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Job insecurity: cross-cultural comparison between Germany and China

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Abstract

Purpose – The recent economic crisis gave rise to job insecurity and had a seemingly greater effect on western than eastern countries. The purpose of this paper is to examine cross-cultural differences of the influence of job insecurity on employees' wellbeing, innovative work behaviour (IWB) and safety outcomes in the form of attention-related cognitive errors (ARCES) in Germany as compared to mainland China.

Design/methodology/approach – Samples from both Germany and China rate their job insecurity, work engagement, burnout, IWB and ARCES in a survey.

Findings – For both German and Chinese employees there was an indirect relationship between job insecurity and ARCES through burnout. In the German sample, there was an indirect relationship between employees' job insecurity and IWB through work engagement. In contrast, the Chinese sample only showed the direct relationship between quantitative job insecurity and IWB, but not a mediation effect.

Practical implications – For organizations to be effective and their employees to work safely, it is essential to understand the nature and process of job insecurity in different national contexts.

Originality/value – The present research is unique by relating job insecurity to employee' innovation on the one hand and safety outcomes on the other. Furthermore, these relationships are examined in the cultural contexts of Germany and China, contributing to the gap of research carried out in eastern contexts.

Keywords Innovation, Burnout, Cross-cultural studies, Job insecurity, Organizational safety, Work engagement

Paper type Research paper

One lingering effect of the 2008 financial crisis is increased job insecurity among workers (Van Gyes and Szekér, 2013). Job insecurity has been associated with various negative outcomes both for employees and organizations (e.g. De Witte, 1999), including increased burnout (De Witte, 2000), reduced work engagement (Bosman *et al.*, 2005), reduced work health and well-being among employees (Feng *et al.*, 2008; Siu, 2013), increased turnover intention (Probst and Lawler, 2006), reduced job performance (Wang *et al.*, 2014), specifically with regards to organizational citizenship behaviour (Reisel *et al.*, 2010) and decreased safety motivation and compliance (Probst and Brubaker, 2001).

The perception of job insecurity tends to be more negative in collectivistic than individualistic cultures (Probst and Lawler, 2006). Researchers argue that collectivistic

cultures place higher emphasis on the value of security than individualistic cultures. Yet the research was conducted before the recent economic crisis broke out in 2008. This crisis affected and continues to affect western individualistic countries more than eastern collectivistic cultures (Garrett, 2010). Thus, the question arises whether the change in the global economic environment may have caused a shift in the negative influence of job insecurity from mostly affecting eastern to western countries. The present study aims to clarify this question by comparing the influence of job insecurity in samples from China (i.e. an eastern culture) to Germany (i.e. a western culture). Being able to understand the nature and influences of job insecurity in those two national contexts is necessary for organizations to thrive and be effective.

Employee job performance comprises the major contribution of individuals to the effectiveness of the organization (Schat and Frone, 2011). Two important aspects of job performance are innovative work behaviour (IWB) and attention-related cognitive errors (ARCES). On the one hand, employees' IWB can create novel and useful products, ideas and procedures (De Spiegelaere *et al.*, 2014). By enhancing employees' creative performance organizations can achieve competitive advantages (Shalley, 1995). On the other hand, employees' ARCES can influence their own as well as other people's safety and are highly related to economic losses. It is estimated that workplace injuries, illnesses and fatalities result in economic damages amounting 4-5 per cent of the total global gross domestic product (World Health Organisation, 2008). Therefore, IWB and ARCES are highly relevant to employees' job performance and an organization's economic success.

Though innovation literature largely ignores job insecurity, a recent study found a direct relationship between job insecurity and IWB, as well as a mediation of this relationship by work engagement, in a Flemish sample (De Spiegelaere *et al.*, 2014). The present study takes these findings one step further by examining these relationships in the two different national contexts of Germany and China. In addition, the present study investigates job insecurity's direct influence on ARCES, as well as a mediation of this relationship by burnout. Research suggests a relationship between slip errors at the workplace and high levels of stress and burnout (Donchin and Seagull, 2002). Individuals suffering from burnout self report making significantly more errors at their workplace than their colleagues not suffering from burnout, which has significant implications for their safety at the workplace (e.g. Nahrgang *et al.*, 2011). Therefore, we also investigate burnout as a potential mediator of the relationship between job insecurity and ARCES in the current study.

In sum, we investigate and expect that job insecurity has both a direct negative influence on IWB and an indirect influence through its' negative influence on work engagement. Furthermore, we assume both a direct negative influence on ARCES as well as an indirect effect through its' positive influence on burnout.

Job insecurity

Job insecurity can be defined as "perceived powerlessness to maintain the desired continuity in a threatened job situation" (Greenhalgh and Rosenblatt, 1984, p. 438). Extensive research has documented the negative consequences of job insecurity on employees' well-being and health (for an overview, see De Witte, 1999). The perception of job insecurity is subjective – the same objective situation can be interpreted differently by various employees (De Witte *et al.*, 2012). However, research across

different European countries suggests that job insecurity as perceived by the employee reflects the national economic situation (De Weerdt *et al.*, 2004). Regarding the recent economic crisis, research found that after the recession the saliency of job insecurity remains higher (Auerbach and Gale, 2009).

Additionally, studies suggest that perceived job insecurity reflects an employee's objective chances of becoming unemployed (Näswall and De Witte, 2003). Low-skilled workers, those with a temporary employment contract or employees in certain sectors facing a higher probability of being dismissed perceive higher job insecurity, hence reflecting their objective situation.

Furthermore, two types of job insecurity are recognized: quantitative and qualitative (De Witte *et al.*, 2012). Quantitative job insecurity refers to whether employees feel they will be able to keep their jobs or might become unemployed. Qualitative job insecurity is concerned with being insecure about valued job characteristics like wage, location of employment or working hours.

ARCES

Lapses of attention are inescapable and part of everyday life (Cheyne *et al.*, 2006). Some human errors are merely inconvenient, such as missing a familiar turn-off when driving, while others can have serious consequences like accidents, injuries or even loss of life (Robertson, 2003). Thus, lapses of attention are highly related to personal as well as organizational safety. Work overload, stress and burnout significantly contribute to the occurrence of human errors (Conte and Jacobs, 1997).

Perhaps the most relevant work on attention failures in everyday life has been conducted by Reason (1977, 1979). By using diary studies, Reason had participants record daily action slips. He later used these records to develop a classification scheme for failures in everyday lives. Reason differentiates between two error types, namely slips and mistakes. People make mistakes when they have incorrect or absent knowledge of the task they are performing, like a doctor incorrectly diagnosing a patient because of incorrect medical knowledge or lack of experience. In contrast, people show slips when they have the correct knowledge about a task, but take the wrong action in completing it. For example, you know how to make a cup of coffee, but you reach for salt rather than sugar and add it to your coffee. Avoiding slip errors is more difficult, because they can even happen to people who are very skilled at their task. Slips even prevail in expert performance. In the present paper we focus on slip errors for tasks that are obvious and have adequate rules known to the individual. Following the research by Cheyne *et al.* (2006), we refer to these slip errors as ARCES in the following. Those ARCES of tasks well known to the individual pose a particular risk to organizational safety with all its potentially harmful and costly consequences. Thus, it is highly important to examine factors contributing to lapses of attention.

Job insecurity has been identified as a potential risk to employee safety outcomes (Probst and Brubaker, 2001). Employees reporting high perceptions of job insecurity show decreased safety motivation and safety compliance. This may be due to less cognitive resources being available when employees are preoccupied with the future of their jobs. Stress resulting from job insecurity could take away resources to focus one's attention on the job task and comply with imposed safety regulations (e.g. Probst and Brubaker, 2001). Therefore, we hypothesize that:

H1. Job insecurity will be positively related to ARCES.

IWB

Building on West and Farr (1990), De Spiegelaere *et al.* (2014, p. 319) define IWB as "all employee behaviour directed at the generation, introduction and/or application (within a role, group or organization) of ideas, processes, products or procedures, new to the relevant unit of adoption that supposedly significantly benefit the relevant unit of adoption." Employees showing IWB find, suggest and implement new ideas at the workplace that are beneficial for the organization. Though IWB is conceived as a multi-dimensional concept (Kanter, 1988), most of the literature distinguishes between two sub-dimensions: idea generation and idea implementation (Yuan and Woodman, 2010). Those two phases are not sequential, since innovation is a discontinuous process (Kanter, 1988). In the phase of idea generation employees identify problems and generate innovative solutions to those problems. The implementation phase refers to the proposal, defence and actual implementation of the employees' innovative solution.

IWB is closely related to creativity and yet differs from the concept of creativity in two major aspects (De Spiegelaere *et al.*, 2014). First, IWB is a multi-dimensional construct while creativity focusses exclusively on idea generation. Second, creativity refers to the creation of something completely new. In contrast, IWB refers to something new "for the relevant unit of adoption" (De Spiegelaere *et al.*, 2014, p. 319). Employees who copy external ideas to implement internally in their department or organization demonstrate IWB, while according to definition they do not show creativity. The focus of the present study is on idea generation, since we are mostly concerned with employees' generation of novel solution to problems, even if it might not be possible to implement them due to various external factors.

Few studies focus on IWB and job insecurity. Particularly relevant for the present paper is a recent work carried out by De Spiegelaere *et al.* (2014). The researchers conducted a survey study with a Flemish sample. While they operationalized IWB in the same way as the present study, job insecurity was only measured as a single item, asking participants to evaluate their chances of becoming unemployed for four weeks in the following 12 months. The current study includes a validated scale to measure job insecurity (De Witte, 2000). Moreover, we include both quantitative and qualitative job insecurity. De Spiegelaere *et al.* (2014) found a direct and indirect relationship through work engagement between job insecurity and IWB. Consequently, we expect to find the same link and verify their results in the contexts of Germany and China:

H2. Job insecurity will be negatively related to IWB.

Mediation by burnout and work engagement

Research on IWB and creativity frequently identified work engagement as an antecedent (Shalley *et al.*, 2004). Furthermore, job-insecure individuals show reduced work engagement (e.g. De Witte, 1999, 2000). Work engagement is defined as "a positive fulfilling work related state of mind that is characterized by vigour, dedication and absorption" (Schaufeli *et al.*, 2002, p. 74). Vigour refers to high levels of mental resilience and energy at work, and the willingness to invest effort and persistence even when facing difficulties. Dedication is characterized by a sense of enthusiasm, inspiration, significance, challenge and pride. Absorption refers to being deeply engrossed in and fully concentrating on one's work. In a state of absorption time passes quickly and it is difficult to detach oneself from work. In short, engaged employees have high levels of energy, are enthusiastic about their work and often fully immersed in it so that time flies (May *et al.*, 2004). As previous research showed, work

engagement is an important mediator in the relationship between job insecurity and IWB (De Spiegelaere *et al.*, 2014). The goal of the present study is to test these results in different cultural contexts and therefore we include the following hypothesis:

H3. Work engagement will mediate the relationship between job insecurity and IWB.

Research suggests that work engagement and burnout are opposite poles of the same dimension (Gonzalez-Roma *et al.*, 2006). Burnout is a term coined in the early 1970s by the psychologist and psychoanalyst Herbert J. Freudenberger (1975). In the 1990s the term was given measurable attributes by Maslach *et al.* (2001). In line with Maslach *et al.* (2001), De Oliveira *et al.* (2011, p. 177) define burnout as a "work-related psychological syndrome characterized by emotional exhaustion, low personal accomplishment, and depersonalization." Burnout is a negative emotional response resulting from prolonged exposure to a stressful work environment characterized by cynicism (i.e. a negative and cynical attitude towards one's job), emotional exhaustion (i.e. the draining of emotional resources) and lack of professional efficacy (i.e. belief in one's ability to correctly fulfil the own professional role; Maslach and Jackson, 1984). Emotional exhaustion and cynicism are considered the core burnout dimensions (Green *et al.*, 1991). Reduced efficacy was added as a constituting element of burnout after it emerged as a third factor from a factor-analysis of a preliminary version of the Maslach Burnout Inventory (MBI; Maslach, 1993). In contrast, vigour and dedication are considered the core dimensions of work engagement (Gonzalez-Roma *et al.*, 2006). Vigour is conceived as the opposite of emotional exhaustion, and dedication is conceived as the opposite of cynicism (Schaufeli *et al.*, 2002). Consequently, vigour items and emotional exhaustion items should measure a single underlying bipolar dimension. The same applies to dedication and cynicism. Both should be scalable on a single underlying bipolar dimension as well (Schaufeli *et al.*, 2002).

Job insecurity has previously been linked to increased levels of burnout (De Witte, 1999). Further, burnout was found to be negatively related to working safely (Nahrgang *et al.*, 2011). Consequently, people with higher levels of burnout reported more accidents and injuries. Individuals suffering from burnout have depleted mental and physical energy. Hence, employees suffering from burnout are more prone to injuries and errors. In the medical sector surgeons' degree of burnout was strongly related to major medical errors (Shanafelt *et al.*, 2009). Therefore, we expect that the same will apply to ARCES and that burnout will mediate the relationship between job insecurity and ARCES:

H4. Burnout will mediate the relationship between job insecurity and ARCES.

The present study
The aim of the current research is to examine the mediated relationships between job insecurity and error detection as well as IWB in the two cultural contexts of Germany and China. Following a call from Ahlstrom (2012), who pointed out the absence of research conducted in non-western contexts, the present study contributes to fill this research gap by including a sample from mainland China.

The existing literature on cross-cultural comparisons has been limited due to a focus on individual differences rather than country-level differences as well as their reliance on undergraduate student samples (Oyserman *et al.*, 2002). The present study addresses these issues by examining culture at a national level and by avoiding undergraduate samples.

As noted by Probst and Lawler (2006), in order to truly conduct a cross-cultural comparison, it is important to operationalize culture at the national level. In the present research, we assessed perceived qualitative and quantitative job insecurity, work engagement, burnout, IWB and ARCES in Germany and mainland China. Germany as a western country is a representative of individualistic culture, while China as an Eastern country represents a collectivistic culture (Hofstede, 1980). According to Triandis (1995), the way information is processed is influenced by culture, because culture determines what things are noticed, how they are labelled by language and how they are being interpreted. Moreover, culture provides guiding principles for individuals on how to live their life.

The probably best studied dimension of cultural values is collectivism vs individualism (Hofstede, 1980). Collectivists are defined as an ingroup united by common fate (Triandis *et al.*, 1990). A central aspect of collectivism is "the assumption that groups bind and mutually obligate individuals" (Oyserman *et al.*, 2002, p. 5). In contrast, in individualism individual goals rank higher than ingroup goals (Triandis *et al.*, 1990). Individualists regulate their behaviour based on personal preferences and a cost-benefit analysis. Ingroup confrontation is socially acceptable.

Research as early as Hofstede (1980) showed that collectivistic cultures emphasize job security more than individualistic cultures. Meindl *et al.* (1989) compared the collectivistic cultures of China, Hong Kong and Taiwan to the individualistic culture of the USA and reached the same conclusion. Employees from collectivistic cultures valued job security more than their individualistic counterparts. The seminal work by Schwartz (1990) identified security, conformity and tradition as the core values of collectivism. In a study conducted by Probst and Lawler (2006), employees from China (i.e. collectivist) reacted more negatively to job insecurity than employees from the USA (i.e. individualist) on dimensions like job satisfaction, turnover intentions and work withdrawal behaviours.

However, those studies were conducted prior to the most recent major economic crisis. Experiencing the financial crisis has increased perceptions of job insecurity among European workers (Siu, 2013; Van Gyes and Szekér, 2013). Although Germany's economy is doing better than the economy in other European countries and unemployment rates were contained due to various reactionary policies, the impact of the crisis was comparable to the rest of Europe as measured by the GDP growth rate for 2009 (Chung and Thewissen, 2011). Despite the financial crisis in the USA and Europe, China is still the biggest and fastest-growing economy in the world (Garrett, 2010). Thus, the question that arises is whether China as a collectivistic culture is still experiencing greater impact of job insecurity as compared to Germany as an individualistic culture, even though Europe is still struggling financially. The present study aims to resolve this question:

H5. Germany and China will differ in the strength of the effect of job insecurity on work engagement, burnout, IWB and ARCES, as well as their mediated relationships.

In sum, our hypotheses predict multiple direct and indirect relations between job insecurity, work engagement, burnout, IWB and ARCES. Specifically, we hypothesize that there is both a direct relationship between job insecurity and ARCES (*H1*) and an indirect relationship through an effect on burnout (*H4*). Likewise, we hypothesize that job insecurity has a direct effect on IWB (*H2*) and a negative indirect effect through work engagement (*H3*). Figure 1 depicts the predicted full model.

Method

Participants and procedure

We sampled employees from multiple companies to represent as wide a variety of sectors and organizations as possible to enhance generalizability. Participants were recruited via personal connections of the experimenters. In total, we collected data from 205 employees from China and 374 employees from Germany ($n = 579$).

We used both online questionnaire survey and self-administered questionnaire survey method for data collection in Germany and exclusively self-administered questionnaire survey method for China. The German online questionnaire was programmed in the Google docs option for survey creations. The instructions informed employees that their participation was voluntary and they were ensured of confidentiality and anonymity of their responses. The items in the questionnaire, the instructions and the introduction were double-translated following the procedures outlined by Brislin (1980) for use with the German and Chinese sample.

The German sample was 65.1 per cent female with a mean age of 39 years (standard deviation = 12.3), and mean job tenure of 9.1 years (standard deviation = 9.1 years). The majority (62.4 per cent) was married, cohabitating or living with family/parents, had above lowest formal qualification (43.9 per cent). Regarding their employment status, most of the participants had a permanent working contract (76.8 per cent) and worked full-time (63.5 per cent). On average, they worked 34.6 hours per week (standard deviation = 10.7 hours/week). The Chinese sample was 37.9 per cent female with a mean age of 36 years (standard deviation = 9.8 years), and mean job tenure of 8.0 years (standard deviation = 8.4 years). Overall, 75.2 per cent of them were married, cohabitating or living with family or parents and the vast majority reported an education level of higher secondary qualification (91.3 per cent). More than half (54.1 per cent) had a permanent employment contract and worked full-time (95.5 per cent) with an average of 43.3 working hours per week (standard deviation = 7.2 per cent). Participants from both samples worked in a variety of industries, the most common being general service industry, retail/sales service, social/health services and the educational sector.

Measures

Participants were asked to rate each item on a six-point Likert scale ranging from 0 (never) to 6 (always), except for the scales measuring quantitative and qualitative job insecurity and employability. For those three scales items were rated on a six-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). As can be seen from Table I, the internal reliabilities of the scales in both the German and Chinese samples were high.
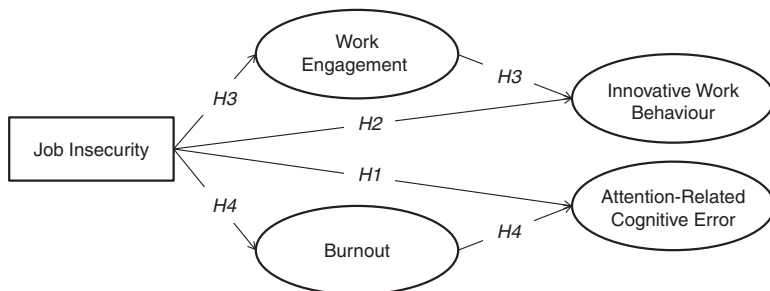

Figure 1.
Predicted model

	Chinese		German		F	p	1	2	3	4	5	6
	Mean	SD	Mean	SD								
1. Quantitative job insecurity	3.29	1.30	2.51	1.23	48.48	<0.01	0.89/0.91	0.55**	−0.35**	0.48**	−0.13**	0.18**
2. Qualitative job insecurity	3.29	1.20	2.98	1.89	7.70	0.01	0.70**	0.86/0.90	−0.42**	0.55**	−0.23**	0.18**
3. Work engagement	4.19	0.87	4.03	1.05	3.00	0.08	−0.01	−0.03	0.90/0.95	−0.76***	0.45**	−0.26***
4. Burnout	3.09	0.72	2.71	0.79	33.30	<0.01	0.43**	0.53**	−0.27**	0.80/0.92	−0.37**	0.42**
5. Innovative work behaviour	4.00	0.78	3.71	0.93	12.32	<0.01	−0.17*	−0.17*	0.39**	−0.23**	0.83/0.86	−0.08
6. Attention-related cognitive errors	3.07	0.99	2.41	0.72	83.83	<0.01	0.32**	0.40**	0.05	0.64**	−0.06	0.94/0.89

Notes: Total $n = 579$. The upper triangle is the German sample correlation matrix, the lower triangle is the Chinese sample correlation matrix. Cronbach α are on the diagonal. $*p < 0.05$; $**p < 0.01$

Table I.
Means, standard deviations, correlation matrices and Cronbach α for the Chinese ($n = 205$) and German ($n = 374$) samples

Quantitative job insecurity was measured with the Job Insecurity Scale developed by De Witte (2000). The scale consists of four items, e.g. "Chances are, I will soon lose my job."

Qualitative job insecurity was measured with four items by De Witte (2000). A sample item is, "I think my job will change for the worse."

Work engagement was measured with the nine item version of the Utrecht Work Engagement Scale (UWES-9) developed by Schaufeli *et al.* (2006). This scale measures the three sub-dimensions of work engagement with three items per dimension: vigour (e.g. "At my work, I feel bursting with energy"), dedication (e.g. "My job inspires me") and absorption (e.g. "I get carried away when I am working"). The Chinese version was published in Siu *et al.* (2010).

Burnout was measured with the MBI-General Survey (Schaufeli *et al.*, 1996). The scale includes exhaustion (five items), cynicism (five items) and professional efficacy (six items). Burnout is indicated by high scores on exhaustion and cynicism and low scores on professional efficacy. Items include whether the individual feels emotionally drained from work (exhaustion), feels able to effectively solve problems that arise from work (professional efficacy, reverse coded) and doubts the significance of the work (cynicism).

ARCES were measured with 12 items by Cheyne *et al.* (2006), e.g. "I have absent-mindedly placed things in unintended locations (e.g. putting milk in the pantry or sugar in the fridge)".

IWB was measured with four items related to idea generation developed by De Jong and Den Hartog (2010). Sample items include, "How often do you wonder how things can be improved" or "How often do you generate original solutions for problems?"

Demographic information and control variables. Single questions asked participants to indicate their age, gender (1 = male, 2 = female), relationship status/living situation (1 = married/cohabiting/living with family or parents, 2 = not married), education level (1 = no formal qualification, 2 = lowest formal qualification, 3 = above lowest formal qualification, 4 = higher secondary qualification, 5 = university degree), tenure on the job, contract type (1 = permanent, 2 = non-permanent), employment type (1 = full-time, 2 = part-time) and average working hours per week. Research suggests that employability, i.e. employees' perception of how easy they could find a new job, is a form of job security (Berntson *et al.*, 2006). Therefore, we investigate employability as an additional variable in the present paper. Employability was measured with four items (De Witte, 2000), e.g. "I will easily find another job if I lose this one". Additionally, we measured employees' perceived social safety net ("Please rate your social safety net in case of unemployment") and their perceived level of dismissal protection with one item, respectively. Participants were asked to rate the items on a Likert scale ranging from 1 (very bad) to 6 (very good).

Analytical strategy
Data have been checked for outliers defined as deviating three standard deviations from the mean. No outliers have been identified according to this definition and thus no data points have been removed. We performed multigroup confirmatory factor analyses in AMOS 22 (Arbuckle, 2013) to examine the measurement equivalence of scales to test whether participants in Germany and China interpreted the scale items similarly. Since structural equation modelling cannot be conducted with missing data in AMOS, we deleted cases with missing data listwise. We used maximum likelihood

estimation to evaluate model fits. Results provided support for the measurement invariances across scales.

Data analysis was divided into two steps. In the first step we tested for direct and indirect effects hypothesized in *H1* through *H4*. We performed bootstrapping in SPSS 21 using the PROCESS macro (model 4 = mediation) developed by Hayes (2012). In the second step we performed multivariate analyses to explore mean differences between countries. Multivariate normality was not given, but in many cases, like data being collected on a normal scale, it has been argued that multivariate normality may not be a viable or appropriate assumption (Khattree and Naik, 2000). We then examined whether the predicted paths in our theoretical model (see Figure 1) were equal in both nations (structural invariance). In addition, we performed supplementary analyses to address potential alterative explanations for our findings.

Results
Within-cultural analysis
Table I shows means, standard deviations, scale reliabilities and zero-order product-moment correlations for each of the study variables in the German and Chinese sample. As can be seen from this table, quantitative job insecurity was positively related to burnout in both the German ($r = 0.48$, $p < 0.01$) and the Chinese sample ($r = 0.43$, $p < 0.01$). Similarly, qualitative job insecurity was positively correlated with burnout in both the German ($r = 0.55$, $p < 0.01$) and Chinese sample ($r = 0.53$, $p < 0.01$). Both samples show positive correlations between quantitative job insecurity and ARCES (Germany: $r = 0.18$, $p < 0.01$; China: $r = 0.32$, $p < 0.01$), as well as qualitative job insecurity and ARCES (Germany: $r = 0.18$, $p < 0.01$; China: $r = 0.40$, $p < 0.01$). Regarding work engagement, in the German sample both quantitative ($r = -0.35$, $p < 0.01$) and qualitative ($r = -0.42$, $p < 0.01$) job insecurity were negatively related to work engagement. However, in the Chinese sample neither quantitative ($r = -0.01$, $p = $ ns) nor qualitative job insecurity was correlated with work engagement ($r = -0.03$, $p = $ ns). Furthermore, quantitative job insecurity was negatively related to IWB in both samples (Germany: $r = -0.13$, $p < 0.05$; China: $r = -0.17$, $p < 0.01$), as was qualitative job insecurity (Germany: $r = -0.23$, $p < 0.01$; China: $r = -0.17$, $p < 0.05$).

For the mediation analyses we drew 1,000 bootstrapping samples to get bias-corrected and accelerated 95 per cent confidence intervals (BCa CI) for the indirect effect of quantitative and qualitative job insecurity on IWB. In the German sample, quantitative job insecurity had a significant indirect effect on IWB through work engagement, $b = -0.122$, BCa CI (-0.174, -0.078). This represents a medium to large effect, $\kappa^2 = 0.161$, 95 per cent BCa CI (0.101, 0.224). Likewise, qualitative job insecurity had a significant indirect effect on IWB through work engagement, $b = -0.141$, BCa CI (-0.193, -0.096). This also represents a medium to large effect, $\kappa^2 = 0.173$, 95 per cent BCa CI (0.121, 0.230). Furthermore, quantitative job insecurity had a significant indirect effect on ARCES through burnout $b = -0.010$, BCa CI (0.087, 0.167), which is a medium effect, $\kappa^2 = 0.187$, 95 per cent BCa CI (0.140, 0.256). Regarding qualitative job insecurity, there was also a significant indirect effect on ARCES through burnout $b = 0.153$, BCa CI (0.117, 0.199), representing a large effect, $\kappa^2 = 0.220$, 95 per cent BCa CI (0.168, 0.282). Thus, in the German sample the relationships between quantitative and qualitative job insecurity and IWB as well as ARCES were fully mediated by work engagement and burnout, respectively. Therefore, results refute our *H1* and *H2* (regarding direct relationships), but confirm our *H3* and *H4* (regarding indirect relationships) in the German sample.

Regarding the Chinese sample, burnout fully mediated the relationship between quantitative job insecurity and ARCES in the Chinese sample, $b = 0.196$, BCa CI (0.135, 0.265), representing a large effect, $\kappa^2 = 0.266$, 95 per cent BCa CI (0.191, 0.352). In addition, burnout also fully mediated the relationship between qualitative job insecurity and ARCES, $b = 0.262$, BCa CI (0.193, 0.339), being a large effect, $\kappa^2 = 0.306$, 95 per cent BCa CI (0.234, 0.383). Thus, our *H1* has been refuted, while *H4* has been confirmed for the Chinese sample.

As expected from the correlations, work engagement did not mediate the relationship between quantitative job insecurity and IWB, $b = -0.002$, BCa CI (−0.036, 0.029), and neither between qualitative job insecurity and IWB, $b = -0.009$, BCa CI (−0.047, 0.025). However, using AMOS to test the overall model (Figure 2), there was a negative direct relationship between quantitative job insecurity and IWB ($r = -0.17$, $p < 0.05$), though there was no significant direct relationship between qualitative job insecurity and IWB ($r = -0.15$, $p = $ ns). Hence, our *H2* (a direct relationship between job insecurity and IWB) has been confirmed for quantitative, but not qualitative job insecurity. Our *H3* regarding an indirect relationship between quantitative and qualitative job insecurity and IWB through work engagement has not been confirmed in the Chinese sample.
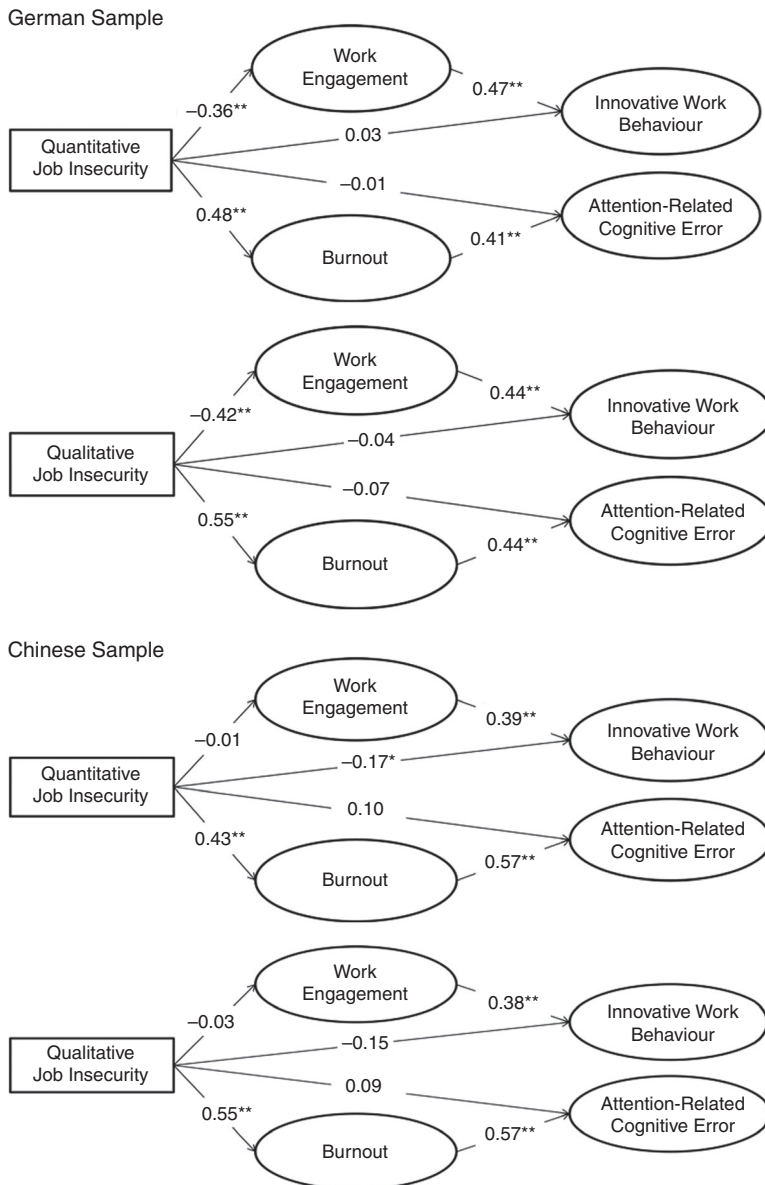
Cross-cultural analysis
We conducted a multivariate analysis of variances to assess mean differences between Germany and China. Table I reveals several differences between the two countries. The samples show significant mean differences across all variables except work engagement. Chinese participants scored significantly higher on all variables than their German counterparts.

For quantitative job insecurity as independent variable, the difference between the unconstrained model and the structural model with invariant structural weights is $\chi^2 = 54.77$ with the associated p-value of 0.001. We obtained similar results for qualitative job insecurity with the difference between the unconstrained model and the structural model with invariant structural weights being $\chi^2 = 60.76$ and a p-value of 0.001. In sum, there was structural invariance between the two models for both quantitative and qualitative job insecurity across nations. These results support our *H5*, showing differences between the German and Chinese samples.

Supplementary analysis
In addition to the analyses above we conducted supplementary analyses for a further exploration of our data and to rule out alternative explanations. Since job insecurity is overall higher in China than in Germany (see Table I), we examined whether there were also significant differences in perceived employability. As suggested by Probst and Lawler (2006), if Chinese employees perceive higher job insecurity and lower chances for re-employment, taken together the effect might be particularly strong and explain the higher scores on all other variables compared to the German sample. As can be seen in Table I, Chinese employees perceived higher levels of employability than German employees, $F(1, 26.26) = 21.20$, $p < 0.001$. Thus, perceived employability does not have the suggested elevated effect on job insecurity in China.

Since there was a cross-cultural difference of job insecurity between Germany and China, other important aspects to consider are employees perceived level of dismissal protection and their perceived social safety net in case of unemployment. Results as displayed in Table I show significant differences between cultures both for the

Figure 2.
Structural equation
models for German
and Chinese samples
with quantitative
and qualitative job
insecurity as
independent
variables

Notes: Numbers represent standardized regression coefficients in the unconstrained model. ** $p < 0.01$; * $p < 0.05$

perceived safety net, as well as for perceived dismissal protection. Germany showed significantly higher means than China in their level of perceived dismissal protection, $F(1, 12.07) = 6.8$, $p < 0.001$. In terms of social safety net, the collectivist culture China showed significantly higher means, $F(1, 36.24) = 19.16$, $p < 0.001$.

Discussion

In the German sample, quantitative and qualitative job insecurity had an effect on ARCES through burnout, without demonstrating a direct relationship. The same results were found for the Chinese sample, with quantitative and qualitative job insecurity indirectly influencing ARCES through burnout, but again no direct effect. Results show that job insecurity influences ARCES in both German and Chinese samples, suggesting that it is a cross-cultural concern. Since errors at the workplace undermine organizational safety and might result in accidents, employees might not only harm themselves, but might also endanger those people around them. Furthermore, errors and accidents can be very costly for organizations (Whitman, 2014). Therefore, job insecurity should be considered as an important factor contributing to a greater risk for making errors.

Apart from being more prone to errors, for German employees, quantitative and qualitative job insecurity also indirectly influenced IWB through work engagement, while there was no direct relationship. In comparison, for Chinese employees, there was a direct relationship between quantitative job insecurity and IWB, but no indirect relationship through work engagement. In addition, qualitative job insecurity neither directly nor indirectly influenced IWB in the Chinese sample. Overall, results show that employees generated fewer innovative ideas when experiencing quantitative job insecurity. These results are partly in line with previous research conducted by De Spiegelaere *et al.* (2014). They found both a direct and indirect relationship between job insecurity and IWB in a western (Flemish) sample. The present study found an indirect relationship only for the German sample, but not for the Chinese sample. Chinese workers did not show a decrease in work engagement due to job insecurity. Consequently, there was no indirect effect of work engagement on the relationship between job insecurity and IWB. However, for quantitative job insecurity, there was a direct effect on IWB. These findings show the importance of cross-cultural research. Results obtained in one country do not necessarily apply in others.

Previous research in western countries suggested that employees facing job insecurity are less engaged in their work because they perceive powerlessness and lack of control (Vander Elst *et al.*, 2011). Our results from the German employees corroborate those previous finding. In contrast, Chinese employees showed higher levels of engagement. Perhaps the threat of job insecurity motivates Chinese employees to work harder to avoid being laid-off (Heery and Salmon, 2002).

Despite the dramatic changes in the global economy since 2008, Chinese employees still perceive higher job insecurity than their Western counterparts (Probst and Lawler, 2006). That was the case for both qualitative and quantitative job insecurity, even though Chinese employees perceived higher employability. Moreover, Chinese employees showed higher levels of burnout and were more likely to make ARCES. This cultural difference might be explained by the different social security systems in Germany and China. Germany still has an extensive social security system, while China's social security coverage widely differs between urban and rural areas and even though insurance schemes exist, e.g., in case of unemployment, many companies do not enroll all of their employees (Huang, 2011). In fact, our results show that German employees perceive better protection from work dismissal than their Chinese counterparts. This perception reflects the actual real-life situation as pointed out by the OECD (2013a, b). Specifically, Chinese employers may terminate an employment by giving the worker 30 days advanced written notice, regardless of tenure. In Germany the length of the notice period varies between 2 weeks during a trial period and up to

seven months for tenure of 20 years or higher. Regarding their perceived social safety net in case of unemployment, Chinese experience a higher social safety net than Germans in the present study. This may reflect the cultural difference of collectivism, in which families tend to have a closer bond (Hofstede, 1980), and thus provide Chinese employees with the perception of a higher social safety net than their German counterparts, though objectively social safety imposed by the German government would be higher than the Chinese governmental safety net. Still, despite perceiving a better social safety net, Chinese employees experience greater fear of losing their job. A possible explanation could be that since security is a core value in collectivism (Schwartz, 1990), insecurity over one's job remains a larger problem in China regardless of the actual economic situation in the world.

Implications

Our results indicate that job insecurity undermines organizational safety and effectiveness. Thus, it is highly important for organizations to consider these factors when going through mergers, downsizing, acquisitions or other developments that might threaten their employees' job insecurity. Job insecurity implies unpredictability and uncertainty of the future for the employee (De Witte, 2005). Therefore, in order to reduce the negative impact of this uncertainty, organizations can take certain practical steps to reduce the negative consequences. First, open communication has been shown to reduce the negative impact of job insecurity, because it increases predictability of events (Schweiger and DeNisi, 1991). Second, giving employees the opportunity to participate in the decision making process reduces their feeling of helplessness (Parker *et al.*, 1997). Taking these two steps also increases employees' perception of a fair treatment, further enhancing predictability of organizational change processes and expected outcomes (Greenberg and Lind, 2000).

Furthermore, the present study shows the importance of cross-cultural research on job insecurity by demonstrating that findings from western countries do not necessarily translate to Eastern countries, contributing to theories and development of organizational psychology. Specifically, German employees facing job insecurity are likely to show reduced work engagement and IWB. For Chinese employees, work engagement is less likely to be reduced, while employees still display lower levels of IWB. These findings have practical implications for CEOs and human resource managers, with cross-cultural applications.

Limitations and future research

One of the limitations of this study is the cross-sectional data, which does not allow us to establish causal relationships. In addition, we use a single method that might inflate associations between concepts, though literature suggests that single method still provides valuable results (Spector, 2006). Another aspect is common method bias. Following the suggestion by Gardner *et al.* (1998), we varied response scale formats in an attempt to reduce common method bias. Moreover, we had a between-subjects design. Though we have chosen this design to enhance generalizability, future research might benefit from comparing samples working for the same company in different countries to enhance comparability between samples.

The present study focused on outcomes of job insecurity. Future research might explore antecedents, specifically reasons why China is experiencing higher job insecurity than western countries (Probst and Lawler, 2006). Moreover, future research

should investigate the underlying reasons for the cross-cultural difference of the influence of job insecurity on work engagement.

Conclusion

The consequences of the economic crisis are likely to shape our economic future for a lot more time to come (Auerbach and Gale, 2009). As shown in the present study and previous research (for a comprehensive review see De Witte, 2005), job insecurity has many negative implications for both the employee and the organization as a whole. When employees make more cognitive errors due to lack of attention related to job insecurity, it can be very dangerous to their own health, other people's safety and it can cause costly accidents for the organization. Likewise, organizations are losing employees' innovative potential, if employees are preoccupied by job insecurity. For organizations to work effectively, it is very important to understand the nature and process of job insecurity in different cultural or national contexts.

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