEOs, 166 team leaders, and 1,523 employees (see Table 2).

Measures

We had multiple sources of data based on ratings of employees, team leaders, and CEOs. The employees rated RI, PDJ and EE. The team leaders rated leader work engagement (WE), whereas the CEOs rated CEO WE. Information about the measures is presented in Table 1. Initially, we measured major restructuring based on the single (dichotomous) item ‘Did your organization in the last two years execute major restructuring measures, which affected your direct work context?’ (Rohrbach-Schmidt & Hall, 2020). Those employees, who answered ‘yes’ were asked for their assessment in terms of RI.

Table 2. Sample description.

	Organizations		
Sectors	42% Human health and social work activities (non-public)		
	31% Public administration		
	8% Service		
	8% Manufacturing		
	4% Construction		
	4% Professional, scientific and technical activities		
	4% Administrative and support service activities		
Size	M = 550 employees, SD = 500, range = 54–2,314		
	CEOs	Leaders	Employees
N	31	153	1,077
Response rate	91%	93%	71%
Gender	63% male, 37% female	53% male, 47% female	42% male, 58% female
Age	60% were 55 years or older	69% were between 35 and 54 years	56% were between 35 and 54 years old

Controls

Apart from our hypothesized relations, it is important to focus on important correlates or respectively potential antecedents of climates and shared perceptions on different organizational levels. In their comprehensive literature review, Kuenzi and Schminke (2009; see also Schneider et al., 2013) referred to the role of leader behaviour as an antecedent of climate. Also, leader and CEO behaviour were associated with climates at the team and organizational level (e.g. Çogaltay & Karadag, 2016; Kuenzi & Schminke, 2009; Zohar & Luria, 2004). Particularly in the context of restructuring, studies referred to the importance of leader WE (e.g. Rafferty et al., 2013). WE is considered to be the antipode of EE and is defined by high activation and positive emotions such as energy, dedication, readiness for action and support (Bakker et al., 2011). Engaged employees and leaders are particularly important in situations of restructuring, as they take the necessary initiatives and support the organizational aims (George, 2010). In creating engaging conditions in restructuring, leaders and CEOs have a key role, because they can influence working conditions and act as role models, providing the necessary support (Bakker & Demerouti, 2008). Resources provided by higher levels of the organization had a strong influence on employees' WE (Lesener et al., 2019). Accordingly, CEOs as well as team leaders have an important role in keeping the workload realistic and in creating an authentic spirit of cooperation, solidarity and value orientation (Bakker et al., 2011). Building on these findings, we consider CEOs' and team leaders' WE as a possible correlate of DJC and EE at the team and organizational level.

Aggregation: Forming Higher-Level Constructs

We had a three-level data structure of individuals (Level 1) nested within teams (Level 2) which were themselves nested within organizations (Level 3). Accordingly, to form the higher-level constructs, we aggregated the employee scores of RI, DJ, and EE at the team and organizational levels. Additionally, leader WE was aggregated to the organizational level. For aggregation, we used a direct-consensus model instead of a referent-shift model (Chan, 1998), as a referent-shift (from 'I' to 'we') would be problematic for our three-level structure because the collective included in the referent-shift needs to differentiate between the team as referent and the organization as referent. The direct-consensus model approach has been applied in previous studies on multilevel restructuring reactions (e.g. Bouckennooghe, 2012; Rafferty & Jimmieson, 2010; for a general discussion about measuring restructuring-related collective constructs see Schwarz & Bouckennooghe, 2018). Accordingly, the higher-level aggregates refer to the shared perception or experience of individuals in the same team or organization. Hence, for the constructs assessed by the employees, we can consider the individual assessment or perception of the focal construct (e.g. RI at the individual level or Level 1), the shared team assessment or perception of the focal construct (e.g. the team's shared perception of RI at the team level or Level 2), and the shared organizational assessment or perception of the focal construct (e.g. the shared perception of all employees of an organization of RI at the organizational level or Level 3).

Intraclass correlation coefficients (see Table 3) indicated a notable share of variance at the team and organizational level for all constructs, which justifies the aggregation approach to form the collective constructs (e.g. Bliese, 2000).

Table 3. Descriptive statistics and intercorrelations.

	ICC1	ICC2	1.	2.	3.	4.	5.
<i>Individual level</i>							
1. Restructuring Impact	-	-					
2. Perceived Distributive Justice	-	-	-.17**				
3. Emotional Exhaustion	-	-	.25**	-.31**			
<i>Team level</i>							
1. Restructuring Impact	.14	.52					
2. Distributive Justice Climate	.24	.68	-.16*				
3. Emotional Exhaustion	.10	.41	.36**	-.31**			
4. Leader Work Engagement	-	-	.06	-.05	-.05		
<i>Organizational level</i>							
1. Restructuring Impact	.07	.77					
2. Distributive Justice Climate	.21	.91	-.11				
3. Emotional Exhaustion	.05	.71	.58**	-.57**			
4. Leader Work Engagement	.23	.65	-.37	.28	-.37		
5. CEO Work Engagement	-	-	-.37	.50*	-.50*	.42*	
<i>M</i>	-	-	3.31	3.09	2.93	3.83	3.92
<i>SD</i>	-	-	0.95	1.07	1.03	0.72	0.99
<i>Cronbach's Alpha</i>	-	-	.77	.91	.85	.63	.72

Note. * $p < .05$, ** $p < .01$.

Statistical Analysis Strategy

We used multilevel modelling to reflect the hierarchical nature of our data. As recommended by Brincks et al. (2017), we applied cluster-mean centring to our individual and team-level measures. Additionally, we added the aggregated (i.e. team or organizational level) scores of our focal constructs at the next higher level.

To estimate the cross-level interactions, we modelled the relation between individual restructuring impact and well-being as a random slope (see Aguinis et al., 2013). The remaining relationships were modelled as fixed slopes. To facilitate the interpretation of the results, we standardized all measures.

For data analysis, we used Mplus 8 (Muthén & Muthén, 1998-2017) and applied a Bayesian estimator with uninformative priors. The Bayesian approach has several advantages (for a comparison of Bayesian and frequentist approaches, see Kruschke et al., 2012). First, it allows a fine-grained evaluation of model fit and convergence criteria (e.g. for every estimated parameter). Second, it is superior to maximum-likelihood estimations for cross-level interactions and provides accurate and unbiased results (Stegmüller, 2013). Finally, Bayesian hypotheses testing does not rely on conventional p -values but considers direct information about the likelihood of a hypothesis from the posterior distribution of a focal parameter (e.g. Andraszewicz et al., 2015; Zyphur & Oswald, 2015). Hence, we consider the posterior probability (P) and the Bayes Factor (BF), which we calculate from the posterior distribution, to evaluate a hypothesis. P is the hypothesis-conform quantile of the posterior distribution (i.e. $P(H_1|data)$) and BF is relative support for a research hypothesis compared to the null or counter hypothesis (Andraszewicz et al., 2015; Kaplan & Depaoli, 2012). For BF, the literature provides cut-off values (see Andraszewicz et al., 2015; Kass & Raftery, 1995): A BF greater than 3 refers to moderate evidence, BF greater than 10 refers to strong evidence, BF greater than 30 refers to very strong evidence for the research hypothesis. Contrary, BF under 1 indicates more support for the null or counter hypothesis.

Bayesian model fit and Markov Chain Monte Carlo (MCMC) convergence have been checked by relying on different criteria (see Depaoli & van de Schoot, 2017; Kaplan & Depaoli, 2012). We considered potential scale reduction (PSR), as well as trace and autocorrelation plots for all estimated parameters. We ran 200,000 MCMC iterations, whereas the first 100,000 iterations served as burn-in. As we found some evidence for autocorrelation between the draws from the posterior distributions for some parameters, we used only every 10th iteration (Depaoli & van de Schoot, 2017) resulting in 10,000 draws of the posterior distributions for each parameter in our model. All hypotheses have been tested in one model and the different criteria indicated an acceptable model fit and MCMC convergence.

Construct Validity

By using multilevel confirmatory factor analysis (MCFA), we tested the construct validity of our measures. In particular, we modelled three latent factors on Level 1 (i.e. RI, PDJ, EE), four latent factors on Level 2 (i.e. RI, DJC, EE, leader WE), and five latent factors on Level 3 (i.e. RI, DJC, EE, leader WE, CEO WE).

For model estimation, we used a Bayesian approach with weakly informative priors and residual covariances of the indicators based on the recommendations of Muthén and Asparouhov (2012; for an empirical application, see Klasmeier et al., 2022). We applied a normal-distributed prior of $N(1, 0.1)$ for the factor loadings. For the residual variances of the indicators and the variances of the latent factors, we implemented small variance priors. Specifically, we used inverse-Gamma priors of $IG(0.01, 0.01)$ (Zitzmann et al., 2015). Additionally, we applied small variance priors of $N(0, 0.01)$ for the residual covariances (Muthén & Asparouhov, 2012). As the number of parameters would greatly exceed the number of observations at Level 3, we did not estimate residual covariances at this level of analysis. In total, we ran 1,000,000 MCMC iterations with two independent Markov chains. To reduce the degree of autocorrelation, we only used every 10th iteration. The measurement model had a good Bayesian model fit (posterior predictive p -value = .24, posterior predictive checking 95% CI = [-52.44; 114.77], prior-posterior predictive p -value = .85, PSR = 1.01), and trace plots indicated MCMC convergence. Additionally, the results on all levels of the analysis showed that the items loaded high on their corresponding factor (average standardized loadings on Level 1 = .75, range = .60-.87, average on Level 2 = .49, range = .39-.56, average on Level 3 = .92, range = .72-.99).

Results

Descriptive statistics (i.e. means, standard deviations, intraclass correlation coefficients, and intercorrelations for the individual, team, and organizational level) are shown in Table 3. We tested all hypotheses in one statistical model (see Table 4). PSR was below 1.05 after approximately 4,000 MCMC iterations and trace plots indicated MCMC convergence.

We found that notable shares of variance of RI could be attributed to the team (ICC1 = .14) and the organizational level (ICC1 = .07). Hence, the reaction to restructuring in terms of RI could create a shared perception among members of the same team and also among members of the same organization.

Table 4. Results from Bayesian Three-Level Model.

	Distributive Justice			Emotional Exhaustion		
	<i>B</i>	<i>P</i>	BF	<i>B</i>	<i>P</i>	BF
Level 1: Individual Level						
Restructuring Impact (RI)	-.17**	.99	>100	.16**	.98	60.3
Perceived Distributive Justice (PDJ)				-.20**	.99	>100
CI x DJ – Level 1 Interaction				-.00	.53	1.1
Level 2: Team Level						
Restructuring Impact (RI)	-.16*	.98	40.9	.21**	.99	>100
Distributive Justice Climate (DJC)				-.15**	.99	>100
Leader Work Engagement	-.01	.45	0.8	-.01	.61	1.6
Level 2 Cross-level Interaction: RI x Team DJC				-.07*	.94	15.3
Level 3: Organizational Level						
Restructuring Impact (RI)	.02	.47	0.9	.17**	.99	>100
Distributive Justice Climate (DJC)				-.18**	.99	>100
Leader Work Engagement	.03	.56	1.3	-.02	.61	1.6
CEO Work Engagement	.58**	.98	43.7	.05	.27	0.4
Level 3 Cross-level Interaction: RI x Organizational DJC				-.01	.55	1.2
Level 3 Cross-level Interaction: Team RI x Organizational DJC				-.05	.87	6.6

Notes. The table contains unstandardized coefficients. *P* = probability of research hypothesis as derived from the posterior distribution, BF = Bayes Factor.

*Probability for hypothesis > 90%, **Probability for hypothesis > 95%.

For Hypothesis 1, we found support for a positive link between RI and EE at the individual ($B = .16, P > .99, BF > 100$), team ($B = .21, P > .99, BF > 100$), and organizational level ($B = .17, P > .99, BF > 100$). Thus, Hypothesis 1 received full support. Contrary to Hypothesis 2, a psychological climate of PDJ (i.e. at Level 1) did not moderate the positive link between individual restructuring impact and exhaustion ($B = -.00, P = .53, BF = 1.1$). However, in support of Hypothesis 3, we found a cross-level interaction of team climate of DJC on the relation between RI and EE ($B = -.07, P = .94, BF = 15.3$). As depicted in Figure 1, RI was only related to EE when DJC was low. Regarding Hypothesis 4, we found no evidence for a cross-level interaction of organizational DJC on the relation between RI and EE ($B = -.01, P = .55, BF = 1.2$). However, there was weak support for a cross-level interaction of organizational DJC for the link between team-level RI and EE ($B = -.05, P = .87, BF = 6.6$).

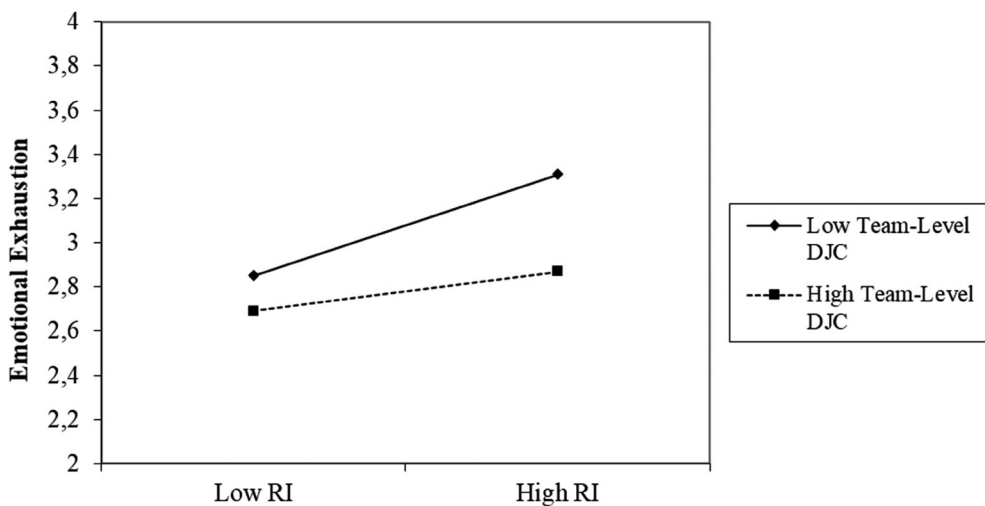


Figure 1. Cross-level interaction plot.

Apart from these results, we found a negative association between RI and PDJ at the individual ($B = -.17, P > .99, BF > 100$) and DJC at team level ($B = -.16, P > .99, BF > 100$), but not at the organizational level ($B = .02, P = .47, BF = 0.9$).

Concerning our controls, the results indicated that CEO WE was positively linked with DJC at the organizational level ($B = .58, P = .98, BF = 43.8$), whereas team leader WE was unrelated to DJC at the team level ($B = -.01, P = .45, BF = 0.8$) and in aggregated form at the organizational level ($B = .03, P = .56, BF = 1.3$).

Robustness Analysis

As our correlational design with cross-sectional data precludes causal inferences, we conducted robustness analyses to account for endogeneity bias and consistency of the direct relations of RI and PDJ/DJC with EE (Antonakis et al., 2010; Güntner et al., 2020). For that purpose, we applied an instrumental variable approach (Antonakis et al., 2010) using the two-stage least squares technique (2SLS; implemented in the *ivreg* package in R; Fox et al., 2021) and over-identification test (implemented in the *MIVsem* package in R; Fisher et al., 2021). We tested the individual and team-level relations separately, as this approach is not available for multilevel modelling. As instruments, we used the organizational-level scores of RI and DJC (for a similar approach see Antonakis & House, 2014; Klasmeier & Rowold, 2020). A non-significant Wu-Hausman test indicated consistent estimates for the individual-level relationships ($F(2,540) = 1.44, p = .24$) and Sargan over-identification test evaluated the instruments as valid ($\chi^2 = 2.89, df = 2, p = .24$). Additionally, the correlations between the disturbances of RI and PDJ with the residual variance of EE were non-significant. This pattern was also found for the team level (i.e. RI on team-level and team-level DJC) (Wu-Hausman: $F(2,146) = 0.03, p = .97$; Sargan test: $\chi^2 = 0.06, df = 2, p = .97$). In summary, the positive relations of RI as well as the negative relations of PDJ and DJC with EE at the individual and team level seem to be consistent and not affected by endogeneity bias.

Discussion

The aim of our study was to analyze the associations between the individually and collectively perceived impact of restructuring (RI) and individual and collective exhaustion (EE) as the most important burnout component. Specifically, we analyzed the RI-EE association on three organizational levels by considering team – and organizational DJC as a cross-level moderator, presenting our study as a suitable case for understanding collective restructuring phenomena based on COR theory's empirically under-researched caravan passageway notion. We found that RI was related to EE on all three levels and that team DJC cross-level moderated this relationship at the individual level. COR theory suggests that (a) RI will be related to EE because it implies resource loss and the need for resource investment in terms of efforts to address increased workload, responsibilities and adaptation to changes in qualitative work demands (Caldwell et al., 2004; Fedor et al., 2006) preventing loss spirals (Hobfoll & Freedy, 1993), (b) reciprocity in terms of resource investment is crucial, so that PDJ is a potentially important moderator (Halbesleben et al., 2014; Halbesleben & Wheeler, 2011), (c) perceptions of RI and DJ can be aggregated to higher levels, into climates with their own properties (Hobfoll, 2011; Rafferty & Jimmieson,

2010), (d) shared reciprocity perceptions (DJC) provide resource bundles (caravans) and can travel cross-level (passageway notion), so that DJC might cross-level moderate the RI-EE association at the individual level (Halbesleben et al., 2014; Halbesleben & Wheeler, 2011; Hobfoll et al., 2018).

Strengths and Theoretical Contributions

Based on a multi-organizational and multilevel sample, we provide empirical evidence for the relevance of PDJ and DJC for EE in restructuring. Particularly, we contribute to the scarce evidence of COR-theory's passageway notion. This concept is crucial to understand how organizational restructuring presents itself at the individual, team and organizational levels and affects salient working conditions with resulting perceptions of alterations in 'resource fitting' (Hobfoll, 2011). In support of H1, we found that RI was related to EE. COR theory predicts that unfavourable individual outcomes in terms of higher EE occur, if employees lose or fail to gain resources (Hobfoll et al., 2018). As opposed to most studies with focus on restructuring as an 'objective fact' the concept of RI offers a more nuanced view of restructuring consequences within the organizational units.

Regarding higher-level restructuring perceptions, we found that RI variance could be accounted for at the team and (to a lesser extent) organizational level. Based on the direct-consensus model (Chan, 1998), we assume that there are shared perceptions among members of the same teams and the same organizations in terms of workload, work intensification and new demands as a result of restructuring. Additionally, we established a shared experience (i.e. shared variance) of EE for members of the same team or organization, which is comparable with shared psychological well-being outcomes in other restructuring-related multilevel studies (see for instance, Rafferty & Jimmieson, 2010). Our results indicate that collective restructuring perceptions are related to shared team and organizational EE.

COR theory suggests that PDJ is highly relevant in terms of goal attainment of resource investment (Halbesleben et al., 2014; Halbesleben & Wheeler, 2011) and EE (Hobfoll & Freedy, 1993). In showing that DJC at the team level cross-level moderated the RI-EE association, we found support for both COR theory's predictions about the high relevance of equity and reciprocity for EE and the caravan passageway notion (Halbesleben & Wheeler, 2011). In line with H3, we found that team-level DJC buffered the association of RI and individual EE. The variance in DJC, which was explained by team – or organizational membership, was relatively high (24% for the team and 21% for the organizational level) with reliable team and organizational means (Bliese & Halverson, 1998b). Studies have revealed that the lack of consensus in social groups in terms of important aspects is related to poor psychological well-being (Bliese & Halverson, 1998a). The team-level resource caravans influence the emergence of single or combined resources at the individual level such as self-esteem, optimism, self-efficacy, resilience, or tolerance (Hobfoll et al., 2018, p. 107), so that team members can rely on team DJC in building up their personal resources in times of restructuring when personal resources are threatened.

Unexpectedly, our moderation hypothesis was not supported for PDJ at the individual level (H2), for which there are several possible explanations. First, as PDJ scholars have pointed out, employees' fairness perceptions do not depend on an absolute resource level but on the comparison with their direct reference group, making resource

satisfaction more relative than absolute (Colquitt et al., 2005). Hence, the notion that justice perceptions require comparison with the social reference group could explain our results at the individual level. Second, only concrete shifts in individuals' appraisals of the direct environment (RI) matter to employees in terms of individual outcomes (Caldwell et al., 2004). Our results imply that in terms of collective restructuring perceptions, team-level perceptions of DJC are more important than individual perceptions. Accordingly, Fedor et al. (2006) concluded that fairness was particularly important when team-level RI was high. Third, we captured restructuring measures up to two years before participants filled in the survey. PDJ might have shifted due to the restructuring and the related RI perceptions so that they will have become a team and organizational context condition with less relevance at the individual level. COR theory acknowledges the importance of individual perceptions but emphasizes the relevance of team and organizational climates more strongly 'objective elements of threat and loss and common appraisals held jointly by people who share (...) a workplace'.

As for H4, our results show only weak support, which implies that (primarily) the more proximal reference group (i.e. the team instead of the organization as a whole) matters. In line with this thought, scholars (e.g. Maslach et al., 2001; Sonnentag, 2015) have proposed that social interactions, which primarily take place with direct colleagues, influence psychological well-being. Team RI, DJC or EE are based on shared perceptions, social interactions and interdependencies between members of the same team (Luria, 2019; Schwarz & Bouckennooghe, 2018). Moreover, teams are exposed to the same events and experience the same influences of higher strategic influences translated and explained by the team leader (Zohar & Luria, 2010).

Implications for Practice

Due to the important role of the justice concept in restructuring employers should be attentive in the planning and process of restructuring with respect to justice and create a situation where employees feel fairly compensated for the resource investment they make (Piccoli & De Witte, 2015).

Köper and Gerstenberg (2016) summarized recommendations for well-being prevention in restructuring at the organizational, team and individual levels. At the organizational level, they recommend the consideration of potential threats in terms of resource losses in the restructuring process when planning the various restructuring initiatives with a specific focus on organizational climates and culture. At the team level, they conclude that sufficient communication and transparency about the goals and steps of the restructuring process are particularly important and that the contents of the psychological contract with its reciprocity implications should be addressed and made explicit by the team leader. Halbesleben and Wheeler (2011) suggest that leaders should specifically explicate the reward systems in the team and in the organization to provide employees with guidelines on where and how to invest their resources in the most promising way and pay attention to team members who put in particularly much effort.

In the evaluation of their training for direct team leaders in restructuring, Thomson and Michel (2018) conclude that direct leaders should become familiar with concepts of work stress, burnout, demand-resource constellations, psychological contract, all facets of

organizational justice and health-oriented leadership. Direct leaders are gatekeepers (Zohar & Luria, 2010) for everything that happens in the organization and, therefore, they are faced with specific demands and high work intensity. For that reason, they should be regarded as a special key group with specific support needs – personally and in terms of their role (Bjorklund et al., 2013).

Limitations and Future Directions for Research

We employed a cross-sectional design that precludes causal inferences. Thus, reverse causality or simultaneity (i.e. predictor and outcome variable have a reciprocal influence) may be at play (Antonakis et al., 2010). However, in terms of RI, we assume that it is a multilevel reaction to organizational restructuring as the construct itself explicitly refers to changes in individuals' work characteristics such as workload, qualitative work demands and shifts in responsibility in that restructuring.

In terms of a more detailed understanding of the associations leading from RI and individual and collective EE, further longitudinal research is needed to replicate our findings and demonstrate their robustness. Considering the multilevel nature of our research, further studies may use different approaches or measure multilevel constructs. Instead of aggregating individual-level data (i.e. direct consensus), other aggregation or compilation approaches (such as pattern, configuration, or dispersion) could be explored (see Klein & Kozlowski, 2000; Kozlowski, 2015). Furthermore, different measures aiming to explicitly capture climates at the team and organizational level using reference shift could be used to distinguish between individual-level perceptions and higher-level climates.

Additionally, there may be endogeneity concerns due to omitted variables for the reported relationships. Apart from perceived RI, there are other factors that may affect restructuring reactions (e.g. organizational processes, affective or behavioural factors; Bouckennooghe et al., 2021; Oreg et al., 2011). Tackling this concern, we followed recent recommendations for centring to reduce the risk of endogeneity due to omitted higher-level causes for the team – and individual-level relations (e.g. Antonakis et al., 2021). This revealed that the direct relationships at the individual and team level were independent of any direct effects of higher-level influence factors. However, the influence of omitted causes at the same level is still likely. To rule out this possibility and to check the consistency of our estimates for these levels, we applied the instrumental variable technique as robustness analysis recommended by Antonakis et al. (2010). The results clearly underlined that our estimates were consistent and endogeneity bias would not be an issue. Moreover, interaction effects may not be inflated by common method bias (i.e. due to cross-sectional data), but instead may be underestimated (Siemens et al., 2010). Thus, our results regarding the cross-level interaction effects are conservative.

Given the weak support of H4 and the evidence from literature that generally leaders on the strategic level influence organizational climate strongly (Kuenzi & Schminke, 2009), it may be relevant to look deeper into the top management's role in mitigating negative well-being impact. Both qualitative and quantitative three-level studies should be conducted with a focus on the specific question of management's influence at the individual level. Literature (Brockner et al., 1986; Burnes & Jackson, 2011) highlights that negative individual impact in change probably occurs, because decision makers at the strategic level rather focus on new structures and process requirements than on potential individual outcomes.

Conclusion

This study explored the impact of restructuring on individual, team, and organizational levels to see how far PDJ and DJC can mitigate the negative effects of the RI on the EE. We make three important contributions. First, we contribute to linking theoretical stress and motivational research questions, which is discussed as one of the current necessities in further developing COR theory (Hobfoll et al., 2018). Second, we offer empirical evidence for the theory's caravan passageway notion (Hobfoll, 2011) and have demonstrated how this COR theory tenet can further our understanding of the complex dynamic of restructuring in terms of individual and collective restructuring perceptions (Hobfoll & Freedy, 1993), all of which are important resources at the team and organizational level and collective restructuring reactions with respect to individual, team and organizational EE. Finally, we provide more evidence for the importance of reciprocity in resource investment and outcomes (Halbesleben & Wheeler, 2011) in restructuring captured by PDJ and DJC.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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References

Adams, J. S. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 267–299). Academic Press.

- Aguinis, H., Gottfredson, R. K., & Culpepper, S. A. (2013). Best-practice recommendations for estimating cross-level interaction effects using multilevel modeling. *Journal of Management*, 39(6), 1490–1528. <https://doi.org/10.1177/0149206313478188>
- Andraszewicz, S., Scheibehenne, B., Rieskamp, J., Grasman, R., Verhagen, J., & Wagenmakers, E.-J. (2015). An introduction to Bayesian hypothesis testing for management research. *Journal of Management*, 41(2), 521–543. <https://doi.org/10.1177/0149206314560412>
- Antonakis, J., Bastardo, N., & Rönkkö, M. (2021). On ignoring the random effects assumption in multilevel models: Review, critique, and recommendations. *Organizational Research Methods*, 24(2), 443–483. <https://doi.org/10.1177/1094428119877457>
- Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2010). On making causal claims: A review and recommendations. *The Leadership Quarterly*, 21(6), 1086–1120. <https://doi.org/10.1016/j.leaqua.2010.10.010>
- Antonakis, J., & House, R. J. (2014). Instrumental leadership: Measurement and extension of transformational-transactional leadership theory. *The Leadership Quarterly*, 25(4), 746–771. <https://doi.org/10.1016/j.leaqua.2014.04.005>
- Aronsson, G., Theorell, T., Grape, T., Hammarstrom, A., Hogstedt, C., Marteinsdottir, I., Skoog, I., Traskman-Bendz, L., & Hall, C. (2017). A systematic review including meta-analysis of work environment and burnout symptoms. *BMC Public Health*, 17(1), 264. <https://doi.org/10.1186/s12889-017-4153-7>
- Bakker, A. B., Albrecht, S. L., & Leiter, M. P. (2011). Work engagement: Further reflections on the state of play. *European Journal of Work and Organizational Psychology*, 20(1), 74–88. <https://doi.org/10.1080/1359432X.2010.546711>
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, 13(3), 209–223. <https://doi.org/10.1108/13620430810870476>
- Bjorklund, C., Lohela-Karlsson, M., Jensen, I., & Bergstrom, G. (2013). Hierarchies of health: Health and work-related stress of managers in municipalities and county councils in Sweden. *Journal of Occupational and Environmental Medicine*, 55(7), 752–760. <https://doi.org/10.1097/JOM.0b013e318295681c>
- Blau, P. M. (1964). *Exchange and power in social life*. John Wiley.
- Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K. J. Klein, & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 349–381). Jossey-Bass.
- Bliese, P. D., & Halverson, R. R. (1998a). Group consensus and psychological well-being: A large field study. *Journal of Applied Social Psychology*, 28(7), 563–580. <https://doi.org/10.1111/j.1559-1816.1998.tb01720.x>
- Bliese, P. D., & Halverson, R. R. (1998b). Group size and measures of group-level properties: An examination of eta-squared and ICC values. *Journal of Management*, 24(2), 157–172. <https://doi.org/10.1177/014920639802400202>
- Bordia, P., Jones, E., Gallois, C., Callan, V. J., & DiFonzo, N. (2006). Management are aliens!. *Group & Organization Management*, 31(5), 601–621. <https://doi.org/10.1177/1059601106286880>
- Bouckennooghe, D. (2012). The role of organizational politics, contextual resources, and formal communication on change recipients' commitment to change: A multilevel study. *European Journal of Work and Organizational Psychology*, 21(4), 575–602. <https://doi.org/10.1080/1359432X.2011.591573>
- Bouckennooghe, D., Schwarz, G., Hastings, B., & Lukacs de Pereny, S. G. (2019). Facilitating change through groups: Formation of collective attitudes toward change. *Research in Organizational Change and Development*, 27, 143–165. <https://doi.org/10.1108/S0897-301620190000027009>
- Bouckennooghe, D., Schwarz, G. M., Kanar, A., & Sanders, K. (2021). Revisiting research on attitudes toward organizational change: Bibliometric analysis and content facet analysis. *Journal of Business Research*, 135, 137–148. <https://doi.org/10.1016/j.jbusres.2021.06.028>
- Brincks, A. M., Enders, C. K., Llabre, M. M., Bulotsky-Shearer, R. J., Prado, G., & Feaster, D. J. (2017). Centering predictor variables in three-level contextual models. *Multivariate Behavioral Research*, 52(2), 149–163. <https://doi.org/10.1080/00273171.2016.1256753>

- Brockner, J., Greenberg, J., Brockner, A., Bortz, J., Davy, J., & Carter, C. (1986). Layoffs, equity theory, and work performance: Further evidence of the impact of survivor guilt. *Academy of Management Journal*, 29(2), 373–384. <https://doi.org/10.2307/256193>
- Burke, R. J., & Greenglass, E. R. (2001). Hospital restructuring, work-family conflict and psychological burnout among nursing staff. *Psychology & Health*, 16(5), 583–594. <https://doi.org/10.1080/08870440108405528>
- Burnes, B., & Jackson, P. (2011). Success and failure in organizational change: An exploration of the role of values. *Journal of Change Management*, 11(2), 133–162. <https://doi.org/10.1080/14697017.2010.524655>
- Burr, H., Berthelsen, H., Moncada, S., Nubling, M., Dupret, E., Demiral, Y., Oudyk, J., Kristensen, T. S., Llorens, C., Navarro, A., Lincke, H. J., Bocerean, C., Sahan, C., Smith, P., & Pohrt, A. (2019). The third version of the Copenhagen psychosocial questionnaire. *Safety and Health at Work*, 10(4), 482–503. <https://doi.org/10.1016/j.shaw.2019.10.002>
- Caldwell, S. D. (2013). Are change readiness strategies overrated? A commentary on boundary conditions. *Journal of Change Management*, 13(1), 19–35. <https://doi.org/10.1080/14697017.2013.768428>
- Caldwell, S. D., Herold, D. M., & Fedor, D. B. (2004). Toward an understanding of the relationships among organizational change, individual differences, and changes in person-environment fit: A cross-level study. *Journal of Applied Psychology*, 89(5), 868–882. <https://doi.org/10.1037/0021-9010.89.5.868>
- Cartwright, S., & Schoenberg, R. (2006). Thirty years of mergers and acquisitions research: Recent advances and future opportunities. *British Journal of Management*, 17(1), S1–S5. <https://doi.org/10.1111/j.1467-8551.2006.00475.x>
- Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology*, 83(2), 234–246. <https://doi.org/10.1037/0021-9010.83.2.234>
- Çoğaltay, N., & Karadag, E. (2016). The effect of educational leadership on organizational variables: A meta-analysis study in the sample of Turkey. *Educational Sciences: Theory & Practice*, 16(2), 603–646. <https://doi.org/10.12738/estp.2016.2.2519>
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 86(3), 386–400. <https://doi.org/10.1037/0021-9010.86.3.386>
- Colquitt, J. A., Greenberg, J., & Zapata-Phelan, C. P. (2005). What is organizational justice? A historical overview. In J. Greenberg, & J. A. Colquitt (Eds.), *Handbook of organizational justice* (pp. 3–56). Lawrence Erlbaum Associates Publishers.
- Dahl, M. S. (2011). Organizational change and employee stress. *Management Science*, 57(2), 240–256. <https://doi.org/10.1287/mnsc.1100.1273>
- Datta, D. K., Guthrie, J. P., Basuil, D., & Pandey, A. (2010). Causes and effects of employee downsizing: A review and synthesis. *Journal of Management*, 36(1), 281–348. <https://doi.org/10.1177/0149206309346735>
- de Jong, T., Wiezer, N., de Weerd, M., Nielsen, K., Mattila-Holappa, P., & Mockało, Z. (2016). The impact of restructuring on employee well-being: A systematic review of longitudinal studies. *Work & Stress*, 30(1), 91–114. <https://doi.org/10.1080/02678373.2015.1136710>
- Demerouti, E., Bakker, A. B., Vardakou, I., & Kantas, A. (2003). The convergent validity of Two burnout instruments. *European Journal of Psychological Assessment*, 19(1), 12–23. <https://doi.org/10.1027//1015-5759.19.1.12>
- Depaoli, S., & van de Schoot, R. (2017). Improving transparency and replication in Bayesian statistics: The WAMBS-checklist. *Psychological Methods*, 22(2), 240–261. <https://doi.org/10.1037/met0000065>
- Elovainio, M., Heponiemi, T., Sinervo, T., & Magnavita, N. (2010). Organizational justice and health: Review of evidence. *Giornale Italiano di Medicina del Lavoro ed Ergonomia*, 32(3), B5–B9.
- Elovainio, M., van den Bos, K., Linna, A., Kivimäki, M., Ala-Mursula, L., Pentti, J., & Vahtera, J. (2005). Combined effects of uncertainty and organizational justice on employee health: Testing the uncertainty management model of fairness judgments among Finnish public sector employees. *Social Science & Medicine*, 61(12), 2501–2512. <https://doi.org/10.1016/j.socscimed.2005.04.046>

- Eurofound. (2017). *Sixth European working condition survey – Overview report (2017 update)*. Publications Office of the European Union.
- Fedor, D. B., Caldwell, S., & Herold, D. M. (2006). The effects of organizational changes on employee commitment: A multilevel investigation. *Personnel Psychology*, 59(1), 1–29. <https://doi.org/10.1111/j.1744-6570.2006.00852.x>
- Fisher, Z., Bollen, K., Gates, K., & Rönkkö, M. (2021). *Package 'MIIVsem'*. <https://cran.r-project.org/web/packages/MIIVsem/MIIVsem.pdf>.
- Fox, J., Kleiber, C., Zeileis, A., & Kuschnig, N. (2021). *Package 'ivreg'*. <https://cran.r-project.org/web/packages/ivreg/index.html>.
- George, J. M. (2010). More engagement is not necessarily better: The benefits of fluctuating levels of engagement. In S. L. Albrecht (Ed.), *Handbook of employee engagement* (pp. 253–263). Edward Elgar Publishing.
- Güntner, A. V., Klonek, F. E., Lehmann-Willenbrock, N., & Kauffeld, S. (2020). Follower behavior renders leader behavior endogenous: The simultaneity problem, estimation challenges, and solutions. *The Leadership Quarterly*, 31(6), 101441. <https://doi.org/10.1016/j.leaqua.2020.101441>
- Halbesleben, J. R. B., Neveu, J.-P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the “COR”: Understanding the role of resources in conservation of resources theory. *Journal of Management*, 40(5), 1334–1364. <https://doi.org/10.1177/0149206314527130>
- Halbesleben, J. R. B., & Wheeler, A. R. (2011). I owe you one: Coworker reciprocity as a moderator of the day-level exhaustion–performance relationship. *Journal of Organizational Behavior*, 32(4), 608–626. <https://doi.org/10.1002/job.748>
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513–524. <https://doi.org/10.1037/0003-066X.44.3.513>
- Hobfoll, S. E. (2011). Conservation of resource caravans and engaged settings. *Journal of Occupational and Organizational Psychology*, 84(1), 116–122. <https://doi.org/10.1111/j.2044-8325.2010.02016.x>
- Hobfoll, S. E., & Freedy, J. (1993). Conservation of resources: A general stress theory applied to burnout. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 115–133). Taylor & Francis.
- Hobfoll, S. E., Halbesleben, J., Neveu, J.-P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior*, 5(1), 103–128. <https://doi.org/10.1146/annurev-orgpsych-032117-104640>
- Hobfoll, S. E., & Shirom, A. (2000). Conservation of resources theory: Applications to stress and management in the workplace. In R. T. Golembiewski (Ed.), *Handbook of organizational behavior* (pp. 57–80). Routledge.
- Ito, J. K., & Brotheridge, C. M. (2003). Resources, coping strategies, and emotional exhaustion: A conservation of resources perspective. *Journal of Vocational Behavior*, 63(3), 490–509. [https://doi.org/10.1016/S0001-8791\(02\)00033-7](https://doi.org/10.1016/S0001-8791(02)00033-7)
- Jiang, L., Probst, T. M., & Benson, W. L. (2014). Why me? The frog-pond effect, relative deprivation and individual outcomes in the face of budget cuts. *Work & Stress*, 28(4), 387–403. <https://doi.org/10.1080/02678373.2014.965241>
- Kaplan, D., & Depaoli, S. (2012). Bayesian structural equation modeling. In R. H. Hoyle (Ed.), *Handbook of structural equation modeling* (pp. 650–673). Guilford Press.
- Kass, R. E., & Raftery, A. E. (1995). Bayes factors. *Journal of the American Statistical Association*, 90(430), 773–795. <https://doi.org/10.1080/01621459.1995.10476572>
- Klasmeier, K. N., & Rowold, J. (2020). A multilevel investigation of predictors and outcomes of shared leadership. *Journal of Organizational Behavior*, 41(9), 915–930. <https://doi.org/10.1002/job.2477>
- Klasmeier, K. N., Schleu, J. E., Millhoff, C., Poethke, U., & Bormann, K. C. (2022). On the destructiveness of laissez-faire versus abusive supervision: A comparative, multilevel investigation of destructive forms of leadership. *European Journal of Work and Organizational Psychology*, 31(3), 406–420. <https://doi.org/10.1080/1359432X.2021.1968375>
- Klein, K. J., & Kozlowski, S. W. J. (2000). From micro to meso: Critical steps in conceptualizing and conducting multilevel research. *Organizational Research Methods*, 3(3), 211–236. <https://doi.org/10.1177/109442810033001>

- Köper, B., & Gerstenberg, S. (2016). *Mental health in the working world: Job insecurity*. Federal Institute for Occupational Safety and Health. <https://doi.org/10.21934/baua:bericht20160713/2f>
- Kozlowski, S. W. J. (2015). Advancing research on team process dynamics: Theoretical, methodological, and measurement considerations. *Organizational Psychology Review*, 5(4), 270–299. <https://doi.org/10.1177/2041386614533586>
- Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein, & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 3–90). Jossey-Bass.
- Kruschke, J. K., Aguinis, H., & Joo, H. (2012). The time has come: Bayesian methods for data analysis in the organizational sciences. *Organizational Research Methods*, 15(4), 722–752. <https://doi.org/10.1177/1094428112457829>
- Kuenzi, M., & Schminke, M. (2009). Assembling fragments into a lens: A review, critique, and proposed research agenda for the organizational work climate literature. *Journal of Management*, 35(3), 634–717. <https://doi.org/10.1177/0149206308330559>
- Lau, C.-M., & Woodman, R. W. (1995). Understanding organizational change: A schematic perspective. *Academy of Management Journal*, 38(2), 537–554. <https://doi.org/10.2307/256692>
- Lesener, T., Gusy, B., Jochmann, A., & Wolter, C. (2019). The drivers of work engagement: A meta-analytic review of longitudinal evidence. *Work & Stress*, 34(3), 259–278. <https://doi.org/10.1080/02678373.2019.1686440>
- Luria, G. (2019). Climate as a group level phenomenon: Theoretical assumptions and methodological considerations. *Journal of Organizational Behavior*, 40(9-10), 1055–1066. <https://doi.org/10.1002/job.2417>
- Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement. *Journal of Applied Psychology*, 93(3), 498–512. <https://doi.org/10.1037/0021-9010.93.3.498>
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52(1), 397–422. <https://doi.org/10.1146/annurev.psych.52.1.397>
- Muthén, B. O., & Asparouhov, T. (2012). Bayesian structural equation modeling: A more flexible representation of substantive theory. *Psychological Methods*, 17(3), 313–335. <https://doi.org/10.1037/a0026802>
- Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide (Eighth Edition)*. Muthén & Muthén.
- Nielsen, K., Antino, M., Rodríguez-Muñoz, A., & Sanz-Vergel, A. (2021). Is it me or US? The impact of individual and collective participation on work engagement and burnout in a cluster-randomized organisational intervention. *Work & Stress*, 35(4), 374–397. <https://doi.org/10.1080/02678373.2021.1889072>
- Nikolova, I., Van Ruyseveldt, J., De Witte, H., & Syroit, J. (2014). Well-being in times of task restructuring: The buffering potential of workplace learning. *Work & Stress*, 28(3), 217–235. <https://doi.org/10.1080/02678373.2014.929601>
- Oreg, S., Michel, A., & By, R. T. (2013). *The psychology of organizational change: Viewing change from the employee's perspective*. University Press.
- Oreg, S., Vakola, M., & Armenakis, A. (2011). Change recipients' reactions to organizational change. *The Journal of Applied Behavioral Science*, 47(4), 461–524. <https://doi.org/10.1177/0021886310396550>
- Otto, K., Rigotti, T., & Mohr, G. (2013). The psychological effects of restructuring. In A.-S. G. Antoniou, & C. L. Cooper (Eds.), *The psychology of the recession on the workplace: New horizons in management series* (pp. 261–275). Edward Elgar.
- Piccoli, B., & De Witte, H. (2015). Job insecurity and emotional exhaustion: Testing psychological contract breach versus distributive injustice as indicators of lack of reciprocity. *Work & Stress*, 29(3), 246–263. <https://doi.org/10.1080/02678373.2015.1075624>
- Probst, T. M. (2003). Exploring employee outcomes of organizational restructuring. *Group & Organization Management*, 28(3), 416–439. <https://doi.org/10.1177/1059601102250825>
- Rafferty, A. E., & Jimmieson, N. L. (2010). Team change climate: A group-level analysis of the relationships among change information and change participation, role stressors, and well-being. *European Journal of Work and Organizational Psychology*, 19(5), 551–586. <https://doi.org/10.1080/13594320903007869>

- Rafferty, A. E., & Jimmieson, N. L. (2017). Subjective perceptions of organizational change and employee resistance to change: Direct and mediated relationships with employee well-being. *British Journal of Management*, 28(2), 248–264. <https://doi.org/10.1111/1467-8551.12200>
- Rafferty, A. E., Jimmieson, N. L., Restubog, S. L. D., Oreg, S., Michel, A., & By, R. T. (2013). When leadership meets organizational change: The influence of the top management team and supervisory leaders on change appraisals, change attitudes, and adjustment to change. *The Psychology of Organizational Change*, 145–172. <https://doi.org/10.1017/CBO9781139096690.011>
- Rohrbach-Schmidt, D., & Hall, A. (2020). *BIBB/BAuA employment survey 2018*. Federal Institute for Vocational Education and Training.
- Saksvik, PØ, Tvedt, S. D., NytrØ, K., Andersen, G. R., Andersen, T. K., Buvik, M. P., & Torvatn, H. (2007). Developing criteria for healthy organizational change. *Work & Stress*, 21(3), 243–263. <https://doi.org/10.1080/02678370701685707>
- Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual Review of Psychology*, 64(1), 361–388. <https://doi.org/10.1146/annurev-psych-113011-143809>
- Schwarz, G., & Bouckenoghe, D. (2018). Improving our understanding of collective attitudes towards change formation. In M. Vakola, & P. Petrou (Eds.), *Organizational change: Psychological effects and strategies for coping* (pp. 163–176). Routledge.
- Shirom, A. (1989). Burnout in work organizations. In C. L. Cooper, & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 25–48). John Wiley & Sons.
- Siemens, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods*, 13(3), 456–476. <https://doi.org/10.1177/1094428109351241>
- Sonnentag, S. (2015). Dynamics of well-being. *Annual Review of Organizational Psychology and Organizational Behavior*, 2(1), 261–293. <https://doi.org/10.1146/annurev-orgpsych-032414-111347>
- Stegmueller, D. (2013). How many countries for multilevel modeling? A comparison of frequentist and Bayesian approaches. *American Journal of Political Science*, 57(3), 748–761. <https://doi.org/10.1111/ajps.12001>
- Thomson, B., & Michel, A. (2018). Organizational change and health: The specific role of job insecurity. In M. Vakola, & P. Petrou (Eds.), *Organizational change: Psychological effects and strategies for coping* (pp. 142–162). Routledge.
- Wright, T. A., & Cropanzano, R. (1998). Emotional exhaustion as a predictor of job performance and voluntary turnover. *Journal of Applied Psychology*, 83(3), 486–493. <https://doi.org/10.1037/0021-9010.83.3.486>
- Zitzmann, S., Lüdtke, O., & Robitzsch, A. (2015). A Bayesian approach to more stable estimates of group-level effects in contextual studies. *Multivariate Behavioral Research*, 50(6), 688–705. <https://doi.org/10.1080/00273171.2015.1090899>
- Zohar, D., & Luria, G. (2004). Climate as a social-cognitive construction of supervisory safety practices: Scripts as proxy of behavior patterns. *Journal of Applied Psychology*, 89(2), 322–333. <https://doi.org/10.1037/0021-9010.89.2.322>
- Zohar, D., & Luria, G. (2010). Group leaders as gatekeepers: Testing safety climate variations across levels of analysis. *Applied Psychology*, 59(4), 647–673. <https://doi.org/10.1111/j.1464-0597.2010.00421.x>
- Zyphur, M. J., & Oswald, F. L. (2015). Bayesian estimation and inference. *Journal of Management*, 41(2), 390–420. <https://doi.org/10.1177/0149206313501200>