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Impact of job insecurity on work-family conflict: The role of job-related anxiety and insomnia

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Abstract

The purpose of this study is to examine the impact of job insecurity on work-family conflict through the mediating role of job-related anxiety and insomnia and how these variables contribute to increased work-family conflict. The study was conducted on 224 construction sector employees in Islamabad, Pakistan. To test the hypotheses, we employed structural equation modeling using Smart-PLS 4.0. This study contributes to the job insecurity and conflict literature by clarifying the linking role of job-related anxiety and insomnia. The findings suggest that job insecurity can be a significant source of stress, leading to higher levels of job-related anxiety and insomnia. It is necessary to take into account employees' insomnia and job-related anxiety problems since they can significantly impact the association between work insecurity and work-family conflict. This study extends our understanding of the mechanism between job insecurity and work-family conflict by testing the mediating impact of job-related anxiety and insomnia.

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Introduction

Job insecurity (JI) has been recognized as a prominent stressor in the modern workplace, exerting adverse effects on both individuals and organizations (Shoss, 2017; Richter & Näswall, 2019), and has become increasingly significant in contemporary work settings (Lee et al., 2018). The phenomenon of JI has been identified as a source of considerable frustration, leading individuals to experience a range of negative emotions and psychological difficulties (Wilson et al., 2020). JI has been highlighted as a major stressor (Demirović Bajrami et al., 2021; Wong et al., 2021). Therefore, the issue of JI remains a paramount concern that necessitates additional investigation within the context of scholarly literature. Recent studies highlighted the imperative need for further exploration and examination within this domain (Abbas et al., 2021; C.-C. Chen et al., 2022).

Work-family conflict (WFC) is when employees are overly preoccupied and engrossed in work-related matters during their leisure time, impeding their capacity to carry out familial obligations and creating a dichotomy between work-related and family-related responsibilities (Wayne et al., 2017). An acknowledged aspect of the workplace, JI is a recognized element of the workplace and has been related to work-related stress (Jiang & Lavaysse, 2018). The studies (De Witte et al., 2016; Greenhalgh & Rosenblatt, 2010) examined the relationship between WFC and health outcomes. These findings suggest that WFC and JI have significant health and family life consequences. A few meta-analyses (Cheng & Chan, 2008; Jiang & Lavaysse, 2018) and articles (Guerola, 2023; Petitta et al., 2024; Portovedo et al., 2023) have consistently found essential associations between JI and various dimensions of individual health and well-being, performance and behavior at work, interpersonal contagion and spillover effects, life satisfaction, work-family balance, depression, psychological contract breach, violation, strain, general health, anxiety, and organizational citizenship behavior (Baldissarri et al., 2023; Lee et al., 2018). Many employees worry about their job stability, which causes them to feel more stressed (Giunchi et al., 2016). Due to this, employees' sleep quality is affected, resulting in insomnia and sleep disorders (De Lange et al., 2009). Insomnia is a common sleep disorder recognized as a prominent public health concern (Morin & Benca, 2012). Prior studies have indicated that insomnia has been associated with several health issues, including work-related challenges (Bos & Macedo, 2019), both physical and mental health issues (Léger et al., 2012), and a higher mortality risk (Sivertsen et al., 2014).

According to recent research, JI has emerged as a notable source of stress for employees (Z. Li et al., 2023). JI is often seen as an essential source of stress for employees, as it puts their economic well-being at risk and affects their family's well-being (Nauman et al., 2020). Anxiety and depression have an essential relationship with WFC and multiple adverse health outcomes (Hammen, 2005; Khudaykulov et al., 2024). Those can be life-threatening or subsequently involve risky behaviors like violence and suicide. In an organizational context, this issue develops when workers perceive a lack of resources to meet their job demands. JI is a cause of anxiety among employees when they perceive that the work environment poses a risk to their overall well-being (Wong et al., 2021). Research has shown that individuals who experienced stress during the pandemic were more susceptible to developing symptoms of depression and anxiety (Antino et al., 2022). The domains of work and family are essential in a person's life. It is noteworthy that the relationship between these domains, together with factors such as JI, can affect family relationships, specifically regarding JRA and insomnia. Hence, it is crucial to carefully analyze the relationship between JI and JRA, including insomnia, with the potential impact of WFC. Additionally, it is

essential to highlight that a relationship has been found between JRA, insomnia, and WFC. Previous studies have consistently shown that the relationship between insomnia and JRA can have adverse impacts on family relationships, leading to negative outcomes.

This study provides several contributions to the domain of JI and WFC research. The investigation of JRA and insomnia within the organizational context as mediators connecting JI with WFC presents a less explored path for research. By identifying the novel mechanism, the present study can enhance the theoretical farmwork related to processes that connect JI with its subsequent outcomes (Richter et al., 2015). Secondly, our research employs a two-wave data collection design to examine the impact of JI on WFC outcomes. By adopting this approach, we aim to enhance our understanding of the temporal dynamics that support the relationship between JI and WFC. Finally, this study of the fundamental mechanism behind JI bears essential implications. These findings in this area possess and create recommendations specifically designed to reduce the negative impact of JI within real-life situations.

Theoretical Background

JI is a widely known determined and potential risk in the work environment (Heaney et al., 1994) and has garnered attention from scholars (Chih et al., 2017; Giunchi et al., 2016; J. Shin & Shin, 2020). Research shows that JI can harm employees. It profoundly impacts how an employee behaves at work and even outside of work. The JI can affect people's behavior both at work and home and their balance between work and home (Chirumbolo & Areni, 2010). JI is a psychological state characterized by a feeling of powerlessness that stems from the inability to secure a desired job due to unstable working conditions (Greenhalgh & Rosenblatt, 1984). JI has a notable negative influence on work, but the impact remains in the workplace. It has been observed that JI entails decreased marital satisfaction, negative impacts on parenting, and enhanced WFC (Mauno et al., 2017). The current economic environment has a very high rate of unemployment.

Consequently, the employees face raised anxiety about employment security and occupational stability. JI is a major threat to employees' quality of life and ability to manage their work-life balance successfully (Begum et al., 2022). The existence of JI can be detrimental both to the mental health of the employee and their ability to keep a healthy work-life balance. Over the last few decades, employees and organizations have notably emphasized achieving a work-life balance. WFC refers to the adverse interplay between work and personal life, wherein individuals allocate excessive resources, such as energy and time, to their professional or familial roles, resulting in a perceived difficulty in effectively fulfilling the other role (Greenhaus & Beutell, 1985). Work-life balance is challenging to maintain in modern workplaces due to escalating pressures in both professional and familial contexts. Workers are expected to concurrently handle several tasks, effectively distributing their resources between their professional and personal lives (Fotiadis et al., 2019).

The previous studies have come with empirical proof that workers who experience job security are prone to WFC (Finstad et al., 2024; Nauman et al., 2020). WFC is a phenomenon that arises when employees perceive a lack of compatibility between their work and family domains (Greenhaus & Beutell, 1985). More precisely, this phenomenon can be characterized as a form of inter-role conflict in which the demands of one's work and family roles are somewhat incompatible (Molina, 2021). There is a strong connection between JI and WFC, and this connection tends to have a greater impact on men (Richter et al., 2015). However, JI can significantly impact an employee's personal life, decreasing the quality of family time and negatively affecting work-life

balance. JI is widely recognized as a cause of stress in the workplace. It is associated with increased rates of physical complaints, psychological strain, and adverse effects on mental health (Chirumbolo & Areni, 2010). Family demands include caring for loved ones and taking care of household tasks. Balancing cross-generational responsibilities can significantly reduce family work disputes. Being a caregiver for aging parents is both challenging and rewarding at the same time, as it includes taking care of their physical and emotional needs (Young & Wallace, 2009).

This study is grounded on the Conservation of Resources (COR) theory (Hobfoll & Ford, 2007), which suggests that individuals exert effort to obtain, preserve, and secure resources that they consider important. JI is a multidimensional stressor that harms both individuals and organizations. Similarly, it can sometimes have economic implications for people since they may have difficulties planning their family's finances. They are like this because employment contributes hugely to families' income; the knowledge that forces beyond their control may distract their income source and disorientate their livelihoods. Jiang and Lavaysse (2018) suggested that JI could have the worst effect on families by depleting their economic sources.

Moreover, the presence of JI in the work environment will likely lead to an increase in anxiety levels, which in turn can have a significant effect on an individual's mood and subsequently affect their personal life (Lee et al., 2018). Thus, the COR theory offers a comprehensive framework for comprehending the impact of JI on individuals and organizations from several angles by incorporating economic, psychological, and organizational viewpoints. This study focuses on establishing the relation between JI and WFC. So, we proposed:

Hypothesis 1: *JI positively related to WFC.*

The COVID-19 pandemic has impacted employees' perception of JI, particularly in regions with strict regulations (Aguiar-Quintana et al., 2021). Research has established a relationship between anxiety and various negative outcomes, including but not limited to depression and WFC. These outcomes have been found to contribute to developing severe illness (Khudaykulov et al., 2024; Sultana et al., 2022). Anxiety can be understood as more than just a subjective experience that includes feelings of irritability, uncertainty, and fear. It can also be seen as a deeper internal state where individuals strive to navigate and exert control over their environment to ensure survival (Banerjee, 2020). In the organizational context, limited resource availability arises when employees perceive a lack of resources necessary to fulfill the prescribed job requirements. Anxiety is a complex phenomenon that can present itself in various symptoms. These include negative thoughts, an unusual drop in energy levels, enhanced irritability, and general hopelessness.

In some cases, anxiety may grow to the point of developing into a generalized anxiety disorder, which is characterized by intense and overwhelming feelings of anxiety that border on panic (An et al., 2023; Leung et al., 2022; Q. Li et al., 2020). According to research findings, JI has been identified as a prominent stressor that can substantially impact employees' psychological well-being (Antino et al., 2022). This stressor is particularly pronounced when employees perceive their work environment as being threatening or uncertain. The perception of JI can lead to heightened levels of stress and anxiety, as individuals may experience concerns about their job stability and prospects. Consequently, organizations should recognize the detrimental effects of JI and take proactive measures to mitigate its impact on employee well-being (Aguiar-Quintana et al., 2021; Ganson et al., 2021; Lai et al., 2020). Thus, we proposed that:

Hypothesis 2: *JI positively related to JRA.*

Construction site workers are at a higher risk of industrial safety accidents due to negligence and fatigue during the operation of machinery and equipment. During the pandemic, construction workers at primary sites experienced increasing JI and insomnia (Wu et al., 2024). Disrupted sleep patterns indicate insomnia, difficulties initiating sleep, and low sleep quality, all of which can negatively impact regular bodily functions and well-being, consequently impacting daily activities (Doi, 2005; Sateia et al., 2000). Several studies have indicated that JI is a source of stress that can worsen issues with insomnia (Piccoli et al., 2021). The JI concerns are linked with anxiety and insomnia. Sleep restores individuals' energy levels and cognitive functioning by participating in the renewal of self-regulatory capacities.

Sleep also gives people enough energy sources to follow safety rules. Research studies carry evidence that sleep disorder victims are more likely to get involved in work accidents compared to those without any sleep problems (Kao et al., 2016; Wu et al., 2024). Sleep difficulties with emotions include reduced ability to identify and express feelings and increased simple emotional reactivity associated with more conflict with others (Gordon et al., 2021). People with JI usually have mental problems (e.g., depressive symptoms, psychosomatic complaints, psychological discomfort) and physical (e.g., somatic symptoms, coronary heart disease, hypertension) health issues (De Witte et al., 2016). As (Bernhard-Oettel et al., 2020) point out, the sense of JI has been associated with sleep disturbances, although this association is being studied far less frequently. Hence, we postulate that when a person faces a higher JI than the one they typically undergo (based on the total number of JI data waves that the person is experiencing), this will positively be associated with the occurrence of sleep difficulties right at that specific moment. Thus, we proposed:

Hypothesis 3: *JI positive related to insomnia.*

Anxiety, as a psychological phenomenon, encompasses more than just a singular experience of frustration, insecurity, and fear. Individuals struggle with a complex mental state in their efforts to navigate and exert control over their environment to ensure their survival (Banerjee, 2020). JI can worsen work-life conflicts, adding to the stress experienced by individuals. Ultimately, this can harm employee well-being and overall health (Hu et al., 2021). JRA has been associated with depression, WFC, and other adverse consequences that can lead to serious illness (Khudaykulov et al., 2024). Anxiety presents itself in several manifestations, encompassing pessimistic thoughts, fatigue, irritation, and a sense of despair, as well as a potential progression to a state of generalized anxiety disorder approaching panic (Q. Li et al., 2020). JRA can act as a mediator between JI and WFC. JRA, a state characterized by psychological discomfort, is commonly linked to barriers that are related to stress (L. Yuan et al., 2023). The main stressors contributing to WFC include work stress, extended working hours, and role conflict (Ford et al., 2007; Spector et al., 2004). Excessive workloads and stressful situations in the workplace can lead to physical and emotional exhaustion in employees, resulting in WFC (Baeriswyl et al., 2016). When employees feel that their mental health is at risk, JI can become a major source of stress. When people are unsure about their job security, they often feel anxious because they worry that they will not have enough resources to handle the demands of their work (Aguiar-Quintana et al., 2021; An et al., 2023). Managing the threat becomes a challenge, resulting in insensitive coping

mechanisms like excessive stress, depression, and anxiety (X. Chen & Wei, 2019). Thus, we proposed that.

Hypothesis 4: *JRA mediates the relationship between job insecurity and work-family conflict.*

Insomnia is a sleep disorder that involves several symptoms. The symptoms include having a hard time in both beginning and maintaining sleep, keeping awake during the night, and the inability to go back to sleep after waking up. Furthermore, individuals with insomnia tend to wake up early in the morning, and it is hard for them to fall asleep again. All these symptoms disturb the person's sleep pattern (American Psychiatric Association & Association, 2013; Riemann, 2010). The presence of sleep continuity problems is widely observed across various mental disorders (Gordon & Chen, 2014). Insomnia symptoms are associated with WFC (Seo et al., 2023). The previous research about JI was conducted mainly to study the connection between JI and psychological well-being, focusing on stress-related mechanisms as mediators. These processes are assumed to be the primary instruments for assessing the JI effects on a person's psychological well-being.

The evidence from previous studies shows that JI is a major job stressor that leads to the deterioration of psychological health. JI has been reported to raise stress levels (De Cuyper et al., 2010; Y. Shin & Hur, 2019), which may result in anxiety and emotional exhaustion. Previous studies have focused on how JI influences service employees' psychological well-being and job performance. Nevertheless, few studies have examined the links between JI and sleeping problems or poor-quality sleep. Scholars commonly recognize JI as a stressor that hinders progress (Piccoli et al., 2021). According to the established definition, JI is characterized as the apprehension and concern experienced by an employee regarding the possibility of losing their employment. The fear and worry experienced by employees can result in psychological stress after work (Burgard & Ailshire, 2009), potentially leading to insomnia during the night. For instance, few studies by researchers (Bernhard-Oettel et al., 2020; Kim et al., 2021) have looked at the influence of JI on sleep-related issues. Hence, our research study aims to investigate the connection between JI and sleep issues. This research is driven by the expanding data showing the relevance of sleep to workers' well-being and job performance, specifically decision-making and safety, as we already know from some previous studies (Barnes, 2012; Bos & Macedo, 2019). Sleep disturbances can lead to WFC and affect mental health (Han & Kwak, 2022). We proposed that:

Hypothesis 5: *Insomnia mediates the relationship between job insecurity and work-family conflict. A conceptual model is developed in Figure 1 based on the above research hypotheses.*

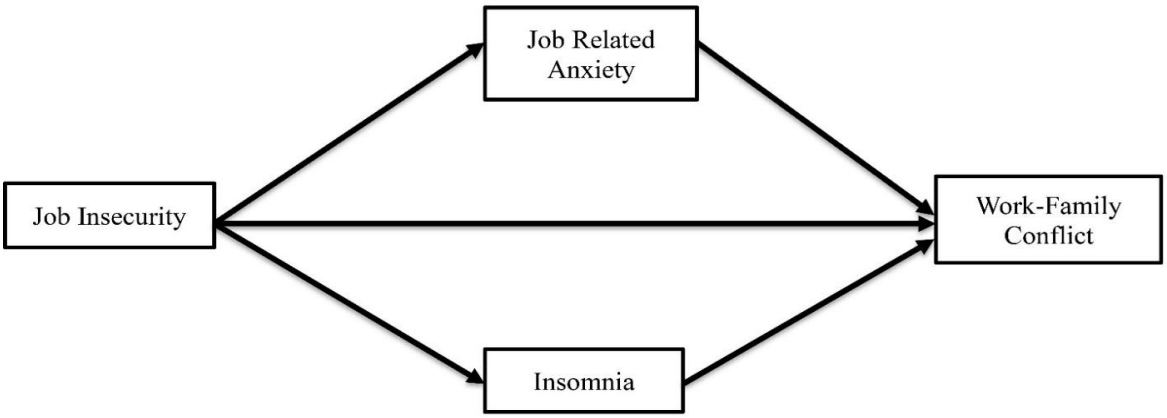
Method

Procedure and Sample

The population of this study is the construction industry workers in Islamabad, Pakistan. To minimize the standard biased method, data were collected in a two-time phase; for phase 1, data were collected from August 2023 to November 2023. For this phase, questionnaires were distributed to measure the JI and WFC. JRA and insomnia were measured for the second phase,

and data were collected from January 2024 to March 2024. In phase 1, a total of 350 questionnaires were distributed to employees from the construction industry using simple random sampling. There were 224 answers out of 350 questionnaires, with a response rate of 64%. During the second phase, we distributed 400 questionnaires, amongst which we received 233 responses with a response rate of 58%.

Figure 1. Conceptual Model



The study encompassed 224 participants, and their gender distribution was as follows: 36.1% (n = 81) is female, and 63.9% (n = 143) is male. Regarding age, a large proportion of participants (35.27 %, n = 79) were between 32 and 38. The sampling comprised 11 respondents, 4.91 % of the population between 18 and 24 years old. Also, there was an age group of 25 to 31 years consisting of 67 people, which accounted for 29.91 % of the sample. The age group aged 39-45 and 46 and above hit the participation margin, with 29.91% (n = 67). As for education, most participants held a bachelor's degree (63.8%, n = 143), whereas a smaller portion had a master's degree (24.5%, n = 55). A small number of those participants owned a diploma (10.3%, n = 23), and those who had attained a Ph.D. or higher were also minimal (1.3%, n = 3). As for their experience, 9.82% (n = 22) reported less than 1 year. The sample comprised 45 individuals (20.09%) with 1-5 years of experience. Also, about 40.18 % (n = 90) and 29.91% (n = 67) of the participants had 6-10 years and 11 or more years of experience, respectively. Table 1 presents the characteristics of the participants in detail.

Measures

This research used a measurement scale adapted from previous research to measure each variable under study. JI, insomnia, JRA, and WFC are the four components of this research. Job insecurity (JI) was measured in a 7-item developed by (Johnson et al., 1984). All items of the questionnaire were rated on a 5 Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree")."One sample item is " Working hard would keep me from getting fired." The variable insomnia was measured on a 7-item scale developed by (Bastien, 2001). One sample item is "How satisfied/dissatisfied are you with your current sleep pattern?". The overall 9-item measures JRA were adopted from (Parker & DeCotiis, 1983). Nine items measured WFC, which was developed

by (Carlson et al., 2000). One item is "My job produces strain that makes it difficult to fulfill family duties."

Table 1. Details regarding the profile of the participants.

Characteristic	Variable	Frequency (N =224)	Percentage %
Gender	Female	81	36.1
	Male	143	63.9
Age	18-24	158	70.5
	25-31	58	25.8
	32-38	6	2.7
	39-45	2	0.9
Education	Bachelor	143	63.8
	Master	55	24.5
	Ph.D. or above	3	1.3
Experience	Less than a year	114	50.9
	1-5 years	94	42
	6-10 years	7	3.1
	11 or above	9	4

Results

Statistical Analyses

In the present study, we employed structural equation modeling in Smart-PLS 4.0 to test the hypotheses. Multiple fit indices were used to evaluate the model, such as factor loading or indicator loading, internal consistency reliability, convergent validity, and discriminant validity. The minimum allowable factor loading can be 0.708 (Hair et al., 2021). Internal consistency reliability is measured in two ways: Cronbach alpha and composite reliability (CR). The minimum value is 0.70 (Hair et al., 2020). Convergent validity access by average variance extracted (AVE). The criteria for AVE are 0.5 or higher (Hair et al., 2021).

Discriminant validity is examined by the Fornell and Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. A commonly suggested threshold for the HTMT Ratio of Correlations is below 0.85. According to scholarly literature (Hair et al., 2021), the HTMT threshold value for conceptually distinct constructs is below 0.85, while the threshold value for conceptually similar constructs is below 0.90. Fornell and Larcker (1981) proposed that discriminant validity can be established when the square root of AVE for constructs is more significant than their correlation with all other constructs.

Measurement Model Assessment

The measurement model is evaluated to assess the quality of the constructs. The first step in evaluating quality standards involves assessing the factor loading and determining the construct's validity and reliability.

Factor loading

The degree to which each item in the correlation matrix correlates with the specified principal component. Higher absolute values indicate a correlation between the item and the fundamental factor (Pett et al., 2003). The suggested factor loading value is 0.708 (Sarstedt et al., 2022).

Table 2 illustrates the factor loadings of items; it demonstrates the strength and direction of each variable with the underlying factors. Factor loadings IN-1 to IN-7 present a vital, meaningful associated factor between 0.676 and 0.800 for the "IN." Similarly, for the "JI" factor, items JI-1 to JI-7 yield strong factor loadings between 0.742 and 0. 786. Thus, for the "JRA" factor, items JRA-1 to JRA-9 produced substantial factor loadings between 0.697 and 0.799, illustrating a vital, meaningful associated factor with "JRA." Factor WFC presents strong factor loadings for the items WFC-1 through WFC9, which yielded 0.720 and 0. 745. This suggests a relationship between these items and the WFC factor.

Construct Validity

Table 3 presents information on the construct validity and reliability, which includes the internal consistency index and the convergent validity index for the variable. This information gives information about how consistent the various factors are and how much the factors influence each other. The Cronbach's Alpha coefficients for each element are reported as follows: Insomnia (α= 0.882), JI (α= 0.879), JRA (α= 0.906), and WFC (α= 0.874). The values above demonstrate an exceptional level of internal consistency within each factor, surpassing the typically suggested threshold of 0.7. The CR values for each factor have been computed and are reported as follows: IN (CR = 0.883), JI (CR = 0.880), JRA (CR = 0.910), and WFC (CR = 0.882). The above values evidence that the factors exhibit internal solid consistency, creating a score greater than 0.7. For each factor have been computed the AVE values: IN (AVE = 0.585), JI (AVE = 0.580), JRA (AVE = 0.571), WFC (AVE = 0.503). The variables addressed here meet or exceed the suggested 0.5 thresholds, illustrating that they explain a moderate proportion of variance.

Discriminant Validity

The Fornell-Larcker criterion can serve as a very useful criterion for the validity assessment of factors. This criterion computes the root of the AVE for each element and of the inter-factor correlations. From the Fornell-Larcker criterion shown in Table 4, the matrix diagonal reveals each factor's root of the AVE. Off-diagonal pieces present intercorrelations between the factors. The diagonal aspects of the matrix reflect the square root of the AVE for the ratio of each factor. The main factors provided above are IN (0.765), JI (0.762), JRA (0.755), and WFC (0.709). The elements outside a matrix's main diagonal denote the interrelationships or correlations among the underlying factors. The values mentioned above serve as indicators of the magnitude of the

associations among the variables. The study reveals a correlation between IN and JI with a coefficient of 0.546.

Table 2. Factor loading

	IN	JI	JRA	WFC
IN-1	0.783			
IN-2	0.771			
IN-3	0.794			
IN-4	0.779			
IN-5	0.800			
IN-6	0.676			
IN-7	0.746			
JI-1		0.742		
JI-2		0.744		
JI-3		0.760		
JI-4		0.766		
JI-5		0.758		
JI-6		0.774		
JI-7		0.786		
JRA-1			0.697	
JRA-2			0.770	
JRA-3			0.738	
JRA-4			0.799	
JRA-5			0.779	
JRA-6			0.733	
JRA-7			0.787	
JRA-8			0.730	
JRA-9			0.759	
WFC-1				0.730
WFC-2				0.745
WFC-3				0.733
WFC-4				0.720
WFC-5				0.728
WFC-6				0.764
WFC-7				0.730
WFC-8				0.744
WFC-9				0.742

Note. IN: Insomnia, JI: Job Insecurity, JRA: Job-Related Anxiety, WFC: Work-Family Conflict

Additionally, the correlation between IN and JRA is found to be 0.696, while that between JI and JRA is 0.507. Moreover, the correlation coefficient between JRA and WFC is 0.643. To assess the discriminant validity of a construct, it is recommended to compare the square root of each factor's AVE with the correlations between that factor and other factors. The construct has discriminant validity if the former is greater than the latter. The discriminant validity among the elements is deemed acceptable as the square root of the AVE for each factor surpasses the correlations in this instance.

Table 3. Convergent validity

	Cronbach's alpha (α)	Composite reliability	AVE
IN	0.882	0.883	0.585
JI	0.879	0.880	0.580
JRA	0.906	0.910	0.571
WFC	0.874	0.882	0.503

Note. IN: Insomnia, JI: Job Insecurity, JRA: Job-Related Anxiety, WFC: Work-Family Conflict

Table 4. Discriminant validity- Fornell – Larcker

	IN	JI	JRA	WFC
IN	**0.765**			
JI	0.546	**0.762**		
JRA	0.696	0.507	**0.755**	
WFC	0.601	0.682	0.643	**0.709**

Note. Bold italic constructs represent the square root of AVE, IN: Insomnia, JI: Job Insecurity, JRA: Job-Related Anxiety, WFC: Work-Family Conflict

Table 5 calculates the HTMT ratios for every pair of factors. The terms on the diagonals are of no concern here because they denote the HTMT ratio that one factor has with itself, which is always equal to 1. The numbers outside the matrix's main diagonal read as the ratio of HTMT between the factors. Hence, for example, the HTMT ratio between the indicators IN and JI is calculated to be 0.617.

Moreover, the HTMT ratio, which represents IN to JRA, is 0.773. Moreover, further analysis reveals that the HTMT ratio between JI and JRA is recorded as 0.561, while the HTMT ratio between JRA and WFC is 0.699. For assessing the HTMT ratio, the values should be below the normative threshold of 0.85 as a basis. Table 5 shows that all access HRMT ratios are below the 0.85 criterion value, implying that the factors discriminate from each other well.

Structural Model Assessment

Hypotheses testing

Following the assessment of the structural model. The next step is evaluating the structural path to assess path coefficients and their statistical significance. According to (Hair et al., 2021; Streukens & Leroi-Werelds, 2016) 10000, bootstrapping for subsample was run using SmartPLS. We assessed the JI's positive impact on WFC. The result revealed that JI positively affects WFC (β =0.445, t=1.973, p=<0.0001); Hence, H1 was supported. We assessed the H2 JI, which is

positively impacting JRA. The result shows that JI is influenced directly by JRA (β=0.506, t=9.478, p=<0.001).

As a result, H2 was supported. Hypothesis results are presented in Table 6. We assessed that H3 JI is positively related to insomnia. Similarly, H3 evaluates JI's positive effects on insomnia (β=0.546, t=11.03, p<0.001). So, there is a positive relationship between JI and insomnia. As a result, H3 was supported.

Table 5. Discriminant validity-HTMT

	IN	JI	JRA	WFC
IN				
JI	0.617			
JRA	0.773	0.561		
WFC	0.677	0.774	0.699	

Table 6. Results of hypothesis testing

Hypothesis	β	(STDEV)	T statistics	P values
JI -> WF	0.445	0.059	7.489	0.000
JI -> IN	0.546	0.049	11.03	0.000
JI -> JRA	0.506	0.053	9.478	0.000

Note. Bootstrapping=10000, β =Beta coefficient, STDEV = Standard deviation, T=t-Statistics, P=probability (p)Value, Relationships are significant at p<0.001, IN: Insomnia, JI: Job Insecurity, JRA: Job-Related Anxiety, WFC: Work-Family Conflict

Mediation Analysis

Mediation analysis was performed to assess the mediating role of JRA in the relationship between JI and WFC. The results revealed an indirect effect of JI on WFC through JRA (β=0.165, t=4.242, p<0.001). The total impact of JI on WFC was significant (β=0.682, t=17.769, p<0.001); with the inclusion of the mediator, the effect of JI on WFC was still substantial (β=0.445, t=7.489, p<0.0001), this shows a complementary partial mediating role of JRA in the relationship between JI and WFC; therefore, H4 was supported.

Table 7. Mediation analysis

Total effect (JI →WFC)			Direct effect (JI →WFC)			Indirect effect (JI →WFC)			
β	t	p	β	t	p	Hypotheses	β	t	p
0.682	17.769	0.001	0.445	7.489	0.001	JI→JRA→WFC	0.165	4.242	0.001
						JI→IN→WFC	0.072	2.010	0.001

Note. Bootstrapping=10000, β =Beta coefficient, STDEV = Standard deviation, T=t-Statistics, P=probability (p)Value, Relationships are significant at p<0.00**.** Bold italic constructs represent the square root of AVE, IN: Insomnia, JI: Job Insecurity, JRA: Job-Related Anxiety, WFC: Work-Family Conflict

A mediation analysis was performed to assess the mediating role of insomnia in the relationship between JI and WFC. Results are shown in table 7. The results revealed an indirect effect of JI on WFC through insomnia (β=0.072, t=2.010, p<0.0001). The total impact of JI on WFC was significant (β=0.682, t=17.769, p<0.001); with the inclusion of the mediator, the effect of JI on WFC was still substantial (β=0.445, t=7.489, p<0.0001), this shows a complementary partial mediating role of insomnia in the relationship between JI and WFC; therefore, H5 supported.

Discussion

This study examined the relationship between JI JRA, insomnia, and WFC. The findings show the intricate relationship between these variables, offering valuable insights into the mechanisms by which JI influences WFC. Previous research has shown that JI employees tend to demonstrate various negative responses (Begum et al., 2022; De Witte et al., 2016; Richter & Naswall, 2019). There has been a growing emphasis on studying mediating variables to understand the underlying mechanisms better. The current study aimed to add to the existing body of knowledge by examining the role of JRA and insomnia as mediators. These factors have been explored as both an outcome of JI and as indicators of other outcomes related to JI, including overall and job-related well-being. The study's theoretical foundations are on a psychological contract basis. The existing literature (Probst et al., 2013; Quinlan & Bohle, 2009) has provided evidence for a relationship between JI and adverse outcomes such as reduced employee well-being and enhanced WFC. However, despite these findings, there is still a lack of comprehensive understanding of the specific mechanisms and contextual factors contributing to the relationship between JI and employees' mental and physical health. The findings of this study provide empirical evidence in support of our hypotheses. The results suggest that both insomnia and JRA play a mediating role in the relationship between JI and subsequent levels of WFC. Significantly, the present study found that the mediating effects remained evident, regardless of whether the dependent variable's initial levels were considered. Our study shows that JI leads to enhanced WFC. The analysis conducted in our research has revealed a positive correlation between the two variables under investigation. These findings align with previous studies that have explored the same relationship (Nemteanu & Dabija, 2023; Richter et al., 2015).

JI is a prominent source of stress for employees, influencing the workplace and their personal lives. One area that is particularly affected by JI is sleep quality (Yuan et al., 2015). The absence of adequate security measures presents a considerable threat not only to the well-being of individuals, as it impairs cognitive function and raises the likelihood of mood disorders, but also to the overall performance of work tasks, resulting in increased absenteeism and a higher incidence of workplace accidents (Zhang et al., 2021). JI has been found to impact employees' psychological well-being (Richter & Naswall, 2019). Specifically, it has been observed that the experience of JI can lead to increased stress levels among employees. This heightened stress, in turn, has been shown to interfere with employees' ability to initiate and maintain sleep, resulting in difficulties falling asleep.

Furthermore, the presence of insomnia, which is commonly associated with JI, may increase the adverse effects on employees' well-being by obstructing the development of self-regulatory resources. The lack of resources experienced by individuals in this context has been found to result in insufficient regulatory skills, leading to an increase in WFC (Zhang et al., 2021). It was found that employees reported experiencing symptoms related to depression and anxiety due to JI (Burgard et al., 2012). These findings have particular significance in the COVID-19

pandemic, given the substantial prevalence of JI experienced by numerous employees as a direct consequence of this global health crisis. According to Wilson et al. (2020), there is evidence to suggest that JI resulting from the COVID-19 pandemic has an indirect relationship with heightened anxiety symptoms. Financial concerns mediate this relationship.

Moreover, job security has a direct impact on depression, as the presence of uncertainty and intense fear can significantly affect an individual's psychological well-being. Exposure to highly stressful and traumatic events, such as major catastrophes or natural disasters, economic crises, or global health threats, can lead to the development of anxiety disorders (Basyouni & El Keshky, 2021; Z. Li et al., 2020). These events are characterized by a sense of challenging discomfort and confusion, which can contribute to an increased vulnerability to anxiety disorders. The results of this study are consistent with previous studies that have demonstrated a positive correlation between JI and anxiety (Ganson et al., 2021; Obrenovic et al., 2021).

Our study applied the COR theory to investigate how JI affects WFC. Our study suggests that JI can be a major source of stress, leading to higher levels of JRA and insomnia. These factors, in consequence, can contribute to an increase in WFC. Research has shown a relationship between JI and JRA (Wu et al., 2024), WFC and JRA (W. Zhang et al., 2023), and insomnia and WFC (Buxton et al., 2016). As far as we know, no study has examined how JI affects WFC by considering the role of JRA and insomnia as mediators. The findings of our research align with the COR theory.

The present study examines the impact of JI on JRA, insomnia, and WFC. The results of our study indicate that JI has a substantial effect on both JRA and insomnia. Consequently, JRA and insomnia have a role in connecting JI and WFC, suggesting that feelings of worry linked to work and inadequate sleep contribute to increased levels of conflict between work and home responsibilities. Moreover, JI has a direct impact on WFC, suggesting that the effects of JI go beyond psychological and sleep disorders and directly alter the balance between work and personal life. These findings emphasize the many mechanisms by which job instability impacts the well-being of employees and their personal and professional domains.

Theoretical contribution

This study enhances the current literature by offering a more expanded perspective on the impact of JI on WFC. This study examines the potential mediating effects of JRA and insomnia on this relationship. The study explores the link between resource depletion, specifically JI, and its detrimental impact on work and family life. Studying these correlations contributes to our appreciation of the adverse consequences of resource depletion. This is in a way that COR theory concentrates on the development, maintenance, and depletion of such resources. Construction workers face severe JI due to their project-based work and fears of layoffs (Chih et al., 2017). There is a chance that this phenomenon will lead to a depletion of resources due to employees' concentration on their uncertainty and working toward job security. This could result in their unintentionally overlooking their family responsibilities. The presented study emphasizes the requirement for further exploration to fill the gaps related to boundaries, influencing factors, and long-term consequences of the identified relationship.

Practical contribution

It is necessary to consider employees' insomnia problems since they can significantly impact the association between work insecurity and WFC. Leaders need to respect and fulfill the needs of their employees with the significance of sleep. Organizations must establish a "sleep-friendly" policy and promote a culture that values sufficient sleep (Jian & Lirong, 2018). Prioritizing implementing a flexible human resource management plan is crucial to prevent a lack of sleep resulting from conflicts between employees' work and personal lives. Moreover, the improvement of sleep education proves to be a necessity. There is a majority of the employees who practice unhealthy lifestyles and suffer from sleeping disorders. It is essential to establish healthy sleep habits to solve the problem of sleep issues (Zhang et al., 2021). In conclusion, this study explains the interconnection between JI, JRA, insomnia, and WFC. This study also investigates the mediating effects of JRA and insomnia on the JI-WFC relationship, contributing to theoretical understanding and practical solutions for improving employee well-being.

Not only do leaders have to take the role of managing employees whose insomnia condition is severe, but they must also provide them with support and intervention. In addition, these may encompass the combined use of emotional management strategy, psychological counseling, or application of anti-stress techniques. Leaders will be responsible for exploring any medical assistance to ensure employees return to a completely healthy condition and sleep. Government agencies should establish an appropriate, open, and transparent performance evaluation system to ensure that construction site workers are well-informed about epidemic prevention strategies and implementation. This system should connect civil servants' performance to rewards, promoting accountability and encouraging adherence to guidelines. It might encourage public employees to fulfill their jobs instead of deciding to give in to external stress. Considering JI's substantial influence on employees' mental well-being, it would be wise for employers to allocate resources toward stress control and durability training initiatives. Providing employees with effective coping strategies for dealing with stressful circumstances can help reduce the negative impact of JRA and insomnia, ultimately promoting a healthier work-life balance (L. Yuan et al., 2023).

Limitations and future research directions

The present study has certain limitations that should be considered for future studies. Initially, it is essential to note that the study was carried out in Pakistan, which implies that the country's cultural context may have influenced the outcomes of our research. JI may elicit a more negative response from individuals who hold collectivist cultural values in contrast to those who hold individualist cultural values (Probst & Lawler, 2006). It is recommended that future studies investigate the hypothesized relationships in additional countries to validate the findings further. Moreover, this study concentrates on specific health outcomes, mainly JRA, WFC, and insomnia.

Nonetheless, the possible effects of workload and time pressure as potential factors linking JI and WFC can further be explored in future research (Karatepe, 2013; Liu et al., 2022). Future research may investigate the potential impact of individual differences, social support, and various types of exposure within the construction sector on the intricate relationship between JI, JRA, insomnia, and work-family dynamics. Future research may also investigate the moderating impact (e.g., work flexibility and personality traits) of a positive work environment in mitigating the adverse effects of JI on the outcome measures.

Conclusion

Our study highlights the mediating impact of JRA and insomnia on the relationship between JI and WFC. JRA and insomnia partially mediate the effect on JI and WFC. This study provides important findings regarding the intricate relationships among JI, JRA, insomnia, and WFC in the construction industry. JI was investigated with the help of the COR theory in a study that also considered work-family dynamics. The analysis of this study reveals the effect of JI on WFC. Our study confirmed that JRA and insomnia are the critical factors behind the relationship between JI and WFC. This evidence-based finding underlines the key point that recognizing JRA and insomnia as mediators is highly critical. The results indicate that resource depletion has a substantial impact. In particular, uncertainty as a consequence of JI leads to a depletion of employees' psychological resources and enhances anxiety, sleep problems, and, eventually, WFC.

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