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The explanatory role of rumours in the reciprocal relationship between organizational change communication and job insecurity: a within-person approach

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The current study highlights rumours as an explanation of the reciprocal relationship between perceived organizational change communication and job insecurity. First, we predict that perceiving insufficient organizational change communication may result in rumours, which in turn may shape job insecurity perceptions. Second, we propose that rumours may also mediate the relationship between job insecurity and perceiving insufficient organizational change communication. To test the hypotheses, a multilevel approach was used, in which three measurements were nested within 1994 employees. This enabled us to probe within-person processes, while controlling for possible between-person variation. The results demonstrated a negative reciprocal relationship between perceived organizational change communication and job insecurity. Additionally, rumours mediated both the negative relationship between perceived organizational change communication and subsequent job insecurity, and the negative relationship between job insecurity and subsequent perceived organizational change communication. This study contributes to the literature on job insecurity by offering initial evidence on the relationship between job insecurity and rumours, and by highlighting rumours as a process through which perceived organizational change communication and job insecurity may mutually affect each other.

Keywords: job insecurity; rumours; organizational change communication; multilevel mediation; within-person

Nowadays, organizations are continuously confronted with changes (Elving, 2005). These ongoing changes may influence employees' subjective perception that their current job is in danger (i.e., job insecurity; De Witte, 2005), which has negative consequences for one's health and well-being (De Witte, Vander Elst, & De Cuyper, 2015). It is therefore necessary to prevent or at least decrease feelings of job insecurity. This study focuses on perceived organizational communication—organizational *change* communication in particular—which has been repeatedly highlighted as an important factor in reducing job insecurity (e.g., Adkins, Werbel, & Farh, 2001; Mauno & Kinnunen, 2002; Vander Elst, Baillien, De Cuyper, & De Witte, 2010). Both the Job Insecurity framework (Greenhalgh & Rosenblatt, 1984) and the Motivation to Reduce Uncertainty Model (Kramer, 1999; Kramer, Dougherty, & Pierce, 2004) underpin the central role of organizational communication as an effective tool to shape the employees' perception of job insecurity. Specifically, these theories argue that adequate organizational communication serves as an antecedent of lowered job insecurity perceptions because information may decrease one's feelings of uncertainty. While previous researchers have

argued for an effect of organizational communication on job insecurity (e.g., Adkins et al., 2001; Mauno & Kinnunen, 2002; Vander Elst et al., 2010), we suggest that there might be a reciprocal relationship in which perceived organizational change communication and job insecurity mutually influence each other over time. After all, job insecurity may also influence an employee's perception of organizational change communication. Insecure employees may always look for more information, irrespective of the actual level of change communication provided by the organization (Napier, Simmons, & Stratton, 1992). Moreover, feelings of job insecurity may result in decreased trust in the employer (Robinson & Rousseau, 1994), possibly leading to the perception that the organizational change communication by the employer is insufficient (Rousseau & Tijoriwala, 1999).

Next, we introduce rumours as the explanatory mechanism underlying the reciprocal relationship between perceived organizational change communication and job insecurity. First, when organizational communication about change is perceived to be missing or does not provide sufficient information, an employee will seek information through informal channels, such as rumours

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(DiFonzo & Bordia, 1997; Shibutani, 1966). By doing so, an employee tries to restore a feeling of understanding by giving meaning to the uncertain situation (DiFonzo & Bordia, 1997; Shibutani, 1966). However, relying on the rumour mill may be counterproductive over time as rumours are often worse than reality, cause panic, and eventually trigger feelings of job insecurity (Greenhalgh, 1983). Second, rumours may also explain the relationship from job insecurity to perceived organizational change communication. In line with the Motivation to Reduce Uncertainty Model (Kramer, 1999; Kramer et al., 2004), an uncertain (e.g., job-insecure) employee will search for information to reduce these feelings of uncertainty, possibly through rumours. In the field of psychological contracts, Morrison and Robinson (1997) stipulated that perceptions of psychological contract breach make an employee more attentive to environmental cues pointing towards other incidences where the organization has broken its promises. This would imply that a job-insecure employee monitors the work environment for information about job insecurity more vigilantly, which increases the likelihood of picking up rumours that would otherwise go unnoticed. These rumours may in turn lead to the perception of insufficient organizational change communication (DiFonzo & Bordia, 2007).

The contributions of the current study are threefold. First, we contribute to the literature on job insecurity by investigating the reciprocal relationship between perceived organizational change communication and job insecurity, thereby examining perceived organizational change communication not only as an antecedent, but also as a consequence of job insecurity. Second, we identify rumours as an explanatory mechanism underlying the reciprocal relationship between perceived organizational change communication and job insecurity. The specific mechanisms underlying this relationship have not been investigated to date. However, we believe this is an important step for designing effective interventions that aim at the prevention of job insecurity and loss cycles (meaning that perceived organizational change communication and job insecurity mutually influence each other over time, resulting in a continued decrease and increase in perceptions of organizational change communication and job insecurity, respectively). Finally, we want to provide insight into the occurrence of possible within-person cycles of perceptions of organizational change communication, rumours, and job insecurity over time, thereby shedding light on intra-individual dynamics over time. In this respect, relationships were examined using three half-yearly observations clustered within persons, allowing us to explore changes and processes within persons over time, rather than rank–order relationships and differences between individuals explored in previous between-person studies (Hayes, 2006; Voelkle, Brose, Schmiedek, & Lindenberger, 2014).

Job insecurity

A widely used definition of job insecurity entails the perceived threat of losing the current job in the future (De Witte, 2005; Sverke et al., 2004). A number of characteristics of job insecurity can be differentiated. First, job insecurity concerns a subjective experience, meaning that the same objective work situation can be interpreted in different ways and may thus lead to different levels of uncertainty among different individuals (Sverke, Hellgren, & Näswall, 2002). In addition, job insecurity relates to insecurity about the future, which means that a person does not know whether (s)he will retain or lose his/her current job (De Witte, 2005). As a consequence, job-insecure employees may experience difficulties in coping with this stressful situation. For example, they do not know whether they should start looking for another job. Finally, many scholars refer to the involuntary or unwanted nature of job insecurity, encompassing a discrepancy between the desired and the perceived level of certainty (e.g., Sverke & Hellgren, 2002).

Formal and informal communication

There is general agreement on the importance of organizational communication in periods characterized by organizational change (Elving, 2005; Lewis, 1999; Lewis & Seibold, 1998). During changes, an employee may seek information from multiple sources, such as his/her manager, colleagues, or even contacts outside the organization and the media (Hargie & Tourish, 2000). These different types of information comprise two distinct types of communication: formal and informal communication, each using different channels to share the information. Formal or organizational communication proceeds via predetermined communication structures (Koeleman, 1992) and refers to the extent to which employees receive adequate information about the functioning of the company (Stoter, 1997). This type of communication is intentional and governed by the management board, and can thus be considered as a one-way, top-down stream of information (McQuail, 1987). Within this study, we are interested in the communication perceived by employees about ongoing changes in their organization. Therefore, we will further use the term *perceived organizational change communication* to refer to employees' perceptions of the formal information provided about changes in the organization.

On the other hand, informal communication refers to all types of communication within the organization that are not intentionally disseminated by the company (Koeleman, 1992). Examples of this kind of communication are gossip, rumours, urban legends, casual conversations, chats, talks, etc. This study focuses on the *rumours* employees hear within the organization, as rumours—

despite being primarily employed to manage (potential) threat—increase ambiguity and thereby also strengthen perceptions of job insecurity. A rumour is

> an unverified bit of information about something of importance to a group. It is like news in every way except that it is not verified. It may or may not be true. It may be spread by word-of-mouth, fax, electronic mail, or any other communication channel, and is often introduced by the phrase "I heard that..." (DiFonzo & Bordia, 2002, p. 7)

Perceived organizational change communication as an antecedent of job insecurity

We posit that perceiving insufficient organizational change communication increases feelings of job insecurity. This idea is grounded in the Job Insecurity framework (Greenhalgh & Rosenblatt, 1984), as well as in the Motivation to Reduce Uncertainty Model (Kramer, 1999; Kramer et al., 2004). First, the Job Insecurity framework of Greenhalgh and Rosenblatt (1984) entails that objective threats are transformed into subjective threats by means of an individual's perceptual processes. Specifically, in times characterized by organizational change, lack of adequate organizational change communication may threaten an individual's feeling of control, which in turn may lead to increased feelings of job insecurity (Greenhalgh & Rosenblatt, 1984; Vander Elst et al., 2010). Second, the Motivation to Reduce Uncertainty Model (Kramer, 1999; Kramer et al., 2004) states that adequate organizational change communication holds the potential of reducing feelings of uncertainty, suggesting that (poor) organizational change communication is an antecedent of (increased) job insecurity.

In line with both theoretical models, empirical studies generally find a negative association between the more *general* concept of organizational communication and job insecurity. Adkins et al. (2001), for example, demonstrated a negative association between perceptions of sufficient and accurate organizational information and job insecurity. In addition, Mauno and Kinnunen (2002) found that organizational communication was negatively associated with job insecurity. Similarly, Vander Elst et al. (2010) found evidence for a negative relationship between organizational communication and job insecurity. However, evidence from two longitudinal studies could not demonstrate a negative relationship between organizational communication and subsequent job insecurity (Kinnunen, Mauno, Natti, & Happonen, 1999, 2000). The authors argue that this is probably due to the long time period between measurement waves (i.e., time lags of three years and one year).

Other researchers have focused on the relationship between organizational *change* communication and employee uncertainty regarding work features (DiFonzo & Bordia, 1998; Schweiger & DeNisi, 1991), a concept that is highly related to job insecurity. Schweiger and DeNisi (1991), for example, indicated the importance of realistic communication programmes during a merger when dealing with employees' uncertainty. In addition, DiFonzo and Bordia (1998) demonstrated that effective change communication campaigns are key in reducing uncertainty among employees. More recently, Bordia, Hunt, Paulsen, Tourish, and DiFonzo (2004) found that the quality of change communication was negatively related to employees' uncertainty. Based on the theoretical and empirical evidence presented, we hypothesize the following:

> *Hypothesis 1:* Perceived organizational change communication will be negatively related to subsequent job insecurity, so that perceptions of insufficient organizational change communication will be associated with higher levels of job insecurity.

Perceived organizational change communication as a consequence of job insecurity

Further, we also argue that an employee experiencing higher levels of job insecurity may increasingly perceive that the organizational change communication is inadequate. Napier et al. (1992), for example, investigated organizational communication during a merger, and found that, although the organization provided as much information as possible, employees still had the feeling that they were not getting the full story. Hence, they concluded that an insecure employee might always search for more information, irrespective of the actual level of organizational communication provided by the employer. Furthermore, employees have expectations regarding the mutual obligations of both the employee and the employer (i.e., psychological contract), and job insecurity may represent a violation of the job security expectation (Millward & Brewerton, 2000). As a result, a job-insecure employee may lose faith in the trustworthiness of the employer (Ashford, Lee, & Bobko, 1989; Robinson & Rousseau, 1994), which in turn may enhance an employee's perception that organizational change communication is insufficient. We are aware of only one study that tapped into the effect of job insecurity on organizational communication. Although not the focus of their prospective study, Kinnunen et al. (2000) did not find an effect of job insecurity on future general organizational communication. However, in line with the earlier presented studies, we hypothesize:

> *Hypothesis 2:* Job insecurity will be negatively related to subsequent perceived organizational change communication, so that higher levels of

job insecurity will be associated with organizational change communication being perceived as more inadequate.

The mediating role of rumours in the relationship between perceived organizational change communication and subsequent job insecurity

Although multiple studies have investigated the relationship between organizational communication (either general communication or change communication) and job insecurity (e.g., Adkins et al., 2001; Kinnunen et al., 1999, 2000; Napier et al., 1992), less is known about the mediating processes that may account for this relationship. We propose rumours as the mechanism through which perceptions of insufficient organizational change communication may increase job insecurity for several reasons. First, perceptions of insufficient organizational change communication may stimulate rumours. Shibutani (1966) stated that when information is not available through organizational channels (i.e., formal communication or organizational change communication), this lack of information will be compensated by employees' interpretation of the situation based on informal information, for instance rumours. As such, rumours can be conceptualized as a collective sense-making process in which members of a group share information and evaluate ambiguous situations to explain these situations (Shibutani, 1966). The Job Insecurity framework of Greenhalgh and Rosenblatt (1984) also states that rumours flourish in times of scarce formal communication. In other words, when organizational change communication is perceived to be missing, or does not provide sufficient information, one will be more likely to seek information through informal channels, such as rumours.

Rumours seem to occur rather frequently in most organizations (DiFonzo, Bordia, & Rosnow, 1994; Michelson & Mouly, 2002). For example, DiFonzo and Bordia (2000) found that managers are confronted with (potentially) damaging rumours about once a week. Additionally, Schweiger and DeNisi (1991) found that when sufficient information about the organizational change was lacking, employees sought information through informal channels in order to fill these information gaps. Furthermore, DiFonzo and Bordia (1998) showed that rumours mainly arise when organizational changes were communicated in an inadequate way. Similarly, Karathanos and Auriemmo (1999) found that low levels of information flow generated a communication climate that was characterized by rumours. The results from these studies congregate in the work of Crampton, Hodge, and Mishra (1998). They indicated that the number of rumours tends to increase under four conditions: (1) in times of uncertainty, (2) when the subject of

communication is important, (3) when the subject is ambiguous, and (4) when people are in a precarious situation in which organizational communication is bad or missing.

Second, we argue that rumours may lead to increased feelings of job insecurity. This idea is again grounded in the Job Insecurity framework of Greenhalgh and Rosenblatt (1984). This framework states that, in addition to intended organizational change communication, rumours may also shape an employee's perception of job insecurity. That is, an employee who has to rely on the rumour mill for information will often be confronted with worst-case scenarios, wild speculations, inconsistent, negative and inaccurate information, which can cause panic and stress, leading to enhanced feelings of job insecurity (Bordia, Jones, Gallois, Callan, & DiFonzo, 2006; Greenhalgh, 1983; Rosnow, 1988; Schweiger & DeNisi, 1991). In a qualitative study with structured field interviews, DiFonzo and Bordia (1998) found that rumours were related to more confusion and thus increased uncertainty. DiFonzo and Bordia (2007) additionally found that as the number of rumours increased, feelings of anxiety and uncertainty also heightened. Inadequate organizational change communication may thus result in rumours, which may in turn increase feelings of job insecurity. In line with our arguments and the presented empirical results, we hypothesize:

> *Hypothesis 3:* Rumours mediate the negative relationship between perceived organizational change communication and job insecurity, such that perceived organizational change communication relates negatively to subsequent rumours, and rumours relate positively to subsequent job insecurity.

The mediating role of rumours in the relationship between job insecurity and subsequent perceived organizational change communication

Rumours may also account for the negative relationship between job insecurity and perceived organizational change communication. First, the experience of job insecurity may increase rumours in the organization. Scholars agree that rumours flourish under conditions of uncertainty (e.g., DiFonzo et al., 1994; Rosnow, 1991). The Motivation to Reduce Uncertainty Model (Kramer, 1999; Kramer et al., 2004) states that, when experiencing uncertainty, a person will search for information in an attempt to reduce this aversive state. This implies that an employee who is experiencing uncertainty will look for information via rumours to get grip over and gain understanding of the insecure situation, as an attempt to reduce these feelings of uncertainty. We may also expect job insecurity to lead to rumours based on the work of DiFonzo and Bordia

([2007](#)), who presented anxiety, uncertainty, lack of control, and importance as the predictors of the occurrence of rumours. In contexts characterized by these factors, employees may look for valid and accurate information about the situation to understand it (consistent with the fact-finding motivation; DiFonzo & Bordia, [2007](#)). Hence, we argue that job insecurity may result in increased attention to and vigilance of information (Morrison & Robinson, [1997](#)) via rumours, as job insecurity is related to anxiety (Burchell, [2009](#)), uncertainty about future employment (De Witte, [2005](#)), a perceived lack of control or powerlessness (Vander Elst, Van Den Broeck, De Cuyper, & De Witte, [2014](#)), and is considered a threat to both the highly valued manifest and latent functions of employment (De Witte, [1999](#); Selenko & Batinic, [2013](#)); all of which are considered main antecedents of rumours (DiFonzo & Bordia, [2007](#)).

Evidence for these statements can be derived from an in-depth critical-incident case study by DiFonzo and Bordia ([1998](#)). The authors conducted field interviews with public relations and top management personnel from 15 organizations and found that rumours can be prevented from being spread by reducing uncertainty. Additionally, Crampton et al. ([1998](#)) found that an insecure or threatening situation is an important precursor of the amount of rumours heard. However, we are unaware of studies that have tested the specific relationship between job insecurity and rumours. This is somewhat surprising as job insecurity can be seen as uncertainty related to one's job.

Further, the amount of rumours heard may influence one's perceptions about the organizational change communication. That is, when employees are hearing rumours on a regular basis, they might perceive insufficient organizational change communication (DiFonzo & Bordia, [2007](#)). Rumours are often characterized by their negative, inaccurate, and repetitive nature, making it very hard for employers to refute well-established rumours (Schweiger & DeNisi, [1991](#)). Attempts of the employer to deny such rumours may even result in a decrease of the perceived trustworthiness of the information provided by the employer (Schweiger & DeNisi, [1991](#)). In line with these arguments, DiFonzo and Bordia ([2007](#))—conducting a four-wave longitudinal study in an organization undergoing a downsizing—found that when the number of rumours decreased, ratings of organizational change communication quality increased. In keeping with theory and empirical evidence, we hypothesize the following:

> *Hypothesis 4:* Rumours mediate the negative relationship between perceptions of job insecurity and organizational change communication, so that job insecurity relates positively to subsequent rumours, and rumours relate negatively to subsequent perceived organizational change communication.

Method

Procedure

We collected data among a heterogeneous group of Flemish workers (Belgium) in April 2012 (Time 1; T1), October 2012 (Time 2; T2), and April 2013 (Time 3; T3). We thus used a time lag of six months between subsequent measurements. None of the theoretical frameworks presented earlier provides information on the time frame over which perceived organizational change communication, rumours, and job insecurity influence each other. Previous studies on the organizational communication−job insecurity relationship used longer time lags of one year and three years (Kinnunen et al., [1999](#), [2000](#)). However, they could not demonstrate a significant relationship, suggesting that a shorter time lag might be more appropriate. In addition, longitudinal evidence on the relationship between rumours and organizational communication or job insecurity is missing, which forces us to make inferences on the best time lag to investigate the relationship between rumours, perceived organizational change communication, and job insecurity.

We developed a large-scale online survey in collaboration with a Human Resources (HR) magazine that publishes vacancies and articles on work-related topics for the broader public. We thus collected data from our respondents independently of the organization they were working for. In the introduction of the survey, we highlighted the purpose of the study, the importance of discretionary and voluntary participation, and that the study results would be treated anonymously. Indication of willingness to participate in the study was interpreted as informed consent. As we requested respondents to fill out three surveys over a period of one year and a half, we raffled five multimedia vouchers of €20 (ca. $22) among the respondents at each measurement to decrease the attrition rate.

In April 2012 (T1), 4,878 readers of the HR magazine participated in the survey through the website and the magazine's electronic newsletter. When the survey was finished, we conducted a strict data cleaning procedure, in which responses from the following groups of individuals were deleted: unemployed individuals ($n = 930$), self-employed workers ($n = 128$), employees younger than 18 years and older than 65 years ($n = 14$), and participants who completed the questionnaire multiple times (based on email address, a combination of background characteristics, and IP address; $n = 391$, of which 351 did not provide full information on the background characteristics). This resulted in a group of 3,415 participants, of which 2,223 persons provided a correct email address and could be invited to the follow-up questionnaires.

While 957 respondents filled out the questionnaire at T2 (longitudinal response of 43.1%, relative to T1), 858

employees participated in the questionnaire at T3 (long-itudinal response of 38.6%, relative to T1). We removed all respondents who changed job situation (i.e., another job or unemployed) between the three measurement moments ($n = 229$), as job transitions may influence the lagged relationships between, for example, job insecurity and rumours (De Lange, 2005). This approach resulted in a final sample of 1,994 employees who participated at least at T1; 49.7% of the respondents only participated at T1, 18.8% ($n = 375$) completed the questionnaire at T1 and T2; 13.8% ($n = 276$) filled out the questionnaire at T1 and T3; and 29.2% ($n = 582$) participated at T1, T2, and T3.

Sample

Sample description and representativeness

The sample distribution was representative of the Flemish working population regarding age, contract type, and temporary workers (Department of Work and Social Economy, Flemish Government, 2012): 7.3% of the employees were younger than 25 years, 63.6% aged between 25 and 49 years, and 29.1% were older than 49 years ($M = 41$ years, $SD = 11.3$), com-pared to 7.4%, 66.5%, and 26.1%, respectively, in the Flemish working population. Most of the respondents had an open-ended contract (90.7% in the sample, 91.9% in the Flemish working population) and the majority of the respondents worked on a full-time basis (77% in the sample, 74.9% in the Flemish work-ing population). In addition, women were over-repre-sented in the sample when compared to the Flemish working population (61% in the sample; 45.5% in the population). Also the public sector was over-repre-sented in the study sample (39.2% versus 24.2% in the population), while blue-collar workers were under-represented in the study sample (11.6% versus 28.4% in the population).

Multilevel nature of sample

It should be noted that—given the multilevel nature of the data (i.e., three measurement points nested within persons) —the unit of analysis equals 'measurement points' rather than 'respondents' (Conway & Briner, 2002), resulting in an effective sample size of 4,941 observations (1,994 respondents * maximum of 3 waves). In their simulation study, Browne and Draper (2000) underline the impor-tance of the absolute number of respondents in favour of the ratio of respondents to measurement point, to guaran-tee sufficient power and accuracy. Maas and Hox (2005) argue that a study should include more than 30 respon-dents to provide an accurate estimate of standard errors and fixed effects; thereby making us confident that we

have sufficient power and accuracy when estimating stan-dard errors and fixed effects.

Sample dropout analysis

A logistic regression analysis was conducted to test whether participation at all times (i.e., response at T1, T2, and T3) versus dropout at any point in time could be predicted by (1) demographic and work-related character-istics (i.e., age, gender, occupational position, sector, con-tract type, full-time versus part-time employment) in step 1, and (2) the study variables (i.e., organizational change communication, rumours, and job insecurity) at T1 in step 2. Chi-square for step 1 was significant, χ^2 (6) = 71.32, $p < .001$: dropout was higher among younger respondents, $OR = -.04$, $p < .001$, and lower among employees work-ing on a full-time basis, $OR = .33$, $p < .05$. Step 2 revealed that the study variables (i.e., perceived organizational change communication, rumours, and job insecurity) could not predict dropout, $\chi^2(3) = .30$, *ns*.

Measurements

Perceived organizational change communication was measured with an adapted version of the informational justice scale developed by Colquitt (2001). While Colquitt's scale deals with the information provided by the organization with respect to a particular procedure in the past, we reworded the items so that they refer to the provided information on changes in the organization more generally. A sample item is "The employees are informed about changes at work in a timely manner" (original item from Colquitt, 2001: "Has (he/she) communicated details in a timely manner?"). The items were rated on a 5-point Likert scale from 1 (*totally disagree*) to 5 (*totally agree*). The Cronbach's alphas were .92, .93, and .93 for time T1, T2, and T3, respectively.

Rumours were measured with two items that were derived and adapted from DiFonzo and Bordia (2007) in such a way that they tapped into rumours about the orga-nization and possible dismissals (i.e., job insecurity). In line with the recommendations of DiFonzo and Bordia (2007), we first presented the following description of the phenomenon "rumour" to the respondents: A rumour is "... an unverified bit of information about something of importance to a group. It is like news in every way except that it is not verified. It may or may not be true. It may be spread by word-of-mouth, fax, electronic mail, or any other communication channel. It is often introduced by the phrase 'I heard that...'" (DiFonzo & Bordia, 2002, p. 7). Next, respondents were asked to answer the follow-ing two questions on a scale from 0 (*never*) to 6 (*always, every day*): "How often do you hear rumours about your organization? (This may concern the rumour itself or the news that a rumour is circulating.)" and "How often do

you hear rumours about dismissals in your organization?" These items were based on the original item of DiFonzo and Bordia (2007) which was "in the past month, how many different rumours have you heard related to this organization?". Inter-item correlations were .72, .72, and .73 for time 1, 2, and 3, respectively.

Job insecurity was measured with four items from the Job Insecurity Scale developed by De Witte (2000) and validated by Vander Elst, De Witte, and De Cuyper (2014). A sample item is "I think I will lose my job in the near future". The items were rated on a 5-point Likert-type scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). This scale was reliable, with Cronbach's alpha coefficients of .89, .89, and .90 for T1, T2, and T3, respectively.

Analyses

As our dataset has a nested structure (i.e., three measurement points nested within respondents), we estimated intra-class correlation coefficients (ICCs) of perceived organizational change communication, rumours, and job insecurity to assess the need for a multilevel modelling approach (Hox, 2010). The ICC value represents the ratio of between-person variance to the total variance (within-person + between-person):

$$\text{ICC} = \frac{\sigma^2_{\text{between}}}{\sigma^2_{\text{between}} + \sigma^2_{\text{within}}}$$

When these ICC values are larger than .10 and smaller than .90, Byrne (2011) argues that there is a substantive amount of variance both at the between-person and within-person levels. Results indicated that the ICC values were larger than .10 and smaller than .90 (ICC values indicated that 18%, 30%, and 15% of the variance in perceived organizational change communication, rumours, and job insecurity could be attributed to within-person changes), underlining the need for multilevel analysis (Hayes, 2006; Hox, 2010). Multilevel analysis allows us to account for the dependencies due to the nested structure in our data (Lee, Wang, Scott, Yau, & McLachlan, 2006; Maas & Hox, 2005) and to separate the within- and between-components of the model (Preacher, Zyphur, & Zhang, 2010). Since we wanted to investigate the intra-individual processes underlying the relationship between perceived organizational change communication and job insecurity, the proposed relationships were examined at the within-person level, while controlling for variation in these variables between persons (i.e., estimating the variances at the between-person level). The latter was done to acknowledge the existence of meaningful variance at the between-person level when estimating our proposed mediation model at the within-person level (for a similar approach, see Griep, Vantilborgh, Baillien, &

Pepermans, 2015; Vander Elst, Näswall, Bernhard-Oettel, De Witte, & Sverke, 2015).

Consequently, mediation analyses were performed within the framework of a multilevel path model with manifest variables, using Mplus 7.11 (Muthén & Muthén, 2013). We examined relationships of the endogenous variables with their predictors at a previous time of measurement, so that the baseline values of the endogenous variables could be controlled for and the direction of the lagged relationships between variables could be investigated. In other terms, we investigated relationships between time-lagged predictors indicating values to the predictors at a previous measurement 'time $T - 1$' and current endogenous variables measured at 'time T' (Singer & Willett, 2003). In all of these relationships, we controlled for stability by including the autocorrelation of the study variables; that is the cross-correlation of a variable with itself over the course of the measurement points; thereby modelling change in the outcome variable.

We specifically tested lagged relationships between perceived organizational change communication (time $T - 1$) and subsequent hearing rumours (time T), and between hearing rumours (time $T - 1$) and subsequent job insecurity (time T). Furthermore, we also estimated the lagged relationship between job insecurity (time $T - 1$) and subsequent hearing rumours (time T), and the lagged relationship between hearing rumours (time $T - 1$) and subsequent levels of perceived organizational change communication (time T). The indirect effect of perceived organizational change communication on job insecurity through rumours as well as the reverse indirect relationship between job insecurity and perceived organizational change communication through rumours were estimated based on the product-of-coefficients approach. This approach specifies the indirect effect of the predictor variable on the outcome variable via the mediator as the product of the lagged relationship between the predictor variable and the mediator, and the lagged relationship between the mediator and the outcome variable (Preacher & Hayes, 2008). The significance of the indirect effects was scrutinized by means of the Monte Carlo Method (Bauer, Preacher, & Gil, 2006) using the INTEGRATION = MONTECARLO (10,000) option in Mplus 7.11 (Muthén & Muthén, 2013). By doing so, we have drawn 10,000 bootstrapped samples to generate 95% confidence intervals (95% CI). When zero is not part of the 95% CI, the indirect effect is significant.

Results
Descriptive statistics

Table 1 displays the means, standard deviations, and inter-correlations at the within-person and between-person levels.

Table 1. Means, standard deviations, and correlations.

	M	SD	1	2	3
1. Organizational change communication	3.03	0.79	-	−.37***	−.25***
2. Hearing rumours	1.53	1.13	−.38***	-	.36***
3. Job insecurity	2.17	0.89	−.25***	.37***	-

Notes: *** $p < .001$. Zero-order correlations are presented below the diagonal ($N = 1994$). Person-centred correlations are presented above the diagonal ($N = 3365$). Means and standard deviations are only provided at the zero-order level.

The table shows that, at the between-person level (zero-order correlations), perceived organizational change communication was negatively correlated with both rumours ($r = −.38$, $p \leq .001$) and job insecurity ($r = −.25$, $p \leq .001$), while rumours and job insecurity were positively related to each other ($r = .37$, $p \leq .001$). Similar correlations were found at the within-person (person-centred correlations) level, as perceived organizational change communication was negatively correlated with both rumours ($r = −.37$, $p \leq .001$) and job insecurity ($r = −.25$, $p \leq .001$), and rumours and job insecurity were positively related to each other ($r = .36$, $p \leq .001$). These results are in accordance with the proposed hypotheses.

Multilevel confirmatory factor analyses

Prior to the hypothesis testing, we conducted a series of Multilevel Confirmatory Factor Analyses (MCFAs) in Mplus 7.11 using the Maximum Likelihood estimator with Robust standard errors (MLR) (Muthén & Muthén, 2013). We tested and compared the hypothesized three-factor measurement model (perceived organizational change communication, rumours, and job insecurity) with (1) a two-factor model in which perceived organizational change communication and rumours loaded on one latent factor and job insecurity was another latent factor (i.e., alternative model A), (2) a two-factor model in which perceived organizational change communication and job insecurity loaded on one latent factor and rumours was another latent factor (i.e., alternative model B), (3) a two-

factor model in which rumours and job insecurity loaded on one latent factor and perceived organizational change communication was another latent factor (i.e., alternative model C), and (4) a one-factor model in which perceived organizational change communication, rumours, and job insecurity loaded on the same latent factor (i.e., alternative model D). Model fit was evaluated using the following fit statistics: the Root Mean Square Error of Approximation ($.05 <$ RMSEA $\leq .08$: reasonable fit; $0 \leq$ RMSEA $\leq .05$: close fit), the Comparative Fit Index ($.90 \leq$ CFI $< .95$: good fit; $.95 \leq$ CFI ≤ 1.00: excellent fit), the Tucker–Lewis Index ($.90 \leq$ TLI $< .95$: good fit; $.95 \leq$ TLI ≤ 1.00: excellent fit), and the Standardized Root Mean Square Residual ($.05 <$ SRMR $\leq .08$: reasonable fit; $0 \leq$ SRMR $\leq .05$: close fit) (Dyer, Hanges, & Hall, 2005).

The theoretical three-factor model fitted the data well, and each item loaded significantly and in the expected direction on its corresponding latent factor (see Table 2). In addition, alternative model A ($\Delta\chi^2 = 1120.8$, $\Delta df = 2$, $p \leq .001$), alternative model B ($\Delta\chi^2 = 9899.04$, $\Delta df = 2$, $p \leq .001$), alternative model C ($\Delta\chi^2 = 1053.16$, $\Delta df = 2$, $p \leq .001$), and alternative model D ($\Delta\chi^2 = 11482.12$, $\Delta df = 3$, $p \leq .001$) fitted the data significantly worse than the theoretical three-factor model. This provides us with support for the expected dimensionality of the three study scales. This three-factor model, moreover, yielded an excellent fit to the data (χ^2 (41) = 323.79; RMSEA = .05; SRMR = .04; CFI = .98 and, TLI = .98).

Competing model comparison

Prior to the hypothesis testing, we also investigated whether the direction of the temporal relationships was as hypothesized (i.e., reciprocal relationships between perceived organizational change communication and job insecurity via rumours). Therefore, we compared different temporal models (Taris & Kompier, 2014): (1) a stability model in which each variable was linked to its lagged counterpart (i.e., autocorrelation) over time, (2) a normal-causation model with stabilities (i.e., autocorrelation) in which we investigated the mediating role of rumours in the relationship from perceived organizational change communication to job insecurity over time, (3) a reverse-causation model with stabilities in which we investigated

Table 2. Results from the multilevel confirmatory factor analyses.

Model	Latent factors	χ^2 (df)	RMSEA	CFI	TLI	SRMR within
Theoretical model	(1) Comm; (2) Rumours; (3) JIS	323.79 (41)	.05	.98	.98	.04
Alternative model A	(1) Comm + Rumours; (2) JIS	1444.59 (43)	.10	.91	.89	.09
Alternative model B	(1) Comm + JIS; (2) Rumours	10222.83 (43)	.27	.37	.20	.23
Alternative model C	(1) Comm; (2) Rumours + JIS	1376.95 (43)	.10	.91	.90	.09
Alternative model D	(1) Comm + Rumours + JIS	11805.91 (44)	.28	.28	.10	.23

Comm, organizational change communication. JIS, job insecurity.

the mediating role of rumours in the relationship from job insecurity to perceived organizational change communication over time, and (4) the hypothesized reciprocal model with stabilities in which we combined the paths from the normal and reverse-causation model over time. All of these models were tested by means of the Monte Carlo Method (Bauer et al., 2006) using the INTEGRATION = MONTECARLO (10,000) option in Mplus 7.11 (Muthén & Muthén, 2013). We used the MLR estimator and compared using the −2Log Likelihood (−2LL) difference test (Hayes, 2006). Note that, in Mplus, the combination of the Monte Carlo Method and the MLR estimator does not provide additional fit indices (i.e., CFI, RMSEA) for multilevel models.

Comparison of the four temporal models testing the direction of the relationships revealed that the hypothesized reciprocal model fitted the data better than the stability model (Δ−2LL(3) = 6101.82, p < .001), the normal-causation model, (Δ−2LL(6) = 2545.58, p < .001), and the reverse-causation (Δ−2LL(6) = 2310.56, p < .001) model. These results demonstrate that the hypothesized reciprocal model was superior, meaning that the temporal relationships go from perceived organizational change communication to job insecurity via rumours, and the other way around.

Test of the hypotheses

Figure 1 shows the estimated paths in the hypothesized reciprocal model.

The results indicate that perceived organizational change communication at time $T - 1$ was significantly negatively related to job insecurity at time T, thereby supporting Hypothesis 1. Also Hypothesis 2 was supported, as feelings of job insecurity at time $T - 1$ were negatively related to perceived organizational change communication at time T. We furthermore found a significant negative indirect effect of perceived organizational change communication on job insecurity via rumours

(95% CI = [−.16; −.13]), thereby supporting Hypothesis 3. Finally, we also found a significant negative indirect effect of job insecurity on perceived organizational change communication via rumours (95% CI = [−.13; −.10]), which is in line with Hypothesis 4.

Discussion

This study aimed to unravel the occurrence of perceived organizational change communication and job insecurity cycles; thereby shedding light on the dynamic and intra-individual relationships over time. A limited range of research—with fragmented findings—linked perceptions of organizational communication (i.e., either formal organizational communication or change communication) to job insecurity (e.g., Adkins et al., 2001; Kinnunen et al., 1999, 2000; Napier et al., 1992). Additionally, to our knowledge, no previous studies have focused on the effect of job insecurity on an employee's perceived organizational change communication. Notwithstanding the insights obtained from the previous studies on the effect of organizational communication on job insecurity (e.g., Adkins et al., 2001; Kinnunen et al., 1999, 2000; Napier et al., 1992), little is known about the specific mechanisms underlying the relationship between perceived organizational change communication and job insecurity over time. In this respect, we introduced rumours as a mediator in the reciprocal relationship between perceived organizational change communication and job insecurity; thereby contributing to a limited stream of research exploring both antecedent and subsequent explanatory mechanisms of job insecurity. Finally, the current study adds to previous findings by investigating processes underlying the effect of an individual's perceptions of organization change communication on his/her feelings of job insecurity in the future, and vice versa (i.e., within-person processes). Previous studies have mainly used between-person designs and thus investigated rank–order relationships (i.e., relationships between inter-individual differences in one construct and inter-individual differences in another
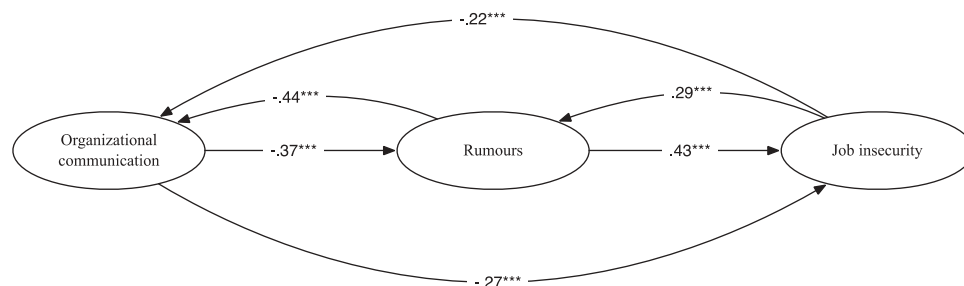

Figure 1. Estimated paths in the two-level mediation analysis.

Note: All relationships shown in this figure concern lagged relationships, that is, relationships between time-lagged exogenous variables (Time $T - 1$) and current endogenous variables (Time T). *** p < .001.

construct). However, this seems not appropriate when investigating changes in *an individual*'s job insecurity or perceptions of organizational change communication.

Discussion of the results and their implications

Our results indicate that the perceived quality of organizational change communication related to fewer subsequent feelings of job insecurity, thereby concluding that adequate perceived organizational change communication is an effective tool for decreasing one's feelings of job insecurity. This aligns with Greenhalgh and Rosenblatt's (1984) Job Insecurity framework and the Motivation to Reduce Uncertainty Model (Kramer, 1999; Kramer et al., 2004), stating that effective organizational communication may reduce uncertainty, while a lack of information may induce uncertainty regarding one's job position, reduce one's feelings of control, and hence one's job insecurity. This result has also been found in cross-sectional studies from Adkins et al. (2001), Mauno and Kinnunen (2002) and Vander Elst et al. (2010).

Second, we explored the reversed relationship from job insecurity to subsequent perceived organizational change communication. Only one study thus far drew upon the influence of job insecurity on organizational communication. Although it was not the focus of their study, Kinnunen et al. (2000) did not find an effect of job insecurity on future general organizational communication. However, we provided initial evidence that job insecurity related negatively to subsequent perceptions of organizational change communication. This result is in line with Napier's et al. (1992) statement that when feeling insecure, employees may always perceive a lack of information, regardless of the organization's investments in formal organizational (change) communication. Our finding furthermore aligns with psychological contract literature, stating that a breach of the psychological contract (e.g., perception of job insecurity while job security was promised) results in a loss of faith in the trustworthiness of the employer (Robinson & Rousseau, 1994), which may lead to the perception that organizational change communication is insufficient (Rousseau & Tijoriwala, 1999).

In addition, we set out to investigate rumours as an explanatory mechanism that may account for the relationship from perceived organizational change communication to job insecurity. We found that the degree of perceived organizational change communication was negatively related to rumours heard at a subsequent time. This corresponds with the idea that when organizations fail to effectively communicate about changes, employees will tend to seek additional information through informal channels, such as the rumour mill, in order to fill the information gap (DiFonzo & Bordia, 1997; Shibutani, 1966). Others scholars (Crampton et al., 1998; DiFonzo & Bordia, 1998; Schweiger & DeNisi, 1991)—adopting a qualitative and/

or longitudinal research approach—found a similar relationship. Furthermore, we found that hearing rumours was positively related to subsequent feelings of job insecurity. This result aligns with insights from Greenhalgh and Rosenblatt's (1984) Job Insecurity framework stating that employees relying on the rumour mill will be confronted with worst-case scenarios and inaccurate information, which may increase job insecurity. Previous qualitative studies found that informal channels, and rumours in particular, may lead to more uncertainty (DiFonzo & Bordia, 1998; Schweiger & DeNisi, 1991). Finally, our results supported the assumption that perceived organizational change communication affected job insecurity through rumours, indicating that lower levels of perceived organizational change communication may result in job insecurity because employees will rely on rumours.

Continuing in this vein, we also proposed that rumours act as a mediator in the relationship from job insecurity to perceived organizational change communication. We found that job insecurity related negatively to subsequent hearing rumours. This is in line with the Motivation to Reduce Uncertainty model (Kramer, 1999; Kramer et al., 2004), which states that an insecure employee seeks information to reduce feelings of uncertainty via rumours. Next, DiFonzo and Bordia (2007) presented anxiety, importance, uncertainty, and lack of control as antecedents of rumour; factors that may also characterize the job insecurity experience. Our results also align with the work of Morrison and Robinson (1997) in the field of psychological contract breach. These scholars stipulate that perceptions of psychological contract breach trigger an increased attention to environmental features pointing towards a discrepancy in the psychological contract. By becoming more vigilant, an employee will be more likely to pick up deviations that would otherwise stay unnoticed. Via the same rationale, it could be argued that when an employee perceives job insecurity, (s)he will vigilantly monitor the environment for information as to whether the perceived job insecurity is justified. Vigilant monitoring thus increases the likelihood that perceived job insecurity results in picking up rumours on potential job loss.

Next, our results confirmed that hearing rumours was negatively related to subsequent perceived organizational change communication. Because of their repetitive nature, rumours seem legitimate. As such, employers' attempts to refute rumours by providing official information may be perceived as untrustworthy (Schweiger & DeNisi, 1991). This result confirms previous longitudinal research of DiFonzo, Bordia, and Winterkorn (2003). In their study, hearing rumours was negatively related to the experienced organizational communication quality in the future. Finally, we may infer that rumours mediate the relationship between job insecurity and future perceived organizational change communication, implying that job insecurity influences an employee's perception of organizational

change communication because of the rumour mill in times of uncertainty.

Limitations

Notwithstanding the insights obtained from this study, we acknowledge some limitations that may have influenced our results. First, our data were collected using self-reported half-yearly measurements, which might raise questions concerning social desirability and common method variance (Podsakoff, MacKenzie, & Podsakoff, 2012). Studying rumours, for instance, is difficult because of its "hidden nature" (Michelson & Mouly, 2004): it is hard to find people who are willing to admit that they tell and hear rumours, because of the negative connotations. However, by collecting data independently of the organization the employees worked for, by guaranteeing confidentiality, and by relying on discretionary participation, we tried to minimize the risks owing to social desirability. Furthermore, an important amount of the risk of common method bias was diminished by using reliable and valid scales to measure our variables and by separating our independent and dependent variables in time in a repeated-measurement design (Conway & Lance, 2010; Doty & Glick, 1998). In addition, we believe that self-reports were suitable given the inherently subjective and idiosyncratic concepts under study.

Next, recollection bias may have affected our results (Stone & Shiffman, 2002). That is to say, respondents might only remember the most vivid, recent, or meaningful rumours. To overcome this issue, we propose the use of experience sampling designs in which respondents are surveyed at random intervals throughout the day (Fisher & To, 2012).

In addition, rumours were measured with only two items, which may not have provided enough information about the dimensionality of the variable. Previous studies suggest that the vast majority of rumours are negative in nature (especially when related to possible job loss, Bordia et al., 2006) and that rumours associated with job security are categorized as internal rumours (i.e., "those of primary interest to company personnel, suppliers, or vendors", DiFonzo & Bordia, 2000). However, including additional items can provide a more comprehensive measurement of rumours. It would, for example, be interesting to explore whether the rumours were heard by chance or rather because workers actively searched for it.

Finally, according to the dropout analysis, dropout was higher among younger respondents and employees working on a part-time basis. In addition, compared to the Flemish working population, women and employees working in the public sector were over-represented, while blue-collar workers were under-represented in the study sample. Michelson and Mouly (2004) argue that rumours may be more affected by contextual aspects,

rather than by individual characteristics such as age, gender, occupational status, or organizational level. We therefore believe that the higher dropout amongst younger and part-time workers, as well as the over-representation of women and the under-representation of blue-collar workers, may not have influenced the results on the relationship of rumours with job insecurity and organizational change communication to an important extent. However, it stays unclear how the over-representation of employees working in the public sector may have influenced the relationships under investigation.

Suggestions for future research

Our findings open up several new avenues for research. First, we found that rumours explained the reciprocal relationship between perceived organizational change communication and job insecurity, thereby concluding that cycles occur over time. Above and beyond this reciprocal relationship, we posit the existence of a negative communication spiral in times of job insecurity. For such a loss spiral to exist, two criteria must be fulfilled: (1) reciprocal relationships, as obtained in this study, and (2) an increase in the strength of the reciprocal relationship across time (Salanova, Schaufeli, Xanthopoulou, & Bakker, 2010). Hence, we suggest that future research could investigate whether—in times of job insecurity—the reciprocal relationship between perceptions of insufficient organizational change communication and rumours intensifies over time.

Second, we advise scholars to investigate the role of trust in leadership, as the meta-analytical review of Dirks and Ferrin (2002) indicates that one seems to make a more positive evaluation of uncertain situations when one trusts management, whereas low trust erodes formal communications and heightens the need for collective informal sense-making. In addition to the direct effects of trust in management, they additionally show that trust moderates the relationship between uncertainty and rumour transmission. More specifically, when trust is high, uncertainty leads to rumour transmission. However when trust is low, uncertainty does not predict rumour transmission as distrust in management leads to rumour transmission even when uncertainty is absent or minimal. Consequently, we advise future research to investigate whether trust in management may prevent rumours and job insecurity, while distrust in management may have additional detrimental effects on the reciprocal relationships found in this study.

Finally, we assumed that a time lag of six months was long enough to detect variance in the study variables, but short enough to hinder all kinds of undesirable changes in the environment that may distort the results (De Lange, 2005). Although we found significant lagged effects between the study variables, these effects could also occur within a shorter or longer term. Therefore, studies

using different time lags may add further insights to these matters.

Practical implications

Job insecurity is difficult to forestall since it often results from factors that are hard to influence, such as organizational restructurings and the national economic situation (De Witte, 2005). Nevertheless, our results suggest that by investing in organizational change communication and as such cutting down rumours, organizations can reduce employees' feelings of job insecurity. Consequently, organizations should establish a clear communication policy when going through periods of change. In this respect, Schweiger and DeNisi (1991) presented specific communication guidelines. Organizations should invest in realistic communication, meaning that they should provide frequent, honest, and relevant information about changes. In case the organization does not have full information about what will happen in the future, management can explain why certain questions cannot be answered yet and ensure that employees are never intentionally deceived. Furthermore, Schweiger and DeNisi (1991) suggested that the information provided should closely tap into employees' concerns, such as possible lay-offs and changes in compensation, and that there should be opportunities for employees to raise questions. The information should also be given as soon as possible, to prevent employees' from relying on rumours. DiFonzo and Bordia (1998) added to these guidelines by promoting an open and collective planning process in which employees affected by change are involved in the planning of the change process as much as possible. These actions may not only reduce employees' feelings of uncertainty, they may also foster perceptions of organizational trustworthiness and fairness among employees (DiFonzo & Bordia, 1998; Schweiger & DeNisi, 1991), which is essential for the success of organizational changes. Finally, investing into organizational change communication may break the negative relationship between (low) organizational change communication and job insecurity via rumours, as suggested by the results of this study.

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