

The relationship Between Job insecurity and Sleep Quality: A Moderated Mediation Model

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Abstract. Extant research shows that a variety of job stressors have a detrimental impact on the employee sleep quality. However, it is not yet known about the influence of job insecurity on employee sleep quality. Therefore, this study aimed to address this gap in the literature. Based on conservation of resources theory, we investigated the mediating role of affective rumination and the moderating role of resource management ability. Data analysis of 218 valid questionnaires in China demonstrated that affective rumination mediated the negative relationship between job insecurity and sleep quality. We further found that high levels of resource management ability buffer the positive effect of job insecurity on affective rumination. Finally, we discuss the theoretical and practical implications, and make suggestions for the direction of future study.

1. Introduction

Sleep quality refers to difficulties of falling sleep, maintaining sleep, and the number of awakenings experienced during the night (Harvey et al., 2008). As an important reference index of mental health, negative effects of poor sleep quality were especially problematic in individual positive mood (Scott & Judge, 2006), job attitudes (Toker et al., 2015), behaviors (Kühnel et al., 2016) and job performance (Gaultney, 2014).

In fact, poor sleep quality is relevant to Chinese employees due to long work hours and job stressors (Wang, 2016), a trend that is expected to continue in the near future. Managers and scholars have sought to seek a variety of job stressors that may threaten employee sleep quality. For example, some studies explored the antecedents of sleep quality in the context of task-related job stressors (i.e., time pressure, job demands and shift work) (Berset, 2011; Loft & Cameron, 2014; Charles et al., 2007). Other scholars tested social stressors (e.g., distinct workplace bullying experiences and customer mistreatment) as the antecedents of employee sleep quality (Magee, 2015; Park & Kim, 2018). However, other important stressors, such as career-related stressors at work, have been neglected. In this study, we argue that job insecurity, which is taken as an important career-related stressor (Sonnetag & Frese, 2003), affects individual sleep quality drawing from conservation of resources theory (COR). The conservation of resources theory proposed that stress could give rise to psychological strain (Hobfoll, 1989, 2001). A growing focus on restructuring, mergers, and layoffs may contribute to increasing job insecurity and posing a threat to psychological well-being among employees (de Jong et al., 2016).

Although, prior studies have suggested that “detachment” and “emotion” are two kinds mediating mechanism to explain how job stressors affect employee sleep quality (Clinton et al., 2017; Garcia et al., 2018). However, this study will explore the impact of job insecurity on sleep quality from the affective rumination, which is taken as a cognitive state and negative in affective

terms (Pravettoni et al., 2007). Affective rumination has been associated with several health problems, such as cardiovascular diseases, negative mood, and sleep disturbances (Cropley & Zijlstra, 2011). It has been identified as a key mechanism explaining the relationship between job stressor and strain outcomes (Berset et al., 2011; Davis et al., 2016). The “Perseverative Cognition Model of Stress” holds perseverative cognition as one mechanism through which stress is linked to strain. Above all, affective rumination may present a resource loss for individual and exactly explain how job stressor negatively affects individual sleep quality.

In addition, not all employees respond in the same fashion to job insecurity (Greenhalgh & Rosenblatt, 1984). A limited stream of research demonstrates that individual characteristics influenced the way employees react to such adverse work conditions (Roskies et al., 1993; Mark & Mueller, 2000; Jordan et al., 2002). For example, Yuan and Wang (2016) found that personality trait (i.e., external attribution) influenced the extent to which employees responded to perceived general insecurity. ten Brummelhuis and Bakker (2012) found that people who had more resources were better equipped to deal with stressors. We leverage COR theory to provide a broad investigation of the role of individual resource in moderating the relationship between job insecurity and affective rumination. We do so by focusing on resource management ability which has received much attention within the management research over the past few years (Hochwarter et al., 2007; Frieder et al., 2015).

Given these issues, our research makes several contributions. First, we used two dimensions of job insecurity developed by Hellgren et al. (1999) including quantitative and qualitative job insecurity. This construct enhances our understanding the different effects of job insecurity on sleep quality. Second, according to COR theory, we explored a resource loss mechanism by regarding affective rumination as a mediator to explain how job insecurity manifests its effects on sleep quality. Third, based on COR theory, we considered an important individual-level resource, resource management ability, as a moderator between job insecurity and affective rumination. Finally, we tested the moderated mediation model in order to demonstrate that the extent to which affective rumination mediates the relationships between job insecurity and sleep quality depending on resource management ability. The model framework of this study is shown in the Figure 1.

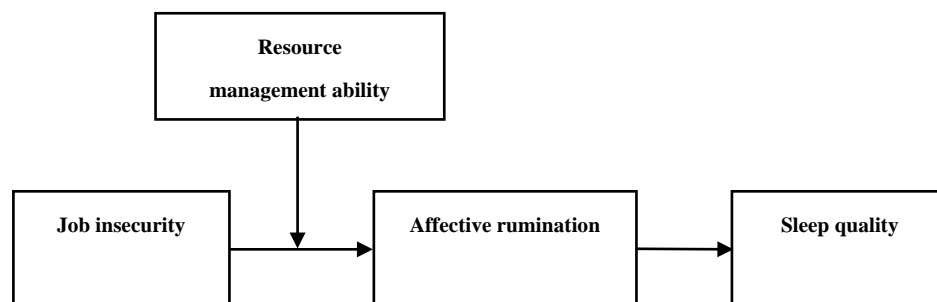


Figure 1 Conceptual model

2. Literature Review and Hypotheses

2.1 Job Insecurity and Sleep Quality

Job insecurity refers to a sense of powerlessness to maintain desired continuity in a threatened job situation (Greenhalgh and Rosenblatt, 1984). We use the terms quantitative and qualitative job insecurity, which reflect two dimensions of perceived loss of continuity in a job situation (Hellgren

et al., 1999). Quantitative job insecurity refers to the extent to which individual is concerned about the future existence of the current job, while qualitative job insecurity pertains to perceived threats of impaired employment relationship, such as lack of career opportunities and decreasing salary development. Prior studies have showed that job insecurity had negative effects on subsequent job satisfaction and physical symptoms (Heaney et al., 1994). Furthermore, according to a meta-analysis conducted by Huang et al. (2012) also found that job insecurity can lead to impaired well-being and job performance. Recently, Mauno et al. (2017) demonstrated that job insecurity had a spillover effect, such as work-family conflict, impaired marital satisfaction and poor parent-child relationship.

Why is job insecurity associated with lower levels of employee sleep quality? The main tent of conservation of resources theory (COR) (Hobfoll, 1989, 2001) proposes that individuals strive to obtain and conserve resources, such as objects, conditions or energies. Stress occurs when individuals perceive objective resources (salary, career promotion) are likely to be threatened. COR theory further points out resource losses from one domain (e.g., work) can spill over to another (e.g., home; ten Brummelhuis & Bakker, 2012). In the context of this study, we believe that one important resource loss due to job insecurity can lead to difficulty in ability to initiate and maintain sleep. More specifically, job insecurity is significantly positive with psychological contract breach (Vander Elst et al., 2016), and psychological contract breach has a negative impact on employee insomnia (Garcia et al., 2018).

Previous studies have shown that the work-related stress made the maintenance of sleep to be more difficult (Rafferty et al., 2010). Grunberg et al. (2006) found that managers issuing the warnings to dismiss the employees significantly increased their emotional exhaustion, and then led to repeatedly waking up and difficulty in falling asleep. Similarly, when individuals reported higher levels of organizational embeddedness, the negative influence of job insecurity on sleep quality was enhanced (Allen et al., 2016). Given these theoretical and empirical considerations, we propose the following:

H1. Job insecurity is negatively related to individual sleep quality.

2.2 Job Insecurity and Affective Rumination

A survey reveals that 72% of individuals worry about their job after work sometimes, with 22% of describing themselves as regular worries. Moreover, 11% state they worry about their job after work much of the time (Gallie et al., 1998), and this state of perseverative cognition has been increased continuously in the past years (Felstead et al., 2002). Affective rumination, which is described as a cognitive state characterized by the appearance of intrusive, pervasive, recurrent thoughts about work and covered by negative mood, is an important component of work rumination. In line with COR theory, we view affective rumination as a source of resources loss such as job control, hope and time for recovery (Brokovec et al., 1991; Everson et al., 1996; Querstret and Cropley, 2012). If a stressor is controllable, there is less likely to ruminate about it after work. At the same time, perseverative cognition prolongs the cognitive representation of the stressor, therefore contributes to further perceived uncontrollability (Brosschot et al., 2006). Additionally, psychological detachment, which is opposite to affective rumination, is positive to recovery from job stressors (Sonnentag & Fritz, 2015). Researchers have found affective rumination can lead to chronic and acute work-related fatigue (Querstret & Cropley, 2012), less life satisfaction and

happiness (Karabati et al., 2017). Therefore, affective rumination after work can be regarded as a demand, which contributes to resource loss.

We argue that job insecurity is positive with affective rumination. First, job insecurity has been taken as a resource loss, and COR theory holds that initial losses lead to further losses (ten Brummelhuis & Bakker, 2012), hence job insecurity can increase individual affective rumination. Second, job insecurity is considered as hindrance job demand (Cavanagh et al., 2000), which hinders personal growth and task accomplishment. Research has indicated that goal failure relates positively to state rumination (Jones et al., 2013). Third, prior studies suggest trying to push unwanted thoughts out of consciousness (i.e., suppression) may actually make the thought more accessible (Erber & Wegner, 1996; Wegner et al., 1987). In face of a demand and stress (i.e., job insecurity) may make it unavoidable to negatively think about work-related matters during their free time (i.e., affective rumination).

From the empirical point of view, Cropley and Purvis (2003) proved that high levels of job demand contributed to the loss of the ability to arrange the free time and increased their rumination after work. Weigelt et al. (2018) demonstrated that unfinished work tasks had an indirect effect on work-related rumination at weekends via lower levels of competence need satisfaction. In addition, Probst and Lawer (2006) examined that job insecurity can lead to an individual's negative emotional response and job stress. Thus, job insecurity not only lead to the continuous cognitive state, but also induce the negative emotional response. In line with these reasons, we predict the following:

H2. Job insecurity is positively related to individual affective rumination.

2.3 Affective Rumination and Sleep Quality

Affective rumination reflects to a cognitive state that the employees cannot get rid of the work even after work, and the continuous state cognition is likely to have a negative impact on individual sleep quality in the following ways. First, affective rumination is a process of resource losses, and it may lead to a series of stress reactions, such as poor sleep quality. Second, based on the perspective of “Perseverative Cognition Model of Stress”, the continuous invasive cognitive state links to strain and in particular, somatic symptoms. Third, Brosschot et al. (2010) showed that worry or rumination can slow down both cortisol and cardiovascular recovery. Fourth, negative mood (e.g., tension and annoyance) induced by affective rumination had a clearly negative effect on the recovery process (Cropley & Zijlstra, 2011).

Most scholars have proved that perseverative cognition is harmful for employee sleep quality. For example, Pereira et al. (2013) employed diary study to demonstrate that worry has a negative impact on sleep fragmentation and sleep efficiency for individuals. Vahle-hinz et al. (2017) used a longitudinal design to demonstrate that long-term affective rumination was negatively associated with individuals’ recovery after one year. In addition, scholars have directly demonstrated that affective rumination significantly lead to higher levels of insomnia (Demskey et al., 2018) and decrease sleep quality (Querstret & Cropley, 2012).

H3. Affective rumination is negatively related to individual sleep quality.

2.4 The Mediating Role of Affective Rumination

Based upon the loss spiral (Hobfoll, 1989, 2001) and spillover effects (ten Brummelhuis & Bakker, 2012), it is reasonable to suggest that job demand (e.g., job insecurity) may contribute to

further resource loss (e.g., affective rumination), hence lead to strain reaction and poor well-being (e.g., sleep quality). Additionally, in line with “Perseverative Cognition Model of Stress”, work rumination is a mediating mechanism to explain the stress reactions caused by job stressor. More specifically, empirical studies have demonstrated affective rumination plays a mediating role not only between workplace incivility and insomnia symptom (Demskey et al., 2018), but also between general job stressors and sleep quality (Van Laethem et al., 2015). Therefore, we hypothesized the following:

H4. Affective rumination mediates the relationship between job insecurity and sleep quality.

2.5 The Moderating Effect of Resource Management Ability

Conservation of resources theory differs from earlier stress-strain theories in that it also accounts for how individuals cope with stressful situation (Hobfoll, 1989). It holds that people reduce their net loss of resources by investing in or drawing from other resources that they possess or are accessible from the workplace. For instance, personal resource allows individuals to reappraise stressful situation and regulate other resource to cope with the job demand (Halbesleben et al., 2009). With respect to the current research, we argue that resource management ability (RMA) is an important personal resource, which refers to one’s ability to maintain and mobilize one’s resources. Prior study has found that resource management ability can significantly improve individuals’ job satisfaction and well-being (Hochwarter et al., 2007). Individuals who are better to manage their resources are likely to protect and acquire resources which include equipment, assistance, flexibility and control over the pace of exertion towards one’s work (Hochwarter et al., 2007).

We argue that adequate resources promote effective adjustment (Ito & Brotheridge, 2003) by limiting deleterious reactions to stressors (Halbesleben, 2006). For example, employees with high levels of RMA are less likely to regard the stressor as threatening (Jackson et al., 1986) and more likelihood to cope it successfully (Janssen et al., 1999). In addition, RMA can be seen as a kind of personal control, which in turn helps to reduce the negative effects of perceived job demand. Aside from that, past study showed that individuals with high RMA can get more work-based and nonwork-based support (Brouer et al., 2016). Work-based support can contribute to high levels of social bonds and integration, while nonwork-based support can help individuals to cope with worrying (Lim, 1996).

Furthermore, we integrate the perceived job insecurity to elaborate on the moderating role of RMA. First, having strong RMA means individual can get more job control, which may limit the time to ruminate work after work (Bakker et al., 2003). Second, RMA contributes to get more resources, and the sources are helpful to refrain themselves from negative mood (Hobfoll & Lieberman, 1987). Third, more work-based support may make individual pay attention to social relations than career opportunities and salary development. Thus, the impact of job insecurity on affective rumination may be weakened due to relatedness need satisfaction. Fourth, it is posited that having access to a supportive family or friend system may help individuals to deal with worrying, hence, nonwork-based supports can buffer the negative effects of unemployment (Liem & Liem, 1979) or future job loss on affective rumination. We argue that those with higher levels of RMA suffer less harm because they are better able to conserve, acquire, and redirect stress-buffering assets to address demands inflicted by job insecurity. Conversely, employees with lower RMA may experience more detrimental outcomes (affective rumination) because they are less able to

efficiently utilize current resources or acquire additional ones from outside environment (Grijalva & Newman, 2015).

In support, studies have shown that individuals with higher RMA are better equipped to handle taxing environment at workplace, such as coping with work-induced guilt, or even facing with abusive supervision, or buffer against the stressor of accountability (Hochwarter et al., 2007; Frieder et al., 2015; Zellars et al., 2011). We therefore hypothesize:

H5: Resource management ability moderates the relationship between job insecurity and affective rumination such that the positive relationship is weaker for individuals with higher resource management ability.

2.6 An Integrative Moderated Mediation Model

Thus far, we have developed the theoretical underpinnings for the mediating effects of affective rumination and as well as the moderating role of resource management ability in linking job insecurity and affective rumination. More specifically, affective rumination mediated the relationship between job insecurity and sleep quality (H4). Resource management ability moderates the positive relationship between job insecurity and affective rumination (H5). Considering the COR theory behind the above hypotheses, we also propose an integrative moderated mediation model hypothesis:

H6: Resource management ability moderates the indirect relationship between job insecurity and sleep quality via affective rumination such that the indirect relationship is stronger when resource management ability is lower.

3. Materials and Methods

3.1 Participants and Procedures

All the participants were full-time employees from five organizations in three provinces (Heilongjiang, Chongqing, Sichuan). The employees were from various professions (e.g., car sales, real estate, and teachers). Before collecting the data, we contacted the HR managers of each organization, explained the purpose of the study. Data were collected through a Chinese web site (www.sojump.com). Participants were paid ¥ 10 for completing a short survey. At first, we recruited 300 full-time employees from these organizations. After deleting disqualified copies, we acquired 218 effective questionnaires with an effective response rate of 73 per cent. The final sample contained 85 males (41.9%) and 118 females (58.1). Among them, 15 individuals didn't report their gender. The age below 25 years old was 23 (11.3%), between 26 and 35 years was 42 (20.7%), between 36 and 45 years was 64 (31.5%), between 46 and 55 years was 72 (35.5%), and above 56 years was 2 (1%). Similarly, 15 individuals didn't report their age. The department tenure below 1 year was 12 (5.9%), between 1 and 5 years was 56 (27.6%), between 6 and 10 years was 24 (11.8%), more than 10 years was 111 (54.7%).

3.2 Measures

We used self-report questionnaires to assess our variables. Given that the participants were Chinese, all constructs were translated from English into Chinese with the procedures

recommended by Brislin (1980). Responses were made on a 5-point scale different from 1 (strongly disagree) to 5 (strongly agree), except for sleep quality scale.

3.3 Job Insecurity

Job insecurity was measured by seven items developed by Hellgren et al. (1999). Quantitative job insecurity included 3 items, which was perceived threats to the continuity of the job itself. A sample item is: “I am worried about having to leave my job before I would like to”. Qualitative job insecurity had 4 items, which was designed to reflect a threat to the continuity of important job features, and a sample item is: “I feel that the organization can provide me with a stimulating job content in the near future”. Scores were averaged, and higher scores indicated higher levels of job insecurity. Quantitative job insecurity Composite Reliability (CR) was 0.83 and Average Variances Extracted (AVE) was 0.62. Qualitative job insecurity CR was 0.83 and AVE was 0.57.

3.4 Affective Rumination

Five items from Cropley et al. (2012) were used to assess affective rumination. An example of items is: “Are you troubled by work-related issues when not at work”. Scores were averaged, and higher scores indicated higher levels of affective rumination. In this study, affective rumination CR was 0.84 and AVE was 0.54.

3.5 Resource Management Ability

We used a six-item scale to measure employees’ resource management ability (Hochwarter et al., 2008). Sample items are: “When work is stressful, I am able to conserve my energy” and “I have enough equipment and personnel at my disposal to fill in for me at work when things get stressful”. Scores were averaged, and higher scores indicated higher levels of resource management ability. In this study, resource management ability CR was 0.79 and AVE was 0.51.

3.6 Sleep Quality

The Pittsburgh Sleep Quality Index (PSQI) was used to assess employee sleep quality (Buysse et al., 1989). The 19 items were combined to form seven component scores including objective and subjective items. The components included subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medicine, and daytime dysfunction. Sample items are: “How do you rate your sleep quality overall?” and “How long (in minutes) has it usually take you to fall asleep each night”. A global score was calculated by summing up the seven components, ranging from 0 (no difficulty) to 21 (severe difficulties in all areas), and higher scores indicated poor sleep quality. The PSQI has been the most common scale to evaluate employee sleep quality in different countries (Magee et al., 2015; Shi & Long, 2018). Sleep quality Cronbach’s coefficient was 0.76.

3.7 Control Variables

For all analyses, we controlled for individuals’ age and gender, because past studies have shown that both variables affected employee sleep quality (Hughes et al., 1998; Li et al., 2002). In addition, we controlled if it existed family members under 12 years, because research has shown that the

number of younger children was associated with employee sleep quality (Demskey et al., 2018). Gender and children under 12 years were coded as dummy variables, 0 = female, 1 = male; 0 = no child under 12 years, 1 = have children under 12 years. According to the age background, participants were classified into five types: 1 = below 25 years, 2 = between 26 and 35 years, 3 = between 36 and 45 years, 4 = between 46 and 55 years, and 5 = above 56 years.

3.8 Analysis

Hypotheses 1–3 and Hypothesis 5 were tested using ordinary least squares regression models, whereas Hypotheses 4 and 6 were tested using Hayes's (2013) PROCESS macro in SPSS 22.0. PROCESS uses an ordinary least squares regression-based path analytic framework to estimate direct and indirect effects and allows for the estimation of moderated mediation (conditional indirect effect) models. PROCESS also provides several important statistics for testing mediation and conditional indirect effects, such as the index of moderated mediation, which require the combination of parameters across multiple equations (Hayes et al., 2017).

4. Results

4.1 Confirmatory Factor Analysis and Assessment of Common Method Variance

We adopted CFA to evaluate the discriminant and convergent validity of our core study variables: job insecurity, affective rumination, resource management ability, and sleep quality. A CFA was, therefore, conducted with the maximum likelihood estimation procedure with Mplus version 7.11 (Muthén and Muthén, 1998-2010). The indices were as follows: 2/df, comparative fit index (CFI), Tucker-Lewis (TLI) and root mean square error of approximation (RMSEA). As expected, the hypothesized fourth-factor model yielded a good fit to the data: 2/df = 2.71, CFI = 0.88, TLI = 0.85, RMSEA = 0.09; additionally, as shown in Table 1, this model had a better fit than alternative model.

However, since all the data were collected via self-report scales, common method bias problems may arise and inflate the patterns of the relationships among the research variables. To address this problem, this study used two methods to check whether CMB is a problem in our research. First, we conducted Harman's single factor test on the four constructs. The results of the principal component factor analysis yielded fourth factors with eigenvalue greater than 1.0, which together explained 58.944 per cent of total variance. The first factor accounted for 19.289 per cent of the variance, thus showing that common method bias was not a serious problem in this study (Podsakoff et al., 2003). Then, a single common method factor (CMF) approach was also used to check for the existence of CMB through CFA. At first, we formed the CMF model, namely, the total measurement items that were loaded on the theoretical constructs and on a created latent construct labeled CMB separately. Then the model fit indices were compared between the CMF model and the four-factor model. The results showed that the fit indices of the CMF model reached acceptable levels (2/df = 2.93, CFI = 0.88, TLI = 0.83, RMSEA = 0.09). However, the difference between the two model was not significant, which suggested that the CMF model did not improve the model fit.

Table 1 Comparison of the measurement models

	Factor models	χ^2	df	χ^2/df	CFI	TLI	RMSEA
1	Single-factor model	943.60	119	7.93	0.48	0.40	0.18
2	Two-factor model	565.67	118	4.79	0.72	0.67	0.14
3	Three-factor model	534.47	116	4.61	0.74	0.69	0.13
4	Four-factor model	306.38	113	2.71	0.88	0.85	0.09
5	CMF model	287.23	98	2.93	0.88	0.83	0.09

N = 218.1 = Job insecurity + Resource management ability + Affective rumination + Sleep quality; 2 = Job insecurity + Sleep quality, Resource management ability + Affective rumination; 3 = Job insecurity, Resource management ability + Affective rumination, Sleep quality; 4 = Job insecurity, Resource management ability, Affective rumination, Sleep quality.

4.2 Descriptive Statistics

Table 2 displays descriptive statistics and the correlations between the main variables. As expected, resource management ability was negatively related to affective rumination ($r = -0.30$, $p < 0.01$), sleep quality scores ($r = -0.18$, $p < 0.01$). Quantitative job insecurity was positively associated with affective rumination ($r = 0.29$, $p < 0.01$), and sleep quality scores ($r = 0.16$, $p < 0.05$).

Table 2 Descriptive statistics and correlations among all variables

	Variables	M	SD	1	1	3	4	5	6	7	8	9
1	Gender	0.4 2	0.5 0	-								
2	Age	2.9 4	1.0 3	0.11	-							
3	Children	0.3 6	0.6 9	-0.0 4	-0.23 **	-						
4	Job Insecurity	2.7 5	0.5 2	0.00	-0.11	0.11	-					
5	Quantitative Job insecurity	2.9 8	0.9 0	-0.0 4	-0.18 *	0.20 *	0.66 *	-				
6	Qualitative Job insecurity	2.5 7	0.6 8	0.04	0.03	-0.05	0.67 *	-0.1 1	-			
7	Resource management ability	3.3 7	0.6 2	-0.0 6	0.23 *	-0.04	-0.30 **	-0.1 5*	-0.25 **	-		
8	Affective rumination	0.2 9	0.8 7	-0.1 5*	-0.21 **	-0.08	0.29 *	0.29 **	0.09	-0.30 **	-	
9	Sleep Quality	6.0 0	2.5 5	0.03	0.03	-0.20 **	0.13	0.16 *	0.02	-0.18 **	0.27 *	-

Notes: N = 218; * $p < 0.05$, ** $p < 0.01$

4.3 Mediation and Moderation Testing

With regard to hypothesis 1, the results of Model 2 in Table 3 indicated that job insecurity was positively related to sleep quality scores ($\beta = 0.80$, $p < .05$), which meant that higher levels of job insecurity decreased employee sleep quality. Thus, hypothesis 1 was supported. More specifically,

we investigated the different effects of quantitative and qualitative job insecurity on sleep quality. Results showed that quantitative job insecurity decrease employee sleep quality ($\beta = 0.60$, $p < .01$), and not for qualitative job insecurity ($\beta = 0.14$, $p > .05$).

Table 3 Results of hierarchical regression analysis on sleep quality

	Sleep quality					
	Model 1		Model 2		Model 3	
Variable	β	t	β	t	β	t
Intercept	6.37	10.52** *	4.08	1.16***	3.10	3.24* *
Step 1						
Gender	0.11	0.32	0.11	3.52	0.33	0.91
Age	-0.04	-0.23	-0.01	-0.04	0.13	0.70
Children under 12	-0.77	-.79***	-0.82	-3.02** *	-0.61	-2.30* *
Step 2						
Job insecurity			0.80	2.31* *		
Step 3						
Affective rumination					0.92	4.31** *
Resource management ability						
Step 4						
Job insecurity X Resource management ability						
R ²	0.04		0.06		0.12	
F	2.71* *		3.40* *		6.85***	
ΔR^2			0.03* *		0.06***	

Notes: N = 218; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

With respect to hypothesis 2, as displayed the results of Model 5 in Table 4, the relationship between job insecurity and affective rumination was significantly positive ($\beta = 0.50$, $p < .001$). When individuals were in face of job insecurity, they were prone to affective rumination after work, hypothesis 2 was thus supported.

Table 4 Results of hierarchical regression analysis on affective rumination

	Affective rumination					
	Model 4		Model 5		Model 6	
Variable	β	t	β	t	β	t
Intercept	3.54	18.45** *	2.12	6.01***	3.15	6.30** *
Step 1						
Gender	-0.23	-1.91	-0.23	-2.08* *	-0.27	-2.46* *
Age	-0.18	-3.15***	-0.16	-2.90** *	-0.12	-2.23* *

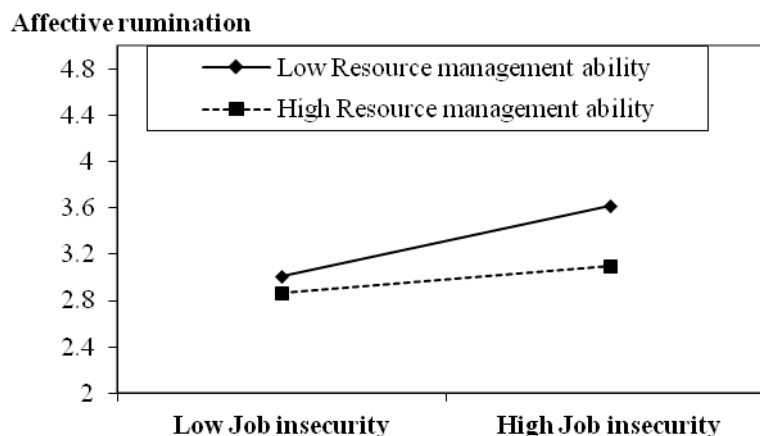
Children under 12	-0.1 7	-1.94		-0.2 0	-2.44 [*]	-0.2 0	-2.48 [*]
Step 2							
Job insecurity				0.50	4.67 ^{***}	0.40	3.77 ^{**} *
Step 3							
Affective rumination							
resource management ability						-0.2 7	-2.87 [*] *
Step 4							
Job insecurity X Resource management ability						-0.3 0	-2.02 [*]
R ²		0.08			0.17		0.22
F		5.44 ^{***}			9.96 ^{***}		9.20 ^{***}
ΔR^2					0.09 ^{***}		0.05 ^{***}

Notes: N = 218; *p<0.05; **p<0.01; ***p<0.001

Hypothesis 3 predicted that affective rumination would lead to poor sleep quality. As shown in Table 3 model 3, the relationship between affective rumination and sleep quality scores were significant positive ($\beta = 0.92$, $p < .001$), hence, hypothesis 3 was supported.

Hypothesis 4 proposed that affective rumination mediated the relationship between job insecurity and sleep quality. We tested this hypothesis through Model 4 of Hayes's (2013) PROCESS macro. Job insecurity was associated with sleep quality indirectly through affect rumination (indirect effect = 0.42, SE = 0.14, lower level confidence interval [LLCI] = 0.19, upper level confidence interval [ULCI] = 0.74). Significance of indirect effects was determined via bias-corrected bootstrap confidence intervals using 5000 bootstrap samples and 95% confidence intervals. Significance of the indirect effect is indicated when confidence intervals do not include zero. These results provided support for Hypothesis 4.

Model 6 of Table 4 reports the results of our moderation analyses. Hypothesis 5, which predicted that individual resource management ability moderates the positive effect of job insecurity on affective rumination, was supported ($\beta = -0.30$, $p < .05$). We plotted this interaction in Figure 2. From the figure 2, the relationship between job insecurity and affective rumination was stronger when RMA was lower.



Figures 2 Interaction between job insecurity and resource management ability

Hypothesis 6, which proposed that the mediated effect of job insecurity on employee sleep quality via affective rumination would be significantly stronger for employees with low (vs. high) RMA, was supported. As shown in Table 5 when RMA was low, the indirect of job insecurity on sleep quality scores was significant and positive (estimate = 0.50; 95% CI [.22, .97]). When RMA was high, the indirect effect of job insecurity on sleep quality was also significant and positive (estimate = 0.19; 95% CI [.01, .48]). The index of moderated mediation was significant (estimate = -0.25; 95% CI [-.63, -.04]). Thus, hypothesis 6 was supported.

Table 5 Moderated Mediation Results for Job insecurity

Values of moderator	Conditional indirect effect	SE	Lower CI	Upper CI
Resource management ability				
-1 SD	0.50	0.18	0.22	0.97
M	0.34	0.12	0.15	0.65
+1 SD	0.19	0.12	0.01	0.48
Index	-0.25	0.15	-0.63	-0.04
Notes: N = 218				

4.3.1 Discussion

This research examined how and when job insecurity decreases individual sleep quality. We found that job insecurity negatively related to individual sleep quality and positively influenced affective rumination, and affective rumination was negatively associated with sleep quality. There existed an indirect effect that affective rumination mediated the relationship between perceived job insecurity and sleep quality. Moreover, individual resource management ability negatively moderated the relationship between job insecurity and affective rumination, such that the positive relation was significant when individuals were lower levels of resource management ability.

These findings are in consistent with some prior studies. Existing research suggested that career-related stressors was bad for employee's health (Garst et al., 2000), which was also verified in our study. We also explored the mediating role of affective rumination between job insecurity and sleep quality, which was in accordance with previous studies that affective rumination would play the indirect role in the relationship between job stressor and strain (Vahle-Hinz et al., 2014). Besides, we proved that the positive relationship between job insecurity and affective rumination would be stronger for individual who was lower levels of resource management ability. It echoed past research and conclusion that resource management ability would promote job and life satisfaction (Hochwarter et al., 2007), decrease depressed mood (Gallagher, 2012).

4.3.2 Theoretical Implications

This study makes several theoretical contributions. To date, the bulk of task-related and social stressors research has been conducted on sleep quality (Magee et al., 2015; Loft and Cameron, 2014), yet limited research has examined career-related stressor as a cause of poor sleep quality. Our research just extends the antecedent of sleep quality to job insecurity. Meta-analytic findings suggest employees exposed to hostile workplaces (e.g., unfair treatment, high job insecurity) are more likely to experience deteriorated physical and mental health, and even higher mortality rates (Goh et al., 2016). In line with previous study, our findings suggest that job insecurity predicts employee poor sleep quality. With organizations being forced to readjust to globalization,

restructuring and horizontal organizational structure have become an inevitable trend, therefore triggering more quantitative and qualitative job insecurity. Our results showed that quantitative was negatively related to sleep quality, whereas was not for qualitative job insecurity. It indicates that the threat of being unemployed is intimately related to stress symptoms such as sleep quality, and the negative effect tends to transfer to non-work environment.

Prior studies mainly demonstrate that job insecurity can lead to loss of individual resource, which in turn predict subsequent poor individual health (Kinnunen et al., 1999; Vander Elst et al., 2014). In this study, we found affective rumination as an important link between job insecurity and sleep quality. The result contributes to COR theory by testing the loss spiral. Our study also adds to the increasing body of research in support for “Perseverative Cognition Model of Stress” by examining the affective rumination as an appropriate mediating mechanism between job insecurity and employee sleep quality. Affective rumination is the key component of perseverative cognition, in that an individual may find it difficult to stop thinking about a past event or may be anticipating a future event-in this case, incidents of job insecurity. In addition, our study echoed Allen et al. (2016), who called for future research about how individuals respond to adverse work conditions from cognitive process.

Our study demonstrated that increasing levels of RMA can mitigate the negative relationship between job insecurity and affective rumination. This is in line with past study, which proved that resource management ability is a neutralizer for job stressor (Hochwarter et al., 2008). Examining individual resource is critical for COR theory to advance. Resources are likely to affect each other such that acquiring one leads to gaining another. Thus, the present study is an important step in exploring the positive effect of RMA within the management research. Gallagher (2012) proposed that future research should explore the spillover benefits of resource management into non-work domains, and our research just addressed this gap. Finally, in support of COR theory, we used a unified moderated mediation path analysis method to conduct a holistic test of our model. As such, our study offers a clear picture of how job insecurity affects individual sleep quality as well as the boundary condition of resource management ability through conceptualizing and testing a moderated mediation model.

4.4 Practical Implications

Generally, job insecurity is not an inevitable result of organizational changes leading to reductions in personnel (Burke & Nelson, 1998). Organizations could take steps, such as providing accurate information, strengthening communication, preparing for alternative employment, and training their employees on how to cope with the stress caused by insecurity (Hartley et al., 1991; Kets de Vries & Balazs, 1997), to prevent the negative effects of job insecurity. HR processes are needed for the regular and sustained monitoring of employees in times of restructuring and change. At the same time, organization can observe the mental state of employees, especially when employees are always dozing off at the workplace.

Furthermore, in the face of job insecurity, affective rumination is one of mechanism about how adverse work conditions affect sleep quality. Organizations should take measures to reduce the employee affective rumination. It is supposed that Mindfulness Based Stress Reduction and Rumination-focused Cognitive Behavior Therapy are the common way to reduce perseverative cognition (Crain et al., 2017; (Jacobs et al., 2016). At the same time, both Mindfulness training and

CBT can also improve employee sleep quality, therefore the organization might invite professional consultants to cut down employee affective rumination and improve employee sleep quality.

The present research sheds light on the positive role of resource management ability, hence organizations should select new employees based on their personal stress robustness. For example, individuals possess optimism, self-discipline, an ability to communicate, and organization skills in face of job stress. Although RMA is an individual difference, some scholars have found that it can be strengthened through expressive writing interventions (Barclay and Skarlicki, 2009).

4.5 Limitations and Future Research

Despite these contributions, our study has several limitations that point to avenues for future research. First, self-report data was used in this research. Although we conducted Harman's single factor and CMF test, the result shows the common method bias may not be severe, future research could use multi-source data from a broader sample, such as objective sleep quality by Actigraphy (Barber et al., 2017). Second, the cross-sectional design of this study we used, however, limited our ability to determine the direction of causality among the variables. Prior research has explored the reciprocal relationship between job insecurity and strains (De Cuyper et al., 2012). Therefore, longitudinal studies may be better to explore the casual relationship. Finally, based on COR theory, we choose resource management ability as an individual resource in our study, it has largely overlooked the roles played by individual behaviors because the three-way interactions of employee behavior and RMA can better deal with job demand (Frieder et al., 2015). We thus encourage efforts to explore the moderating role of both individual behavior (i.e., communication) and RMA together.

5. Ethics Statement

5.1 Ethical Approval

According to institution's guidelines and regulations in our university, ethics approve was not required during this study. However, all procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

5.2 Informed Consent

All individual participants included in the study have been informed and signed the informed consent.

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