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Innovative work behavior and job stress: Does supervisory support matter?

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ABSTRACT

Background: Studies found both positive and negative outcome of innovative behavior. Previous research has explored the intended outcomes of innovative work behavior (IWB) extensively. However, there are limited studies examining the unintended impacts of innovative behavior. Therefore, study on this gap of knowledge is still worth exploring.

Purpose: This paper study aims to test the negative impacts of innovative work behavior (IWB) on job stress. While previous studies stressed identifying factors promoting innovative work behavior, this study tries to uncover the negative impact of innovative work behavior along with how to buffer it.

Method: 339 officers working in a public sector organization were asked to fill out questionnaires. Of 142 returned questionnaires, 118 were valid. The ordinary least square (OLS) regression was used to test the developed hypotheses.

Findings: This study found that IWB positively correlated with job stress (r = .36, p < .01). Moreover, results indicated that PSS negatively moderated the relationship between IWB and job stress, b = -1.49, $t(118)$ = -3.22, p < .01.

Implication: Leaders in the public sector organization should be aware that while IWB is generally beneficial, it may cause the side effect of job stress for the innovator. Therefore, support from the supervisor is essential to buffer job stress.

KEYWORDS
innovative work behavior; job stress; perceived supervisory support

Introduction

Innovation has recently become one of the essential features in the public organization setting (Lewis et al., 2018). Since findings have suggested that innovation benefits organizations (e.g., Frambach & Schillewaert, 2002; Shanker et al., 2017; Walker et al., 2011), scholars have paid much interest in studying it (De Vries et al., 2015; Kim & Chung, 2017). While the private sector considers innovation a critical feature to achieve and maintain competitive advantage (Montani et al., 2020), the public sector emphasizes its ability to promote effectiveness and efficiency in public service delivery (Wynen et al., 2019). Previous studies have confirmed that innovation is one of the essential factors in realizing and preserving competitive advantages and performance of private sector organizations (e.g., Campo et al., 2014; Montani et al., 2020; Nicolau & Santa-Maria, 2013). A review study by Li and Hsu (2015) summarized the benefits of innovative behavior, such as improving performance, increasing stakeholder satisfaction, facilitating employee development, and high employee job satisfaction.

Organizational innovations stem from individual traits and attitudes (Kwon & Kim, 2020). Thus, innovative employee behavior is fundamental for organizational innovation (Janssen, 2000) and critical for achieving organizational goals (Cho & Song, 2020). Furthermore, Agarwal (2014)

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argued that one of the most crucial ways to actualize innovative organization was by encouraging individual innovative work behavior (IWB), which is defined as an employee activity to intentionally invent, introduce, and perform novel ideas beyond routine job description at any working areas (Afsar & Umrani, 2019; Javed et al., 2018). Noting the importance of IWB, scholars have focused on identifying factors that promote the attitude and left much less literature investigating its possible negative outcome (Hammond et al., 2019).

The outcome of innovative behavior can be positive or negative (De Vries et al., 2015; Hammond et al., 2019). While many previous studies successfully attested to the intended outcomes of innovative behavior, only limited studies focus on its unintended impacts. Among a few studies, Janssen (2003) found a positive correlation between IWB and conflict and a less satisfactory relationship with coworkers. Janssen (2004) also found that performing IWB might yield an employee's stress reaction, depending upon the employee's perception of distributive fairness within the organization. Similarly, Shih and Susanto (2011) found that innovative behavior could cause conflict with coworkers as people were reluctant to change and unwilling to apply novel habits or ideas. While those studies have empirically contributed to understanding the negative impacts of IWB, the theoretical aspect of why IWB can cause unintended outcomes is still unclear. Therefore, the study that provides a comprehensive theory to clarify the unintended impact of IWB and how to mitigate its impact is still worth exploring.

The present study extends the studies of Janssen (2004) and Shih and Susanto (2011) by applying the ideas of Noblet et al. (2006), which combine two theories which are: Job Demand Control Support (JDCS) framework (Karasek & Theorell, 1990) and Conservation of Resource Theory (COR, Hobfoll et al., 2018). The JDCS model, which is the extension of the JDC model (Karasek, 1979), emphasizes that social support can buffer the negative impacts of job strain (Dawson et al., 2016). COR theory strengthens the theoretical arguments of the JDCS model in buffering the harmful effects of job strain by offering a coping mechanism (Noblet et al., 2006). Based on those theories, we argue that IWB will positively associate with job stress, and such negative impact of IWB can be reduced by providing social supervisory support. The perceived supervisory support (PSS) moderates the negative effect of IWB on Job Stress.

Employees who behave innovatively may experience a demanding job since individual innovation requires substantial and demanding cognitive and socio-political efforts related to idea generation, idea promotion, and idea realization (Janssen, 2004). Idea generation involves critical thinking and problem-solving skills including identifying performance gaps, envisioning possible actions, and analyzing the best solution (Janssen, 2004). Idea promotion requires communication and persuasion skills, as employees must convince others of the value and feasibility of their innovative ideas (Janssen, 2000). Idea realization demands innovative individuals to execute their ideas, monitor their progress, and make necessary adjustments when needed (Janssen, 2000). In addition, employees who perform innovative behavior may also experience resource loss because they have to face the negative impact of IWB, such as resistance (Janssen, 2004) and conflict with coworkers (Shih & Susanto, 2011). Such conditions lead to a demanding job which may provoke innovators to a job stress. Finally, the existence of PSS may recover the resource loss (Hobfoll et al., 2018) as employees who receive support from their supervisor may feel 'valued and cared for' by their supervisor (Eisenberger et al., 2002) so that it may mitigate the negative impact of IWB on job stress. In this model, PSS is a coping mechanism to restore resource loss (Noblet et al., 2006).

Innovative work behavior can be defined as the intention to create, introduce, and apply novel ideas within a work role, group, or organization to benefit individual performance role, group performance, or organization performance (Janssen, 2000). Janssen (2000) restricted the definition of IWB to an intentional determination to deliver novel benefits, including better organizational performance, social-psychological benefits for a group or individuals such as job satisfaction, and better fit between job demand and resources. The format of innovative behavior

may include the operation of new work methods, approaches, or procedures that benefit the organization (Ng & Lucianetti, 2016; Shih & Susanto, 2011).

IWB can be characterized by performing tasks beyond team, group, or organization standard practices or procedures (Shih & Susanto, 2011). Since the organization environment may change rapidly, employees are frequently demanded to perform beyond their prescribed jobs (Janssen, 2004; Shih & Susanto, 2011). Performing IWB requires employees to have risk-taking characteristics because the outcomes of new ideas can be unpredictable (Lukes & Stephan, 2017). Therefore, performing IWB may put the organization's performance at risk.

IWB comprises the combination of three different tasks: idea generation, idea promotion, and idea implementation (Janssen, 2004; Shih & Susanto, 2011). Idea generation is the process of creating a novel idea and has often been driven by work-related problems, incongruities, discontinuities, and emerging trends (Janssen, 2000, 2004). Once generated, the idea must be shared with other organization members to get adequate support to realize the concept (Janssen, 2004; Kanter, 1988; Shih & Susanto, 2011). The final step of IWB is idea realization, where innovative ideas are implemented within a work role, a group, organization level (Janssen, 2004; Shih & Susanto, 2011). Each step of innovative behavior comprises numerous activities that generate processes, products, or services (Duran et al., 2016).

Scholars have defined job stress in various ways. Parker and DeCotiis explained job stress as "a particular individual's awareness or feeling of personal dysfunction as a result of perceived conditions or happenings in a work setting" (Parker & DeCotiis, 1983 p.161). Stress can occur from the overwhelming demands that physically and mentally impact a person in a work setting (Daniel, 2019). Meanwhile, Shepherd et al. (2017) defined job stress as the interaction between an individual and their environment, where the demands of the situation surpass the individual's available resources and are perceived by them as harmful, potentially harmful, or challenging. In sum, job stress can be defined as personal dysfunction resulting from overload or imbalance perception between job resources and job demands in the working environment.

The symptoms of job stress may include anxiety and burnout (Xie & Johns, 1995). Anxiety is a short-term psychological state of stress (Parker & DeCotiis, 1983). It is also defined as an unpleasant emotional state or condition characterized by apprehension, worry, and tension (Sarason et al., 1990). Schlenker and Leary defined anxiety as "cognitive and affective response characterized by apprehension about an impending, potentially negative outcome that one thinks one is unable to avert" (Schlenker & Leary,1982 p.642).

Anxiety is a future-oriented mood state characterized by preparation for potential negative events (Fink, 2016). These symptoms include feeling tense and restless, having difficulty concentrating or experiencing a blank mind due to worry, sleep disturbances linked to worry, muscle tension, irritability, and fatigue (Rowa et al., 2017). Anxiety is characterized by nervousness, uneasiness, and tension concerning specific job performance that arises in response to particular work-related tasks or situations (Cheng & McCarthy, 2018). In the meantime, burnout is a long-term psychological stress reaction (Xie & Johns, 1995). It is a continued response to long-lasting emotional and interpersonal stressors on the job, including exhaustion, cynicism, and professional inefficacy (Maslach & Leiter, 2016). Scholars have investigated the damaging effects of job stress on individuals and organizations. Empirical studies found that job stress is associated with low job satisfaction, absenteeism, low employee performance, low quality of working life, and high turnover intention (e.g., Chung et al., 2017; Jalagat, 2017; Lizano, 2015; Kim, 2015; Rahim & Cosby, 2016; Salvagioni et al., 2017; Shaukat et al., 2017). Given the negative impacts, organizations should avoid high employee stress levels.

The most prominent framework of occupational stress is JDCS (Dawson et al., 2016). This framework argues that high-strain jobs will lower employee well-being (Karasek, 1979; Karasek & Theorell, 1990). High-strain jobs are characterized by high demand, low control, and low support (Karasek & Theorell, 1990). Hence, one of the implications of the JDCS framework is that

job demand positively correlates with job stress. As many findings supported, the higher job demand is associated with a higher stress reaction (Bakker & Demerouti, 2014; Bakker & de Vries, 2021).

Despite its benefits, performing innovative behavior is demanding for several reasons. Firstly, it requires employees to break habits. Without breaking habits, there will be no innovation because innovation is a change-oriented activity (Janssen, 2004; Puval &Zawislak, 2022). Habits are actions that are learned and repeated to the point where they become automatic reactions to triggers, serving the purpose of achieving specific goals or desired outcomes (Verplanken & Orbell, 2022). With the nature of the automatic response, habits can sustain new, desirable actions even when consciousness decreases (Gardner et al., 2022). Even though habit promotes efficient operation, breaking such behavior requires a significant effort (Ersche et al., 2017). Secondly, engaging in innovative action involves a broad range of cognitive and socio-political resources, including idea generation, idea promotion, and idea realization (Janssen, 2000, 2004; Kanter, 1988). Due to limited knowledge, bringing a new idea may make the outcomes uncertain (Lukes & Stephan, 2017). Therefore, the nature of innovation is unpredictable and risky (Janssen et al., 2004; Lukes & Stephan, 2017). Risk perception may increase an individual's exposure to stress (Lopez-Vazquez & Marvan, 2003). Since IWB is an extra role behavior, employees who engage in innovative behavior are demanded to perform tasks outside the team, group, or organizational procedures and routines (Shih & Susanto, 2011). Individuals engaging in creative action must go beyond their prescribed work expectations and devote substantial effort, which a formal reward system might not recognize (Janssen, 2000, 2004).

In addition, Janssen (2003) argued that innovators are likely to deal with other individuals in the working environment who are unwilling to change. When it comes to promoting new ideas, persuading other individuals to support an innovation might not be easy (Janssen, 2003). It involves a negotiation process and presenting arguments to colleagues or supervisors, which may lead to skepticism or resistance. Since resistance is a normal part of the change process (Bovey & Hedey, 2001), potential conflict with either coworkers or supervisors who resist change may occur (Janssen, 2003; Shih & Susanto, 2011). Organizational conflict may cause lower good relations between innovators and their counterparts (Janssen, 2003). These challenges may become a stressor for individual innovators and thus complicate the innovative effort (Janssen 2003). With the demanding nature of IWB, it is reasonable to argue that performing IWB may provoke stress reactions in an individual innovator.

COR theory predicts that people will be exposed to stress under three circumstances: (1) when they face potential net resources lost, (2) when they lose resources, or (3) when the resources they get fail to compensate for the resources they invest (Hobfoll et al., 2018). Moreover, COR theory argues that people consciously and actively participate in gaining resources and preventing their loss (Hobfoll et al., 2018). As IWB is an extra-role behavior that requires an individual to deploy extra efforts (Shih & Susanto, 2011), the innovative individual will be more likely to sacrifice additional resources. Innovative employees will also lose resources when dealing with counterparts who oppose new ideas, mainly due to persuading effort. Additionally, the risky nature of IWB (Janssen et al., 2004; Lukes & Stephan, 2017) and potential conflict with innovation opposers (Janssen, 2003; Shih & Susanto, 2011) may activate innovator's consciousness about the threat of net resources lost. Hence, COR theory strengthens the argument that IWB may cause stress reactions in the individual innovator.

Empirical studies have confirmed the negative impacts of IWB. Janssen (2003) studied the effect of IWB on conflict with coworkers among teachers from a secondary school in the Netherlands. He found that IWB was positively associated with coworker conflict. Furthermore, this conflict leads to less satisfactory relations with coworkers. In the study, Janssen (2003) also found that job involvement buffers such negative impact. In the meantime, research from Shih and Susanto (2011) examined the relationship between IWB and conflict with coworkers and

turnover intention among employees working for manufacturing and pharmaceutical companies in Indonesia. The findings indicated that IWB was positively associated with conflict and turnover intention. In other words, the higher the IWB, the higher the conflict and the higher the possibility of quitting. The study also confirmed the role of distributive fairness as the moderating variable. Conflict with coworkers and turnover intention were lower in a high distributive justice context. Janssen (2004) tested the potential stressor of IWB among managers from public health organizations. In this study, he successfully confirmed the moderating role of distributive fairness in buffering the stress caused by IWB. Based on the above discussion, this study proposes the first hypothesis that IWB will positively correlate with job stress.

H1: IWB is positively related to job stress.

This study argues that IWB may cause a stress reaction from innovative employees. Meanwhile, innovation is an inevitable process to achieve organizational objectives so employee well-being should be protected. Therefore, it is important to find a solution on how to mitigate the potential negative impact of innovative action. Borrowing ideas from COR theory, this study proposes that PSS could buffer the stress reaction caused by IWB.

Supervisor support is the subordinates' perception of how much their supervisor values their contribution and cares about their well-being (Eisenberger et al., 2002). Subordinates often believe that the supervisor represents the organization; therefore, how a supervisor treats subordinates reflects the extent of organizational support for them (Eisenberger et al., 2002). Treating subordinates well will lead to favorable outcomes for the employees and the organization (Pohl & Galletta, 2016) Supervisor support can significantly influence subordinates' trust and boost employee engagement (Holland et al., 2017). Subordinates who perceive that their supervisor is supportive will give more effort to perform beyond the standard of performance and even to go beyond standard job obligation (Panaccio et al., 2015). In the meantime, supervisors support their subordinates in expectation to help them cope with the negative impact of role stressors and other workplace demands (Tucker et al., 2018).

Previous studies have emphasized supervisory support's importance in shaping employee behavior (Atkin-Plunk & Armstrong, 2013; Syrek et al., 2013). Scholars have acknowledged supervisory support's positive impact, such as improving performance, higher job satisfaction, and better organizational commitment (e.g., Kang et al., 2014; Lee et al., 2019). Scholars have also recognized that the lack of supervisory support may cause harmful effects, such as high turnover intention and job stress (e.g., Fukui et al., 2019).

According to the JDCS framework, the level of job stress caused by demanding work depends upon the level of discretion and social support provided to the employee (Karasek & Theorell, 1990). In other words, the presence of social support may improve employee well-being. As a result of PSS, the level of job stress caused by performing IWB may be reduced. The role of social support in reducing job stress can be through a mechanism called 'interactive effect' (van Vegchel et al., 2005; van der Doef & Maes, 1999). Per this interactive effect, it is hypothesized that social support buffered the relationship between job demand and well-being (Hausser et al., 2010). Thus, PSS may negatively moderate the relationship between IWB and job stress.

COR theory posits that people intuitively and continuously engage in activities that can enrich or maintain their resources (Hobfoll et al., 2018). Consequently, people will try to preserve additional resources when performing demanding innovative behavior tasks. As a complex animal, COR argues that people will try to gain both personal and social resources (Hobfoll et al., 2018). Considering the significant role of a supervisor in determining a subordinate's behavior (Pohl & Galletta, 2016; Syrek et al., 2013), support from the supervisor may become a critical social resource for the subordinate to deal with stressors (Wright & Cropanzano, 1998). When an employee has to behave innovatively, support from the supervisor may act as a reservoir to anticipate resource loss and or as a treasure that recovers the resources lost (Hobfoll et al., 1990, 2018).

In gaining and preserving resources, people do not wait until the actual stress occurs; instead, they actively anticipate potential challenges (Hobfoll et al., 1990, 2018). Employees may deliberately modify social resources by seeking support from the supervisor to ameliorate threatening stimuli caused by a stressor, such as innovative behavior (Noblet et al., 2006). Innovative employees who feel cared for and valued by their supervisor have more resources to avoid strain (Parkes, 1991). Thus, supervisory support is a coping mechanism used by an innovative individual to preserve the resources and restore the resources lost (Noblet et al., 2006).

Previous scholars have confirmed the role of PSS as a contextual variable to buffer subordinate stress reactions. For example, the study by Rodríguez-Monforte et al. (2020) revealed that supervisory support successfully buffered stress reactions caused by the responsive behavior of the nurses. Similarly, a survey from Wolpin et al. (1991) also found that the buffering effect of social support existed in the relationship between stressors and burnout. Considering the above discussion, this study expects the buffering impact of PSS on the relationship between IWB and job stress.

H2: PSS will negatively moderate the relationship between IWB and job stress such that the relationship is weaker for higher levels of supervisory support and stronger for lower levels of supervisory support.

Method

Sample

The population of this study were employees of a government agency in Indonesia. The agency was an echelon-one organization under a state-level ministry. The primary duties of the agency were delivering education and training for all officers in the ministry. Based on its strategic planning for 2019-2024, the agency aimed to increase its outcome gradually. For instance, the agency planned to obtain at least 85% of training alums with performance improvement in 2023, a gradual improvement from those of 2022 (83%) and 2021 (80%). In the meantime, the number of employees and the budget allocated to the agency have constantly been decreasing in recent years. In other words, the agency aimed to 'do more with less', a New Public Management-like strategy emphasizing efficiency and effectiveness (Arundel et al., 2015; Damanpour et al., 2009). The agency needed to innovate to achieve its outcomes because it is impossible to achieve higher output with the same process given the same resources, let alone the decline of resources. The higher the target of the outcome, the higher the quality of innovation needed. Put together, in the agency's context, innovation was not merely an optional strategy but a fundamental prerequisite for achieving desired outcomes. (De Vries et al., 2015).

The agency implemented procedural and structural changes in response to the higher job demand. The Covid-19 pandemic has forced the agency to accelerate the changing process. As such, the agency has taken the initiative to focus more on online training and significantly reduce the proportion of face-to-face training programs by developing an advanced learning management system. Another big issue faced by the agency was the implementation of structural delayering that cut the hierarchical level of management. Thus, the agency faced the challenge of improving performance during the changing process. Since IWB is, by definition, a change-oriented activity (Janssen, 2004) agency employees were expected to behave innovatively to guarantee a successful transition.

The agency consisted of six units led at the director level (echelon two) and twelve units led at the manager level (echelon three). The number of employees was 1,365 as of March 2021. A cluster sampling technique was employed, and three echelon-two offices and two echelon-three offices were randomly selected. Overall, the demographic characteristics of the respondents were similar to those of the population. Among the samples, 69% of the respondents were men, 85% were married, and 73% had a diploma or higher. Compared to the population consisting of 68% men, 87% married, and 71% with a diploma or higher, we may feel confident that the sample represented the population well. Of the total of 339 respondents, 142 questionnaires were

returned. After cleaning the data, 118 questionnaires were valid, and 24 were eliminated. In total, the response rate for this study was 34.8%.

Measure

The dependent variable in this research is job stress, which consists of two mental models: anxiety and burnout (Xie & Johns, 1995). Five-item scales from Parker and DeCotiis (1983) were employed to measure job-related anxiety. Sample items included "There are a lot of times when my job drives me right up the wall" and "I feel guilty when I take time off from my job". Burnout was measured following the Copenhagen Burnout Inventory (Kristensen et al., 2005). This measurement tool consisted of three separate concepts, including personal burnout, work-related burnout, and client-related burnout. The present study utilizes a work-related burnout dimension since it measures physical and psychological fatigue and exhaustion related to work done by people (Kristensen et al., 2005). This dimension consists of seven items, such as "I feel worn out at the end of the working day" and "My work is emotionally exhausting". These items were measured on a four-point scale, ranging from 1 (strongly disagree) to 4 (strongly agree). Cronbach's alpha of the job stress variable was .84. After performing exploratory factor analysis (EFA) as the next section will discuss, the empirical indicated that the items of anxiety and burnout were loaded to a single factor. Therefore, anxiety and burnout were incorporated into one single construct of job stress.

IWB was measured by a nine-item scale taken from Janssen (2000). Although comprised of three main dimensions: idea generation, idea promotion, and idea realization, this scale was considered a single unit to measure IWB (Janssen, 2000). Sample items included "I often create new ideas for difficult issues" (idea generation), "I often acquire approval for innovative ideas" (idea promotion), and "I often transform innovative ideas into useful applications" (idea realization). These items were measured on a four-point scale, ranging from 1 (strongly disagree) to 4 (strongly agree). Overall Cronbach's alpha of this variable was .79, indicating the strong reliability of the instrument.

An eight-item from Eisenberger et al. (2002) was employed to measure PSS. Questions included "Help is available from the supervisor when I have a problem" and "The supervisor really cares about my well-being". Two of the items (items 6 and 7) were reversely coded. These items were measured on a four-point scale, ranging from 1 (strongly disagree) to 4 (strongly agree). Cronbach's alpha of this variable was .83. In addition, demographic characteristics of gender, marital status, education, rank, and tenure, were included as covariates in the model.

Demographic characteristics consisting of gender, marital status, education, rank, and tenure, were included as covariates in the model. Previous studies have shown that those demographic variables correlate with IWB or job stress (e.g., Etikariena, 2018; Bradley, 2007; Vanagas, 2004).

Data Analysis

This study utilized Exploratory Factor Analysis (EFA), reliability test, and Ordinary Least Squares (OLS) regressions. EFA was used to examine the relationship between latent variables and observed variables. To determine the internal consistency or reliability of the scales in the instrument, this study utilized Cronbach's alpha scores. OLS regression was used to examine the moderating effect of PSS on the relationship between IWB and job stress. The SPSS 26 software was utilized to perform the above-mentioned statistical procedures.

The dependent variable is job stress, the independent variable is IWB, and the moderating variable is PSS. The independent variable is assumed to have a linear correlation with the dependent variable. To identify the moderating role of PSS, PSS and the interaction between IWB and PSS were added to the model as independent variables. Before running the OLS regression, all the independent variables were adjusted to their mean-center score.

Result and Discussion

Exploratory Factor Analysis with Principal Component Analysis extraction method was used to determine the latent variables of IWB, anxiety, burnout, and PSS. The varimax rotation method was performed to clarify the distinction between the factors. According to the rotated matrix of factor loading (Appendix A), most of the IWB items (questions 2, 3, 5, 6, 11, 12, and 14) have factor loading more than .5 and were loaded to factor 3. In contrast, one item of IWB (question 5) does not have factor loading larger than .5. In addition to factor 3, one item of IWB (question 6) is also loaded to factor 5, while another item of IWB (question 9) is loaded to factor 4 only. In the meantime, all items of PSS (questions 15, 17, 19, 20, 23, 24, 28, and 28) have factor loadings larger than .5 on Factor 2. Meanwhile, all items of anxiety and burnout have factor loadings more than .5 on factor 1. Based on the result of EFA, three items of IWB were omitted (questions 5, 6, and 9) from the model. Moreover, all items from anxiety and burnout were incorporated into one single latent variable of job stress. Due to good fit, all items of PSS were preserved.

To test the reliability of the total question of latent variables, Cronbach's alpha was utilized. The reliability test shows that all dependent, independent, and moderating variables have a reliability score of more than the acceptable threshold of .70 (George & Mallery, 2019). The reliability for job stress was .84, while those of IWB and PSS were .84 and .83, respectively.

Table 1 depicts descriptive statistics and correlations among variables. The average scores of IWB and PSS are 3.10 and 2.75, respectively, higher than the neutral point of 2.5. In general, respondents claimed that they were innovative and got support from the supervisor. The average job stress score is 2.41, slightly lower than the neutral point of 2.5. Overall, respondents did not report a high level of stress. Table 1 shows that IWB correlates with job stress (r = .36, p < .01), but no correlation exists between PSS and job stress.

Table 1

Descriptive Statistics and Correlations of Research Variables

Variable	*Mean*	*SD*	1	2	3	4	5	6	7
Sex	-	-							
Marriage	-	-	-.09						
Education	-	-	-.06	.21*					
Rank	3.64	1.12	.02	.29**	.66**				
Tenure	3.60	1.51	.01	.22*	.10	.60**			
Job Stress	2.41	0.40	-.03	.11	-.27	.04	.10		
IWB	3.10	0.39	.04	.21*	-.03	-.09	-.04	.36**	
PSS	2.75	0.58	-.02	.29**	.15	-.27	-.01	-.30	.24**

Notes. N = 118. IWB = Innovative Work Behavior; PSS = Perceived Supervisory Support.
*p < .05. **p < .01.

Demographic variables and the independent variable of IWB were added to the model to test the hypotheses, results in Table 2. To clarify the moderating effect of PSS, PSS and the interaction between PSS and IWB were added, too. To avoid the multicollinearity problem, PSS and IWB were adjusted to their centered score. Hypothesis I of this study stated that IWB is positively associated with job stress. The parameter estimate of IWB is 1.76, and the standard error is 0.48. There is a positive association between IWB and job stress; for one unit increase in IWB, the job stress will increase by 1.76, holding all other variables constant, $t(118) = 4.00$, p < .001. Therefore, the null hypothesis is rejected in favor of research Hypothesis I.

Table 2
The Results of OLS Regression for Predicting Stress

	b	*SE*	*t*
Demographic Variables			
Sex	-0.06	0.06	-0.69
Marriage	0.07	0.10	0.76
Education	-0.05	0.04	-0.44
Rank	0.03	0.06	-0.15
Tenure	0.13	0.03	0.98
Predictor Variables			
Innovative Work Behavior (IWB)	1.76	0.48	4.04***
Perceived Supervisory Support (PSS)	-0.14	0.06	-1.19
PSS x IWB (Interaction)	-1.49	0.16	-3.22**
R^2		.18	
F		4.39**	

Notes. $N = 118$.
$^{**}p < .01$. $^{***}p < .001$.

Hypothesis II stated that PSS would moderate the relationship between IWB and job stress such that the correlation is stronger in the context of low supervisory support and weaker in the context of high supervisory support. The interaction effect of IWB and PSS is -1.49 (Table 2), which is statistically significant, $t(118) = -3.22$, $p < .01$. PSS significantly moderates the relationship between IWB and job stress; thus, the null hypothesis is rejected in favor of research hypothesis II.

Figure 1 depicts the interaction effect of IWB and PSS on job stress. The dashed line represents low PSS, while the solid line represents high PSS. In a high PSS context, increasing IWB causes a lower level of job stress than those of low PSS. No demographic variables are significant to explain the model. This finding implies no association between sex, marriage, education, rank, and tenure of the employees with their job stress.

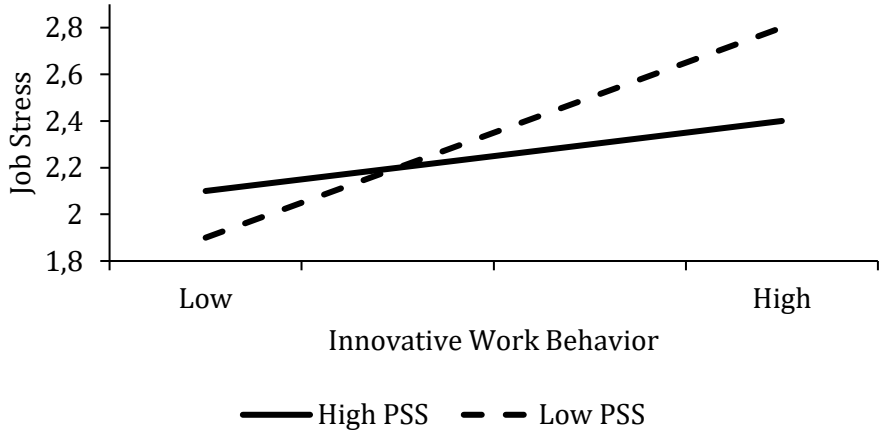

Figure 1. *Moderating Effect of Perceived Supervisory Support on the Relationship between Innovative Work Behavior and Job Stress*

This study finds that IWB has a significant positive correlation with job stress, meaning that a higher IWB is associated with higher job stress. This finding extends previous studies underlining the negative impacts of innovative behavior (Janssen 2000, 2003, 2004; Shih & Susanto, 2011). As the results indicate that employees who engage in more innovative behaviors are likely to experience higher stress levels, this supports the view of IWB as job demands, especially in the context of low supervisory support. This finding also extends the application of

the JDCS framework (Johnson & Hall, 1988; Karasek & Theorell, 1990). Although JDCS does not explicitly address the impact of IWB on job stress, the idea that job demand positively correlates with job stress is relevant to this study. As noted earlier, performing IWB demands a broad range of cognitive and socio-political efforts involving idea generation, idea promotion, and idea implementation (Janssen 2000, 2004; Kanter, 1988). Therefore, performing IWB is challenging to do and thus demanding (Carmeli et al., 2006; Janssen 2000, 2004) and higher job demand leads to higher job stress (Johnson & Hall, 1988; Karasek & Theorell, 1990).

The ideas of COR theory (Hobfoll, 1989) are relevant to explain why employees who behave more innovatively tend to be more stressed. From the COR theory perspective, employees who devote more resources will suffer more resource loss, one of the factors that cause stress reactions (Hobfoll et al., 1990, 2018). In turn, more resources lost will lead to a more stressful situation. It is also possible that the work demand of IWB exceeds a person's response capability, which causes the rise of stress reaction (Shepherd et al. 2017).

Furthermore, because the nature of IWB is changing activity, engaging in IWB may put the employee into an uncertain and risky situation (Janssen et al., 2004; Lukes & Stephan, 2017). From the COR point of view, the risk of resources lost is another factor that provokes stress (Hobfoll et al., 1990, 2018). Stress occurs when people lose their resources and perceive a risk of resource loss (Hobfoll et al., 1990, 2018). The risky nature of IWB may cause innovators to realize that they probably lose out on more resources due to potential resistance and conflict with other organization members, or the uncertainty of innovation outcome.

This study also finds out that PSS negatively moderates the relationship between IWB and job stress. PSS reduces the stress level of employees engaging in innovative activities. As the supervisor provides support for the innovative individuals, the level of stress encountered by the individuals will be lower compared to when support from the supervisor does not exist. This finding confirmed that PSS is a contextual variable that can shape employee behavior (Syrek et al., 2013; Atkin-Plunk & Armstrong, 2013). Moreover, the moderating role of PSS also complements previous findings (e.g., Janssen, 2003, 2004; Shih & Susanto, 2011) that uncover the role of organizational fairness in buffering negative impacts of innovative behavior such as conflict, stress, and turnover intention.

This finding is consistent with the interactive effect of the JDCS framework (Hausser et al., 2010). Moreover, it extends the application of COR theory in support of a coping mechanism strategy (Noblet et al., 2006). As mentioned earlier, the interactive effect of the JDCS model (Karasek, 1979; Johnson & Hall, 1988) argues that support has a buffering effect on the relationship between job demand and job stress (Hausser et al., 2010). As a result of support from the supervisor, innovative employees may feel that the environment is backing their idea and may create the perception of low resistance to change from other parties. Moreover, since IWB is a demanding activity (Janssen, 2000, 2004), employees may perceive support from the supervisor as a reduction of job demand or as an increase in resource availability. From the perspective of the COR theory (Hobfoll et al., 1990, 2018), the presence of PSS recover resources lost due to performing IWB. In addition, individual innovators who get support from their supervisor may feel that they receive additional resources worthwhile to support innovative action. PSS is thus a problem-focused coping mechanism by which innovative employees modify the resources they preserve (Noblet et al., 2006). PSS may act as external resources that help individuals with excessive job demands. PSS creates the perception of less demanding jobs and or the perception of increasing resources to handle demanding jobs. Hence, employees may feel more balanced between job demands and resources, which can buffer stress.

The findings from this paper have several implications for human resource management practices and research. First, innovative behavior may put public sector employees at risk of stress reactions, especially in the context of an organization where innovation is compulsory to achieve organizational goals. Previous studies have found that stress may damage individual

well-being and organizational performance (Jex, 1998). Job stress may also create an environment that is not ideal for implementing novel ideas. In addition, handling too demanding work may be detrimental to innovation itself (Montani et al., 2020). The public sector should recognize innovative efforts and integrate them with formal reward systems. Based on COR theory, rewards may act as resources that can buffer stress. Moreover, supervisors should support their innovative subordinates in the hope that their stress levels will be reduced. Since the public sector often considers failure in innovation as a waste of resources (Potts, 2014), supervisors need to understand the risky nature of innovation, that is innovation can succeed or fail. Supervisors in the public sector should see failure as an indispensable part of innovation, instead of a waste of efficiency (Potts, 2014). However, since supervisors may have different characteristics and leadership styles, public organizations should equip supervisors with public manager leadership skills.

The current study encounters some limitations, giving opportunities for future research development. Firstly, the sample of this only covered an agency in the public sector in Indonesia; therefore, the finding may lack generalizability. Future studies may consider extending the sample size to increase generalizability. Secondly, the design of this study is non-experimental, and the data used is cross-sectional; therefore, this study only justifies correlation and cannot justify causal inference. Future research may consider conducting experimental research design and performing a longitudinal study to capture the causal-effect relationship. Future research could also investigate both the positive and negative effects of IWB to have a more comprehensive understanding of the underlying mechanism of its bright and dark sides.

Conclusion

Scholars have agreed that employee IWB may help the organization to improve and maintain competitiveness, effectiveness, and public service deliveries, especially in the rapid change environment (Montani et al., 2020; Wynen et al., 2019). However, IWB may also provide negative impacts such as conflict with coworkers (Janssen, 2003; Shih & Susanto, 2011), turnover intention (Shih & Susanto, 2011), and job stress (Janssen, 2004). Since studies on the negative impact of IWB are underexplored, this study aims to investigate the correlation between IWB and job stress. This study expects that IWB will be positively associated with job stress. Furthermore, this study argues that PSS may buffer the negative impact by negatively moderating the relationship between IWB and job stress. Data analysis from 118 civil servant respondents working in a government agency in Indonesia confirms these hypotheses.

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Appendix A

Rotated Matrix of Factor Loading

Question	Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Uniqueness
1	ANX_1	0.758	0.138	0.107	-0.077	0.190	0.352
2	IWB_1	0.185	0.096	0.668	0.070	-0.078	0.499
3	IWB_2	0.042	0.122	0.734	-0.019	-0.108	0.433
4	ANX_2	0.752	0.169	0.105	-0.083	0.119	0.374
5	IWB_3	0.163	0.195	0.692	0.015	0.099	0.447
6	IWB_4	0.115	0.078	0.609	0.156	0.506	0.329
7	ANX_3	0.664	0.096	0.128	0.136	-0.258	0.448
8	IWB_5	0.120	0.154	0.445	0.471	0.099	0.532
9	IWB_6	0.235	0.085	0.477	0.536	0.025	0.422
10	ANX_4	0.698	-0.129	0.074	0.152	-0.031	0.466
11	IWB_7	-0.027	0.127	0.523	0.168	0.465	0.465
12	IWB_8	0.159	0.015	0.762	-0.024	-0.059	0.390
13	ANX_5	0.653	-0.147	0.134	0.310	0.236	0.382
14	IWB_9	0.276	0.147	0.599	0.156	0.229	0.467
15	PSS_1	-0.050	0.798	0.182	-0.134	-0.020	0.309
16	BUR_1	0.675	0.029	0.191	-0.400	0.002	0.346
17	PSS_2	0.128	0.796	0.011	0.064	0.156	0.321
18	BUR_2	0.661	-0.061	0.204	-0.106	0.208	0.463
19	PSS_3	-0.063	0.859	0.015	-0.012	0.218	0.210
20	PSS_4	-0.025	0.809	0.114	0.182	0.089	0.292
21	BUR_3	0.704	-0.159	0.100	-0.177	-0.095	0.429
22	BUR_4	0.554	0.064	0.191	0.190	-0.373	0.478
23	PSS_5	0.085	0.798	0.083	0.028	-0.015	0.348
24	PSS_6	-0.112	0.770	0.154	0.083	-0.216	0.318
25	BUR_5	0.739	-0.024	0.053	0.147	-0.282	0.350
26	BUR_6	0.698	-0.001	0.124	0.235	0.224	0.392
27	PSS_7	-0.050	0.737	0.072	0.041	-0.048	0.445

28	PSS_8	-0.056	0.803	0.174	-0.110	-0.045	0.307
29	BUR_7	0.672	-0.173	0.074	0.351	-0.134	0.372

Note. IWB = Innovative Work Behavior; BUR = Burnout; ANX = Anxiety; PSS = Perceived Supervisory Support.