



ORIGINAL ARTICLE

Quantitative and Qualitative Job Insecurity and Idea Generation: The Mediating Role of Psychological Contract Breach

Wendy Niesen^{*||}, Anahí Van Hootegem[†], Yasmin Handaja[‡], Adalgisa Battistelli[§] and Hans De Witte^{†¶}

This study investigates how quantitative and qualitative job insecurity relate to idea generation, a dimension of innovative work behaviour. We hypothesise that both types of job insecurity relate negatively to this type of innovative behaviour, and expect a stronger association between quantitative job insecurity and idea generation. Moreover, we argue that psychological contract breach mediates ('explains') these negative relationships. The hypotheses were tested in a sample of 1420 supervisors from a large Belgian organisation, using hierarchical regression analyses, bootstrapping analyses, and relative weight analysis. The results showed that both types of job insecurity are negatively associated with idea generation. Contrary to our expectations, the relationship between both forms of job insecurity and idea generation was equally strong. Psychological contract breach was found to mediate these relationships.

Keywords: job insecurity; psychological contract theory; idea generation; innovative work behaviour; supervisors

Increased organisational restructuring and downsizing have increased employees' perceptions of job insecurity, i.e., 'the subjective perceived likelihood of involuntary job loss' (Hartley, Jacobson, Klandermans, & van Vuuren, 1991; Sverke & Hellgren, 2002: 43). Apart from anticipation of job loss as such, which is coined as quantitative job insecurity, employees might experience qualitative job insecurity, referring to 'perceived threats of impaired quality in the employment relationship, such as deterioration of working conditions, lack of career opportunities and decreasing salary development' (Hellgren, Sverke, & Isaksson, 1999: 182). Both types of job insecurity have been found to be important stressors, resulting in negative associations with employees' well-being (De Witte, De Cuyper, Handaja, Sverke, Näswall, & Hellgren, 2010), work related attitudes, and health (Cheng & Chan, 2008; Sverke, Hellgren, & Näswall, 2002).

At the same time, societal and industrial changes have increased the need for innovation, as stated by the Europe 2020 strategy (Cooke, Boekholt, & Tödtling, 2000). At the European as well as the organisational level, innovation is considered crucial in achieving the main aims concerning productivity and growth (Freeman, 1994, in Cooke et al., 2000). In addition, organisations need to be innovative in order to respond to, and survive, changing market environments (Anderson, Potočnik, & Zhou, 2014). Hence, an organisation's ability to adjust, compete, and survive strongly depends on innovation (De Jong & Den Hartog, 2007). Such innovation can be displayed by all organisational members through a wide range of behaviours, labelled as innovative work behaviour (IWB). This concept is defined as 'the intentional introduction and application within a role, group or organisation of ideas, processes or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organisation or wider society' (West & Farr, 1990: 9).

Although innovation is a complex process and different approaches exist, the literature on innovation generally distinguishes between two broad phases, namely idea generation and idea implementation (Axtell, Holman, Unsworth, Wall, & Waterson, 2000; Hammond, Neff, Farr, & Schwall, 2011). The ideation stage is defined as the production of new and useful ideas by an individual or a small group of individuals working together (Amabile, 1996), whereas the idea implementation phase refers to advancing, defending, and actually implementing

* Thomas More, BE

† KU Leuven, BE

‡ Imec, BE

§ University of Bordeaux, FR

|| Research Group for Work, Organizational, and Personnel Psychology, KU Leuven, BE

¶ Optentia Research Focus Area, Vanderbijlpark Campus, North-West University, ZA

Corresponding author: Anahí Van Hootegem
(anahi.vanhootegem@kuleuven.be)

these ideas in the workplace (De Spiegelaere, Van Gyes, De Witte, Niesen, & Van Hootegem, 2014). Even though research has suggested that the innovation pattern may be discontinuous, in which employees engage in a cyclical process of idea generation and implementation, (Paulus, 2002; Škerlavaj, Černe, & Dysvik, 2014), innovation necessarily starts with the generation of ideas (Rietzschel, Nijstad, & Stroebe, 2010). As the generation of creative ideas is considered a crucial stepping stone for further innovativeness (Anderson et al., 2014), the present study will focus on this phase of the innovation process.

Idea generation is often referred to as the creativity stage of IWB, and some scholars even view idea generation and creativity as one and the same concept (Patterson, 2002; West & Farr, 1990). Idea generation, however, is best understood as a broad process that encompasses creativity but is not limited to it. This stage of IWB includes the generation of completely novel ideas (i.e., creativity), but it also entails the generation of adopted ideas that apply existing systems to new situations (Hammond et al., 2011).

The current study concentrates on the idea generation of supervisors. This focus is motivated by the higher level of idea generation we expect from supervisors. First, idea generation is frequently motivated or initiated by perceived problems, incongruities, and discontinuities that are encountered at work (Drucker, 1985). As supervisors are often consulted when their subordinates encounter problems, they may more frequently be confronted with situations that encourage them to generate innovative solutions. In addition, supervisors often have higher levels of job complexity, which has been shown to be a precursor to the generation of creative ideas (Shalley, Gilson, & Blum, 2009). Second, supervisors might engage more in innovative work behaviour as the nature of their job provides them with more opportunities to do so (Janssen, 2000). Many studies have shown that supervisors experience higher levels of decision latitude and autonomy, which are generally known as antecedents of IWB (Ramamoorthy, Flood, Slattery, Sardesai, 2005; Hammond et al., 2011). Third, we argue that idea generation will more often be part of supervisor's job requirements, and thus expected by the organisation. The perception of innovativeness as part of their job description encourages supervisors' idea generation as they are more likely to believe that generating ideas will lead to a successful performance (Yuan & Woodman, 2010). Furthermore, prior research has mostly included supervisors as a source to evaluate the IWB of employees (Janssen, 2000; Carmeli, Meitar, & Weisberg, 2006), or as a variable that influences employees' IWB (De Jong & Den Hartog, 2007; Janssen, 2005). The current study contributes to the literature by focusing on supervisor's IWB itself. As we expect idea generation to be more prevalent among supervisors, and as prior research has demonstrated that supervisors also experience job insecurity (Hassard & Morris, 2017; Roskies & Louis-guerin, 1990), we argue that job insecurity will have a more profound impact on the generation of ideas.

Despite the large body of research on job insecurity, little is known about its relationship with idea generation. Our study adds to the existing literature on job insecurity

and idea generation in four different ways. First, by focusing on idea generation, this study will tap into a new category of possible correlates of job insecurity (Sverke et al., 2002). By detaching it from the larger concept of IWB, we adhere to the plea of West (2002) for research that investigates the dimensions of innovative work behaviour separately. Moreover, in contrast to other studies exploring the association between personality or work characteristics and idea generation, this study takes a broader perspective by investigating how the consequences of today's insecure economic climate relate to employees' idea generation (Dorenbosch, Van Engen, & Verhagen, 2005; Ramamoorthy et al., 2005). Second, the qualitative component of job insecurity has remained relatively under-investigated since most research has focused on the detrimental effects of quantitative job insecurity (De Witte, De Cuyper, Vander Elst, Vanbelle, & Niesen, 2012). In response, this study will offer insights into the link between qualitative job insecurity and idea generation. Third, this study will test the relative importance of both types of stressors on employees' idea generation. While both quantitative and qualitative job insecurity are stressors, expected to impair employees' functioning (De Witte et al., 2010), opinions differ concerning the strength of the associations with outcome variables, such as idea generation (Hellgren et al., 1999). Fourth, we attempt to explain these relationships by including psychological contract breach. As psychological contract breach is found to greatly affect employees' behaviour (Turnley & Feldman, 1999), a decrease in idea generation might follow from such breach rather than from the threat of losing valued job features or the job itself. By including a theoretical explanation, the current study adds to the literature on the potential mechanism behind the consequences of job insecurity (Piccoli & De Witte 2015; Vander Elst, De Cuyper, Baillien, Niesen, & De Witte, 2016).

Quantitative job insecurity and idea generation

Quantitative job insecurity is a phenomenon that is situated between employment and unemployment; employees experience the continuity of their current job as threatened (De Witte, 2005; Greenhalgh & Rosenblatt, 1984). Insecure employees do not know whether the perceived negative event (e.g. job loss) will actually take place and this causes strain, resulting in detrimental effects on employees' attitudes and work behaviours such as intentions to quit, reduced commitment, and decreased satisfaction (Ashford, Lee, & Bobko, 1989), and impaired performance (Gilboa, Shirom, Fried, & Cooper, 2008).

The effects of quantitative job insecurity on idea generation can be explained by referring to its stressful nature. Quantitative job insecurity can be categorized as a stressor (Van Vuuren, 1990), causing psychological distress (Hellgren & Sverke, 2003). The experience of psychological distress triggers coping responses, which are characterised by distancing from the source of the stressor (Folkman, 1984). This entails that employees will psychologically increase the distance between oneself, and the job and the organisation, to reduce the negative impact of the work

stressor. In addition, engaging in coping strategies implies that workers will rather direct their energy towards the regulation of emotions than towards the advancement of their performance (Vander Elst et al., 2016). Along these lines, Dekker and Schaufeli (1995) found job insecurity to be related to decreased effort. As idea generation is a behaviour performed 'for the purpose of improvement' (De Jong & Den Hartog, 2008: 7), as a solution to work-related problems (Kanter, 1988), and directed towards the organisation (Ohly, Sonnentag, & Pluntke, 2006), it may be expected that employees will engage less in the generation of new ideas. Indeed, a study by Probst, Stewart, Gruys, and Tierney (2007) demonstrated that quantitative job security is negatively related to creativity. This leads to Hypothesis 1a:

Hypothesis 1a: Quantitative job insecurity is negatively related to idea generation.

Qualitative job insecurity and idea generation

In addition to the threat of job loss, the loss of job features in terms of career progress, income, or job resources (Greenhalgh & Rosenblatt, 1984: 442) might also be threatening for employees. This phenomenon is coined as qualitative job insecurity. Since the increased volatile landscape of organizations can lead to unknown and unpredictable changes in employees' working conditions and career opportunities, the resulting threat and insecurity should not be underestimated. Studies have consistently found negative relationships with attitudinal outcomes, such as intentions to quit, commitment, trust, satisfaction (Ashford et al., 1989; De Witte et al., 2010), and well-being (Hellgren et al., 1999), indicating the stressful nature of qualitative job insecurity. Moreover, the occurrence of this type of insecurity might further increase due to current societal and economic changes resulting in constant restructurings (Datta, Guthrie, Basuil, & Pandey, 2010). The evolution of current work life and the severity of the threat both highlight the relevance of studying the qualitative counterpart.

Despite its negative correlates, qualitative job insecurity has largely remained an 'ignored stressor' (De Witte et al., 2012). Especially in relation to employee behaviour, few scholars have explicitly studied this form of job insecurity. Based on the categorization of qualitative job insecurity as a stressor, it can be argued that this form of insecurity also prompts coping responses. Vander Elst and colleagues (2014) argue that individuals deal with qualitative job insecurity by psychologically distancing oneself from the work situation, and demonstrate that perceptions of qualitative job insecurity lead to job strain.

Therefore, we expect this coping strategy to also manifest itself in the relationship with idea generation, as employees might engage in coping instead of actively searching for ways to improve the organization's performance. As a result, we hypothesize a negative relationship between qualitative job insecurity and idea generation:

Hypothesis 1b: Qualitative job insecurity is negatively related to idea generation.

Comparing both types of job insecurity

While both types of job insecurity are expected to negatively relate to employee behaviour, three contradicting views concerning the relative strength of both types of job insecurity coexist: (1) both are equally detrimental (De Cuyper & De Witte, 2006; De Witte et al., 2010), (2) the strength depends on the outcome under investigation (Hellgren et al., 1999) and (3) quantitative job insecurity is most detrimental for all outcomes (Greenhalgh & Rosenblatt, 1984). Current empirical evidence is in favour of the first view (De Witte et al., 2010). However, the aforementioned evidence is scarce and limited to well-being and health-related behaviour (De Witte et al., 2010). Consequently, it may not be valid to extrapolate these results to behavioural outcomes. Based on the frameworks of Greenhalgh and Rosenblatt (1984) and Jahoda (1982), we expect quantitative job insecurity, in comparison to qualitative job insecurity, to be more detrimental concerning behavioural outcomes. Losing the job as such (compared to losing valued job features) might be perceived as more threatening since it also entails the loss of important functions of employment, such as time structure, social contacts, and social status, leading to more strain (Jahoda, 1982). Hence, a stronger negative relationship with idea generation might be expected (Greenhalgh & Rosenblatt, 1984). As a result, employee withdrawal, demonstrated by decreased idea generation, is likely to be more present under quantitative than under qualitative job insecurity. We therefore hypothesize:

Hypothesis 1c: The relationship between quantitative job insecurity and idea generation will be stronger than that between qualitative job insecurity and idea generation.

The mediating role of psychological contract breach

A psychological contract refers to 'a set of beliefs regarding what employees are to give and receive with respect to their employer' (Roehling, 1997: 204). Both parties make mutual promises at the start of the employment relationship. These promises are at the core of the psychological contract. They mostly consist of contributions of the employee in terms of time, effort, and work attitude, versus promised benefits on the part of the employer, such as salary, appreciation, challenging work, or prospects for promotion (Rousseau & McLean Parks, 1993). Psychological contract breach occurs when one party perceives another to have broken their promise (Robinson & Rousseau, 1994).

Employees expect the organisation to hold to their promises, in terms of continuity of the job (quantitative job security) and of important features of the job (qualitative job security). In the traditional psychological contract, which is dominant in Europe (De Witte, 2005), job security is included as a promise (Lo & Aryee, 2003). Prior research confirms the premise that quantitative job insecurity relates to the perception of psychological contract breach (De Cuyper & De Witte, 2006; Vander Elst

et al., 2016). However, no research to date has explored the above relationship with the qualitative variant of job insecurity. Qualitative job insecurity might be associated with psychological contract breach through unfulfilled promises concerning career progress, income, job resources, and status (Greenhalgh & Rosenblatt, 1984; Schein, 1965). Therefore, we also expect a negative relationship between qualitative job insecurity and psychological contract breach.

We expect psychological contract breach to be negatively associated with idea generation for two reasons. First, when a fair exchange between employer and employee is lacking, employees will restore the imbalance in the employment relationship by reducing their effort at work and decreasing their loyalty (Vander Elst et al., 2016). Indeed, prior research has demonstrated that employees who perceive psychological contract breach respond with lower organizational commitment (Knights & Kennedy, 2005; Sturges, Guest, & Mac Davey, 2000), and organizational commitment has been shown to be a precursor to innovative work behaviour (Ng, Feldman, & Lam, 2010). Along these lines, Shalley and Gilson (2004) state that workers who are not committed to their organisation will be unwilling to give more than their jobs require, meaning that they will be more likely to maintain their current way of performing their tasks than to explore new solutions. Taken together, perceived breach of the psychological contract might manifest itself in reduced idea generation, as reluctance to generate creative ideas may be seen as a form of negative reciprocation (Ng et al., 2010).

Second, previous research has demonstrated that breach of the psychological contract leads to work-related and general strain reactions, suggesting that breach of the psychological contract is stressful in itself (Kiazad, Seibert, & Kraimer, 2014; Vander Elst et al., 2016). A meta-analysis of Zhao and colleagues (2007) demonstrated that the development of negative emotions is the main explaining mechanism in the relationship between psychological contract breach and decreased performance. The experience of stress is linked to coping reactions, which require cognitive resources, resulting in an increased cognitive load (Lazarus & Folkman, 1984). As cognitive flexibility is a crucial requisite for the generation of ideas, the cognitive demands associated with coping might interfere with the ability to make associations between previously disconnected ideas (Perry-Smith & Mannucci, 2017). In line with this, previous research has demonstrated that the manifestation of negative emotions and strain reactions has a negative influence on creativity (Baas, De Dreu, & Nijstad, 2008; Van Dyne, Jehn, & Cummings, 2003).

To date, few studies have addressed the relationship between psychological contract breach and idea generation. Indirect evidence, however, is provided by a number of studies that have demonstrated that perceptions of psychological contract breach are associated with a decline in innovative work behaviour (Newton, Blanton, & Will, 2008; Ng et al., 2010; Ramamoorthy, et al., 2005). In keeping with the aforementioned theoretical

arguments and empirical evidence, we hypothesize that psychological contract breach explains the association between both types of job insecurity and idea generation:

Hypothesis 2a: Psychological contract breach mediates the relationship between quantitative job insecurity and idea generation.

Hypothesis 2b: Psychological contract breach mediates the relationship between qualitative job insecurity and idea generation.

Method

Organizational context

Data were collected by means of an online questionnaire in a large Belgian postal operator and universal service provider. One year prior to the questionnaire, the Belgian postal market completely opened up for competition due to the European law that gradually liberalised postal services. This entailed a shift towards a performance-driven organizational culture that is focused on optimisation, efficiency, and numbers. This increase in competition in the postal industry and the rapid evolution in customer needs also advanced the need to develop new services and new products. In other words, it became increasingly important to be innovative within this sector. In addition to these socio-economic changes, this organisation underwent several restructurings in which various establishments were closed and employees were relocated to new workplaces.

Sample and procedure

Since this organisation has agencies spread over the entire country, both Dutch and French questionnaires were distributed. Prior research has demonstrated the construct equivalence of the core parts of this questionnaire in both language groups (Vander Elst, Eertmans, Taeymans, De Witte, & De Cuyper, 2011). A pilot study in January 2012 tested the questionnaire, after which an envelope with a link to the electronic questionnaire was sent out to the supervisors.

A total of 1,420 supervisors participated in this study (a response rate of 87%), of which 875 were men (61.6%) and 546 were women (38.4%). Age was measured using intervals and ranged from under 25 to over 55 years. Over 66% of the respondents' ages varied between 35 and 54 years, while 19.7% of the respondents were aged over 55. Concerning the obtained level of education, 3.4% of the participants did not obtain a high school degree ($n = 47$), 75.9% did obtain such degree, and 20.7% ($n = 290$) received a degree of higher education or university. Organisational tenure was relatively high: over 54% ($n = 771$) of the respondents had a tenure of at least 10 years, with only 5.5% ($n = 78$) that had an organisational tenure of less than five years. When analysing the tenure of the job, most supervisors had one to five years of on-the-job experience ($n = 697$, 49.3%), while 37.8% had over five years' experience, suggesting a high level of task-related knowledge. None of the supervisors were part of middle or senior management. Regarding the number of subordinates, 30.5% of the supervisors had

one to five subordinates, 11.8% had between six and 10 subordinates, 18.8% had 11 to 20 subordinates, and 38.9% was responsible for more than 20 employees. Our sample mostly included supervisors working on a full-time basis (85.9%, which equals 1,186 respondents). The majority of the sample spoke Dutch ($n = 860$; 60.4%).

Measures

Table 1 reports the means, standard deviations, and correlations of the used scales. The appendix lists all the scale items.

Qualitative job insecurity. Qualitative job insecurity ($\alpha = 0.75$) was measured with three items, with responses ranging from 1 (strongly disagree) to 7 (strongly agree), based on the items of De Witte and colleagues (2010), and has been used in previous research (Urbanaviciute, Bagdziuniene, Lazauskaite-Zabielske, Vander Elst, & De Witte, 2015; Van den Broeck, Sulea, Vander Elst, Fischmann, Iliescu, & De Witte, 2014). A sample item is 'I feel insecure about my future job features and working conditions.'

Quantitative job insecurity. Quantitative job insecurity ($\alpha = 0.70$) was measured with three items from the Job Insecurity Scale (De Witte, 2000, validated by Vander Elst, De Witte, & De Cuyper, 2014). Items were rated on a seven-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is: 'Chances are, I will soon lose my job.'

Psychological contract breach. Psychological contract breach ($\alpha = 0.87$) was measured with four items, based on the scale of Robinson and Morrison (2000). With responses varying between 1 (*totally disagree*) and 7 (*totally agree*), respondents indicate the extent to which the employer has fulfilled the promises that were made during recruitment. A sample item is: 'I have not received everything promised to me in exchange for my contributions.'

Idea generation. Idea generation ($\alpha = 0.90$) was measured with four items from the scale of innovative work behaviour (IWB) from De Jong & Den Hartog (2010). These four items were designed to measure the idea generation component of IWB, which consists of the exploration and generation of innovative opportunities and production of ideas. A sample item is: 'I generate original solutions for problems.' Respondents were asked to rate these statements on a seven-point Likert scale (1 = *never*; 7 = *always*).

Control variables. Given that many socio-demographic variables relate to job insecurity (Näswall & De Witte, 2003), idea generation or IWB (Hammond, et al., 2011), these variables need to be controlled for. In order to avoid spurious correlations, we controlled for the following seven variables: gender, age, level of education, organisational tenure, job tenure, full-time employment, and language.

First, age was measured using intervals and hence coded as a dummy variable with 34–44 years as reference category. Concerning age, younger employees were found to have stronger turnover intentions than older employees, suggesting more withdrawal. Second, young men are often more innovation oriented (Mueller & Thomas, 2000). Hence, our regression model also

included a dummy for gender (1 = female, 0 = male). Third, as highly educated employees are more innovative at work (Scott & Bruce, 1994), level of education was controlled for using intervals with those having a high school degree as reference group. At the same time, blue-collar workers are often lower-educated employees, suffering from more job insecurity (Sverke et al., 2002). Fourth, organisational tenure was included since prior research has demonstrated a negative relationship with IWB (Janssen, 2000). Organisational tenure was measured using intervals and coded as a dummy variable with 0 indicating an organisational tenure between five and 10 years. Fifth, job tenure was also added, as it reflects task-related knowledge, gained through experience. Job tenure between one and five years was coded as the reference category. Sixth, full-time employment (1 = part-time employment; 0 = full-time employment) was taken into account, given that full-time employees have more time (i.e., possibilities) to be innovative at work. Lastly, language (0 = Dutch; 1 = French) was added as a control variable.

Analyses

Before testing our hypotheses, we conducted a confirmatory factor analysis (CFA) to investigate the measurement model. The CFAs were performed using the maximum likelihood method. We compared the hypothesised four-factor measurement model to two alternative models, that is, a three-factor model in which both quantitative and qualitative job insecurity load on one job insecurity factor, and a single-factor model in which all items load on one factor. We used several indices to evaluate the goodness-of-fit of the models, namely the comparative fit index (CFI), the Tucker-Lewis index (TLI), the value of standardized RMR (SRMR) and the root mean square error of approximation (RMSEA). CFI and TLI values of 0.90 indicate an acceptable fit (Bentler, 1990), whereas values higher than 0.95 indicate a good fit (Hu & Bentler, 1999). RMSEA values between 0.06 and 0.08 indicate an acceptable fit, while values lower than 0.06 indicate a good fit (Schermelleh-Engel, Moosbrugger, & Müller, 2003). SRMR values have a cut-off point off 0.08 for a good fit (Hu & Bentler, 1999).

The hypotheses were analysed using the software package SPSS and a macro of Preacher and Hayes (2004). Hierarchical regression analyses were used to investigate the relationship between both types of job insecurity and idea generation. Relative weight analysis was conducted to test the relative importance of both types of job insecurity in predicting idea generation. The indirect relationship between job insecurity and idea generation was tested with regression analyses and bootstrapping.

We followed the procedure of Preacher and Hayes (2004) for the hierarchical regression analyses, entering the variables into the equation in successive steps. In the first step, gender, age, level of education, organisational tenure, job tenure, full-time employment, and language were inserted into the equation. This allowed controlling for the possible confounding effects of background variables. In the next step, our two independent variables,

Table 1: Means, standard deviations and correlations among the variables.

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Women	0.38	na	x														
2. Age under 35	0.14	na	0.07**	x													
3. Age between 45–54	0.34	na	-0.01	-0.29**	x												
4. Age over 55	0.20	na	-0.14**	-0.20**	-0.36**	x											
5. No high school degree	0.20	na	-0.14**	-0.14**	0.05	0.23**	x										
6. Degree of higher ed.	0.17	na	0.06*	0.04	0.04	-0.08**	-0.23**	x									
7. Org. Tenure < 5 years	0.18	na	0.06*	0.51**	-0.20**	-0.20**	-0.14**	0.17**	x								
8. Org. Tenure > 10 years	0.55	na	-0.13**	-0.44**	0.34**	0.39**	0.19**	-0.10**	-0.51**	x							
9. Job tenure < 1 year	0.13	na	0.04	0.13**	-0.04	-0.10**	0.03	-0.04	0.16**	-0.14**	x						
10. Job tenure > 5 years	0.38	na	-0.09**	-0.20**	0.09**	0.21**	0.01	-0.02	-0.25**	0.28**	-0.30**	x					
11. Part-time empl.	0.14	na	0.07*	-0.02	-0.02	0.12**	0.00	0.02	-0.05	0.05	-0.02	0.09**	x				
12. French	0.40	na	-0.02	-0.02	0.00	-0.05*	0.04	0.04	-0.01	-0.06*	0.03	-0.03	-0.02	x			
13. Qualitative JI	4.49	1.27	0.00	-0.08**	0.04	-0.07**	-0.04	-0.04	-0.07*	0.02	-0.07*	0.05*	0.01	0.10**	x		
14. Quantitative JI	3.34	1.42	0.00	-0.06*	0.03	-0.02	-0.07**	0.02	-0.02	0.01	0.00	0.06*	0.04	-0.11**	0.57**	x	
15. PC breach	3.19	1.26	-0.02	-0.02	0.06*	-0.02	-0.05	0.03	0.03	0.00	-0.01	0.06*	0.07*	-0.02	0.36**	0.43**	x
16. Idea Generation	5.43	1.15	-0.01	-0.07**	-0.01	-0.08*	0.02	-0.05	0.05	-0.08**	0.05	-0.09**	-0.03	0.05*	-0.14**	-0.15**	-0.24**

Note: na = not applicable, ed. = education, empl. = employment, JI = job insecurity, PC = psychological contract. Dummies: the reference groups were male, Dutch speaking, fulltime workers, with an age between 35 and 44 years, who obtained only a high school degree and have a tenure of 5 to 10 years in the company and 1 to 5 years in their job. ** $p < 0.01$, * $p < 0.05$.

both types of job insecurity, were simultaneously entered, as was previously done by Hellgren and colleagues (1999). In the last step, the mediator, psychological contract breach, was added into the equation. A bootstrap analysis was conducted via a macro of Preacher and Hayes (2004) using 5,000 bootstrap samples. In this analysis, both independent variables were investigated separately.

Given the strong correlation between both types of job insecurity, their simultaneous inclusion into the regression analysis might hinder accurate estimates, as such analysis assumes all predictors to be independent (Stevens, 1996). As a solution, the relative contribution of both types of job insecurity in explaining idea generation was estimated by conducting a relative weight analysis (Tonidandel & Le Breton, 2011) resulting in estimates of the relative importance of correlated predictors (Krasikova, Le Breton, & Tonidandel, 2011). The variance explained by each predictor is partitioned to gain a clear view on the importance of each variable. The raw weight of each predictor can be considered as the relative effect size, while a bias-corrected accelerated (BCa) confidence interval that does not contain zero indicates whether both predictors differ significantly from each other (Efron & Tibshirani, 1993).

Results

Measurement model

We allowed the correlations of the errors of items 3 and 4 of psychological contract breach as the model modifications of every tested measurement model suggested to do so. Allowing the correlation between the errors of these items can be theoretically substantiated as both items refer to promises. The four-factor measurement model provided an adequate fit to the data ($\chi^2(70) = 700.983$, CFI = 0.94, TLI = 0.923, RMSEA = 0.080, SRMR = 0.049). Moreover, this model resulted in a significantly better fit than the three-factor model or the single-factor model, as indicated by the Chi-square difference test (see **Table 2**).

Hypothesis 1: Job insecurity and idea generation

Hypothesis 1a states that there is a negative relationship between supervisors' insecurity regarding job loss (quantitative job insecurity (JI)) and the degree to which they generate new and useful ideas (idea generation (IG)). Regression analysis confirmed this negative relationship. After controlling the socio-demographic variables, quantitative insecurity was significantly negatively related to employees' idea generation ($\beta = -0.079$; $p < 0.05$; see **Table 3**). Hence, Hypothesis 1a was supported.

Hypothesis 1b concerns the relationship between qualitative job insecurity and idea generation. Hierarchical regression analysis confirmed the negative association between both variables ($\beta = -0.09$, $p < 0.05$) after controlling for background variables (see **Table 3**). This supports Hypothesis 1b. Concerning the explained variance of idea generation, the inclusion of quantitative as well as qualitative job insecurity generates a small but significant increase in R^2 of 0.01 ($p < 0.01$).

Hypothesis 1c explored the relative contribution of each type of job insecurity in explaining idea generation. The proportional contribution of both types of job insecurity to idea generation is almost identical, with quantitative job insecurity ($RW = 0.013$, CI [0.001, 0.026]) contributing a similar amount to idea generation as qualitative job insecurity ($RW = 0.012$, CI [0.001, 0.027]). Given the minimal difference in point estimates and the fact that the 95% confidence interval is adjacent to zero, we conclude that both types of job insecurity have an independent, equally strong relationship with idea generation. Hence, Hypothesis 1c is rejected.

Hypothesis 2: The mediating role of psychological contract breach

Hypothesis 2 concerns the indirect relationship between both types of job insecurity and idea generation, through psychological contract breach. The hierarchical regression analysis indicates a significant direct relationship ($\beta = -0.20$, $p < 0.01$) between psychological contract breach and idea generation after controlling for both types of job insecurity (**Table 3**). Moreover, the relationship between both types of job insecurity and idea generation becomes non-significant, after including psychological contract breach, suggesting mediation.

The bootstrap analyses (5,000 resamples) of Preacher and Hayes (2004) further supported this conclusion. Concerning qualitative job insecurity, the estimated indirect effect was -0.03 (SE = 0.0031) with a 95% bias corrected and accelerated confidence interval from -0.04 to -0.03 . The estimated indirect effect of quantitative job insecurity was -0.04 (SE = 0.00) with a 95% bias corrected and accelerated interval from -0.04 to -0.03 . These results are in line with our second hypothesis and support the mediating role of psychological contract breach in associating job insecurity with idea generation.

Discussion

The main aim of the present study was to examine the relationship between employees' perceptions of job insecurity and a dimension of their innovative behaviour

Table 2: Fit indices of competing nested factor models, standardized maximum likelihood estimates.

Model	χ^2	df	RMSEA	SRMR	CFI	TLI	Model comparison	$\Delta \chi^2$
Model 1	5228,313	76	0,218	016	0,514	0,418		
Model 2	802,426	73	0,084	0,052	0,931	0,914	Model 2–Model 1	4425,887*
Model 3	700,983	70	0,080	0,049	0,940	0,923	Model 3–Model 2	101,443*

Note: * $p < .001$; Model 1 = 1-factor model; Model 2 = 3-factor model (quantitative and qualitative job insecurity load on same factor); Model 3 = 4-factor model.

Table 3: Hierarchical regression analysis.

Control variables	Idea Generation	
	Step 2	Step 3
Women	-0.028	-0.034
Age: Under 35	0.034	0.037
Age: 45–54	-0.012	0.003
Age: Over 55	-0.060	-0.055
Education: no high school degree	0.015	0.009
Education: degree of higher Education	-0.060*	-0.057
Organizational tenure < 5 year	-0.004	0.004
Organizational tenure > 10 year	-0.014	-0.019
Job tenure < 1 year	0.017	0.017
Job tenure > 5 year	-0.063	-0.054
Full-time employment	0.003	0.017
French	0.059*	0.061*
Step 2		
Qualitative job insecurity	-0.090*	-0.056
Quantitative job insecurity	-0.079*	-0.015
Step 3		
PC breach		-.198**
R ² change	0.01**	0.01**

Notes: Standardized regression coefficients. Reference categories are: male, Dutch speaking, full-time workers, with an age between 35 and 44 years, who obtained only a high school degree and have a tenure of 5 to 10 years in the company and 1 to 5 years in their job. * $p < 0.05$, ** $p < 0.01$.

(i.e., ideageneration), and to advance psychological contract breach as a mediating mechanism in this relationship. Regarding the direct relationship between both types of job insecurity and idea generation (Hypothesis 1), we proposed that both forms of job insecurity are negatively related to idea generation. Prior research has demonstrated that quantitative as well as qualitative job insecurity can be viewed as stressors (Cheng & Chan, 2008; Vander Elst et al., 2014). Furthermore, the experience of distress triggers coping responses, which entails that job-insecure workers will be more likely to direct their energy towards the regulation of emotions than to the generation of alternative ideas. In line with this, our results provide overall support for the view that employees who are insecure about losing their job as such (quantitative job insecurity) or about losing valued aspects of their job (qualitative job insecurity) generate less creative ideas. This is in line with previous research that found a negative relationship between quantitative job insecurity and idea generation (De Spiegelaere et al., 2014). To the best of our knowledge, however, no previous studies have addressed the relationship between qualitative job insecurity and idea generation. Interestingly, both types of job insecurity play a role, independent of each other, in statistically predicting employees' idea generation, as they account for the same amount of variance in idea-generating behaviour among supervisors. This indicates that both types of insecurity have similar negative consequences, as suggested by De Witte et al. (2010).

The current manuscript also assessed the mediating role of psychological contract breach (Hypothesis 2). As security about the characteristics and conditions of a

job, and security about the job itself, are included in the traditional psychological contract, we hypothesized that quantitative and qualitative job insecurity are related to perceptions that the organisation did not uphold their part of the deal (De Witte, 2005). Next, we expected psychological contract breach to be related to a decrease in idea generation, which is grounded in two arguments. On the one hand, we propose that employees respond to psychological contract breach by negatively reciprocating the organisation's negative treatment (Robinson & Morrison, 2000). This entails that job-insecure workers react to the unfair exchange by lowering their efforts, which might manifest itself in the unwillingness to generate ideas. On the other hand, psychological breach is stressful in itself, leading to strain reactions (Vander Elst et al., 2016). As prior research has demonstrated that the experience of strain hampers creativity (Van Dyne et al., 2003), we argue that the stressful nature of psychological contract breach negatively influences the ability to generate ideas. Our results provided support for the aforementioned premises, by demonstrating that psychological contract breach plays a mediating role in the relationship between both types of job insecurity and idea generation. This is in line with previous research that has demonstrated that job insecurity is positively related to psychological contract breach (Piccoli & De Witte, 2015; Piccoli, De Witte, & Reisel, 2017; Vander Elst et al., 2016), and that psychological contract breach is negatively related to innovative work behaviour (Ng et al., 2010; Ramamoorthy et al., 2005).

Although framed from the job insecurity perspective, the present research also adds to the innovation literature

by investigating the role of psychological stress processes as antecedents of idea generation. More specifically, this study investigated whether concerns about job continuity or about the loss of important job features hinder idea generation and whether psychological contract breach is responsible for this association. While most studies (Janssen, 2005; Xerri & Brunetto, 2011) investigate the role of antecedents that *promote* idea generation, this study contributed to the limited number of studies that have examined the role of antecedents that *impede* this behaviour. More specifically, previous research has demonstrated that stressors that employees tend to appraise as hindrances are negatively related to idea generation (Byron, Khazanchi, & Nazarian, 2010; Ren & Zhang, 2015). As an extensive body of research on job insecurity has shown that job insecurity can be viewed as a hindrance stressor rather than a challenge stressor (Shoss, 2017; Staufenbiel & König, 2010; Stynen, Forrier, Sels, & De Witte, 2015), our study provides further evidence that hindrance stressors are negatively associated with the generation of new ideas.

We investigated our hypotheses among supervisors, which was based on the notion that supervisors might have a higher level of idea generation. Psychological contract theory expects employees to negatively reciprocate the unfair treatment that they received from the organisations by reducing their efforts (Robinson & Morrison, 2000). Hence, when employees view innovative work behaviour as part of their job description, lowering one's effort may translate itself in lowering one's innovative work behaviour. As prior research findings have demonstrated a strong relationship between the role expectations of employees and their IWB (Unsworth, Wall, & Carter, 2005; Yuan & Woodman, 2010), we expect that breach of the psychological contract might similarly manifest itself in jobs which also require a high level of idea generation.

Limitations

Some limitations need to be taken into account. First, only self-reported cross-sectional data were obtained, leading to two limitations: common method bias and the lack of causal inferences. To reduce the risk of common method variance, the recommendations of Podsakoff and colleagues (2003) were followed. We emphasized that participation in this study was anonymous and voluntary, and we stressed that there were no right or wrong answers. In addition, we tested the factor structure of our measurements. Note that both job insecurity and psychological contract breach are subjective phenomena, requiring an employees' point of view. Future research could, however, incorporate a more objective measure of idea generation. Regarding the lack of causal inferences, we categorised job insecurity as an antecedent of idea generation and not vice versa. A reversed relationship might also exist in which engaging in IWB causes employees to feel more secure about their job. Longitudinal studies are necessary to clarify the direction of the relationship between both variables.

Second, we used coping theory as a foundation to develop hypotheses concerning the direct effect of quantitative as well as qualitative job insecurity on

innovative work behaviour. However, we did not test coping theory, while coping is often operationalised as a mediator between a stressor and a stress response. Hence, future research might benefit from simultaneously including operationalisations of both coping theory and psychological contract theory as mediating mechanisms.

Third, the used scales were shortened versions of original scales. Nevertheless, all of the employed scales showed sufficient internal consistency with Cronbach's alpha's ranging from 0.70 to 0.90.

Fourth, the explained variance of both forms of job insecurity was fairly low. Prior research has demonstrated that job resources might be more relevant antecedents than job demands in explaining creativity and innovativeness at work, which might contribute to the low explanation rate that we found (Anderson et al., 2014; De Spiegelare et al., 2012). Although job demands are generally less strongly related to innovative behaviour, previous research has demonstrated that these stressors also play an important role in predicting innovativeness (De Clercq, Dimov, & Belausteguigoitia, 2016; Ren & Zhang, 2015). In addition, the effect of both types of job insecurity on idea generation remained significant after controlling for an extensive selection of control variables. Therefore, we believe that the results of the present study remain meaningful, especially as perceptions of job insecurity and the need for innovative behaviour both stem from a turbulent organizational environment.

Fifth, we focused on the relationship between job insecurity and idea generation, that is, the first component of innovative work behaviour. Future research could simultaneously investigate the association between job insecurity and both types of innovative work behaviours (i.e., idea generation and idea implementation).

Last, we did not assess the possibility of curvilinear relationships between quantitative and qualitative job insecurity and idea generation. A limited amount of studies have indicated that there is a curvilinear, U-shaped, relationship between quantitative job insecurity and in-role task performance and organizational citizenship behaviours, in which performance decreases under moderate levels of job insecurity, and increases under low and high levels of job insecurity (Lam, Liang, Ashford, & Lee, 2015; Probst, Gailey, Jiang, & Bohle, 2017; Selenko, Mäkikangas, Mauno, & Kinnunen, 2013). Similarly, it is possible that employees with very low levels of quantitative or qualitative job insecurity experience high psychological contract fulfilment, and want to reciprocate by engaging in the generation of creative ideas, while employees with moderate levels of job insecurity might restore the perceived imbalance in the employment relationship by reducing idea generation. At the same time, employees who feel very insecure about their jobs might be motivated to increase their innovative behaviour, as a means to secure their employment. Future research might benefit from investigating these curvilinear relationships.

Conclusion and Practical Implications

The current study tested the association between job insecurity and idea generation, a component of innovative

work behaviour, and introduced psychological contract breach as an explaining mechanism in this relationship. By answering the call of West (2002) to focus separately on the different dimensions of IWB, we believe that this study offers valuable insights into how the current economic climate might impact employees' idea generation. The results of this study have several implications for managerial practices and organisations trying to take full advantage of their employees' innovative potential. Our findings suggest that organisations that want to stimulate idea generation should make sure to maintain the job security of their workforce. The more secure employees feel about their job, the more likely they are to generate new ideas. Therefore, organisations might benefit from implementing interventions that are aimed at reducing perceptions of job insecurity, such as improving organisational communication and participation (Vander Elst, Baillien, De Cuyper, & De Witte, 2010). In the current turbulent economy, however, it might not always be possible to prevent perceptions of job insecurity from occurring in the first place. As a consequence, organisations could also carry out interventions that are aimed at buffering the negative consequences of job insecurity. Prior research has demonstrated that increasing communication, participation and perceived employability enhances job insecure employees' perceptions of control, which, consequently, buffers stress reactions (De Witte, Vander Elst, & De Cuyper, 2015; Silla, De Cuyper, Gracia, Peiró, & De Witte, 2009). In addition, interventions could specifically address the relationship between job insecurity and psychological contract breach. For instance, investing in job insecure employees' job resources might attenuate the negative relationship between job insecurity and psychological contract breach (Hartmann & Rutherford, 2015; Vantilborgh, Bidee, Pepermans, Griep, & Hofmans, 2016), which, in turn, might decrease the negative influence of psychological contract breach on idea generation.

Additional File

The Additional file for this article can be found as follows:

- **Appendix.** Scale items used in the study. DOI: <https://doi.org/10.16993/sjwop.36.s1>

Competing Interests

The authors have no competing interests to declare.

Author Information

Wendy Niesen and Anahí Van Hootegeem are shared first authors.

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How to cite this article: Niesen, W., Van Hooetgem, A., Handaja, Y., Battistelli, A. and De Witte, H. (2018). Quantitative and Qualitative Job Insecurity and Idea Generation: The Mediating Role of Psychological Contract Breach. *Scandinavian Journal of Work and Organizational Psychology*, 3(1): 3, 1–14, DOI: <https://doi.org/10.16993/sjwop.36>

Submitted: 04 May 2017 **Accepted:** 22 February 2018 **Published:** 26 March 2018

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