

## Examining the Effects of Perceived Innovation Climate on Job Calling and Extra-Role Behaviors: Mediation Analyses<sup>1</sup>

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### Abstract

Experiencing work as a calling has been associated with various positive work-related attitudes and outcomes. Recent studies have examined personal and contextual factors related to job calling; however, gaps remain in the literature on how employees' perception of organizational environment may lead to the formation of employees' job calling. We focused on psychological climate of innovation as the predictor of employees' job calling and further investigated its effect on extra-role behaviors, including innovative work behavior (IWB) and organizational citizenship behavior (OCB). A total of 165 Malaysian employees from diverse industries and organizations participated in a self-reported online questionnaire. We found support for the mediation model in which the association between a psychological climate of innovation and increased extra-role behaviors through increased job calling. Altogether, these findings provided new insights into the important role of innovative climate on employees' job calling and the mediating role of job calling on extra-role behaviors within occupational settings. Theoretical and practical implications are further discussed.

**Keywords:** innovative climate, job calling, innovative work behavior, organizational citizenship behavior, Malaysian workers

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## **Introduction**

The construct of calling has originally rooted in the religious context (Elangovan, Pinder, & McLean, 2010). Currently, the concept of calling has moved its deep roots from the religious nature to the occupational setting in which individuals consider their work as a “calling.” Dik and Duffy (2009) described a calling as a perceived summons from an external source to approach a specific meaningful life role with prosocial motivation. When applying the term calling into the work context, people who experience work as a calling feel called by a force beyond the self to do a particular work role. They then connect their work to an overall sense of purpose toward other-oriented ends.

Much research has demonstrated that experiencing work as a calling results in various positive work-related attitudes and outcomes. For instance, job calling was positively associated with employees’ work engagement (e.g., Hirschi, 2012), job satisfaction (e.g., Peterson, Park, Hall, & Seligman, 2009), organizational attachment (Cardador, Dane, & Pratt, 2011), and well-being of employees (Conway, Clinton, Sturges, & Budjanovcanin, 2015). Researchers have also found that greater job calling leads to greater extra-role behaviors, such as innovative work behaviors (e.g., Hwang, 2015; Lee & Hwang, 2015) and organizational citizenship behaviors of employees (Park, Sohn, & Ha, 2016; Xie, Zhou, Huang, & Xia, 2017).

The positive work-related outcomes attributed to employees’ job calling indicate how important job calling is in organizational settings. Taking into account the importance of job calling, a number of researchers have attempted to find antecedents of job calling. For example, job calling has been found to be predicted by personal factors, such as vocational development (Duffy, Manuel, Borges, & Bott, 2011), life meaning (e.g., Duffy et al., 2011), personal growth (Bott & Duffy, 2015), vocational self-clarity (Duffy, Douglass, Autin, & Allan, 2014), public service motivation (Kim & Kim, 2018), and organizational identification (Kim & Shim, 2012). Also, some job characteristics, such as job autonomy (Jin & Son, 2015) and increase of challenging job demands (Esteves & Lopes, 2017), have been found to foster job calling among employees.

However, scant attention has been devoted to examining how employees' perceptions of organizational environment influence their job calling. Employees form perceptions of what their organizations value and expect of them on the basis of their organizational practices, policies, and procedures. These perceptions greatly affect employees' work-related attitudes and behaviors (Schneider, Ehrhart, & Macey, 2011). Hence, it is important to capture employees' perceptions of their work environment. Researchers found that a construct, psychological climate, is useful to capture individuals' perceptions of the work environment (Schulte, Ostroff, & Kinicki, 2006). Psychological climate is defined as the perception and interpretation made by employees regarding their work contexts (James & James, 1989). Psychological climate is known to have significant effects on individual work-related outcomes (Parker, et al., 2003; Schulte et al., 2006). Researchers usually use the "focused climates" approach, which focuses on a specific referent (Schneider, Ehrhart, & Macey, 2013), such as climates for customer service, safety, or innovation. Among potential climates, we suggested that an innovative climate may act as an important antecedent of employees' job calling in the work settings.

Researchers suggested that perceptions employees form in terms of what their organizations value and expect them to do generally impact how they direct their efforts (Schneider, Brief, & Guzzo, 1996). When employees perceive that their organizations value and support innovation, they are more likely to exert their efforts in seeking challenges at work, including actively engaging in new projects or tasks and initiating new changes in routine tasks (Esteves & Lopes, 2017). As a result, employees who increase their own challenging job demands tend to develop a sense of calling toward their job (Esteves & Lopes, 2017). Hence, we proposed that employees who perceive their organizations to be supportive of innovation tend to develop a job calling.

We further hypothesized that an innovative climate promotes extra-role behaviors through employees' job calling. The previous studies have shown that employees with a job calling are more willing to get involved in activities that are not part of their formal job description (Elangovan et al., 2010). Thus, if innovative climate fosters employees' job calling, it may also increase their extra-role behavior.

Among various extra-role behaviors, the current study focused on innovative work behaviors (IWB) and organizational citizenship behaviors (OCB) of employees. We assumed that employees working in organizations with an innovative climate are more likely to proactively engage in IWB and OCB and the effect is mediated by job calling.

Taken all together, the current study aimed to expand the prior literature in two ways. First, we examined the extent to which innovative climate predicts job calling of employees. Second, we investigated the potential mediating effect of job calling on the relationship of innovative climate and two specific dimensions of extra-role work behaviors, including IWB and OCB.

## **Theoretical Background**

### **Innovative Climate and Job Calling**

Psychological climate refers to how employees perceive and interpret their organization in terms of formal and informal policies, practices, procedures, routines, and rewards (Schneider, Ehrhart, & Macey, 2011). As psychological climate focuses on an individual's perception and interpretation of the organizational environment rather than objective characteristics of the organization itself, psychological climate is conceptualized as an individual level attribute rather than an organizational level attribute (James, Hater, Gent, & Bruni, 1978). Accordingly, the individual level of theory, measurement, and analysis is considered to be appropriate (Rousseau, 1988).

Researchers argued that psychological climate rather than the organizational environment itself is a powerful antecedent of employees' attitudes and behaviors at the workplace (James & Jones, 1974). The findings from two meta-analytic studies have demonstrated strong support for the relationship between psychological climate and various important outcomes in work contexts, such as job satisfaction, job involvement, job performance, and psychological well-being (Carr, Schmidt, Ford, & DeShon, 2003; Parker et al., 2003).

Innovative climate has been described as the organizational members' perceptions in regard to organizational practices, policies, and procedures, and subsequent patterns of interactions and behaviors that support innovation in the work environment (Patterson et al., 2005). The practices, procedures, and behaviors relevant to innovation include encouraging the development of new ideas, learning from others inside and outside of the workplace, and challenging the traditional ways of getting things done (Van der Vegt, Van de Vliert, & Huang, 2005). A number of studies have examined innovative climate by assessing the influence of individuals' perception of values on work-related attitudes and behaviors (e.g. Park & Jo, 2016; Scott & Bruce, 1994; Yuan & Woodman, 2010). On the foundation of previous research, we investigated how a climate of innovation can lead to work-related outcomes, including job calling and extra-role behaviors of employees.

Based on organizational practices, policies, and procedures, employees form perceptions that their organizations value and support innovation. Perceiving that their organization has an innovative climate, employees are more likely to initiate and make a significant effort to seek innovative challenges at work. They increase their own challenging job demands by initiating changes and engaging themselves in new goals, operations, and tasks related to innovation (Ekvall & Ryhammar, 1999). Therefore, an innovative climate produces increased feelings of challenge within employees (Turnipseed, 1994).

We expected that such challenging experiences in innovative climates leads employees to discover a calling for their job. Researchers have suggested that a sense of challenge seems to be one of the key factors in development of calling (French & Domene, 2010; Hall & Chandler, 2005). For example, a sense of calling is reinforced when employees independently set challenging goals and try to achieve success by putting effort into fulfilling these goals (Locke, 1990).

Furthermore, when employees interpret that their organizations value and support innovation actively direct their efforts toward seeking challenging job tasks, they expose and involve themselves in a variety of new and interesting work-related areas. Researchers argued that exposure to interesting work-related tasks or areas

over time may allow employees to discover a calling towards their jobs by chance (Esteves & Lopes, 2017). The more people expose themselves to prospective domains at work, the greater their chance of developing a sense of calling (Dobrow, 2013).

Innovative climate delivers the need for change and the belief that innovation can benefit organizational success (Yuan & Woodman, 2010) and individuals (Kimberly, 1981). Employees who perceive that their organizations value and support innovation are more likely to feel challenged and proactively initiate changes because initiative changes are appropriate in the working contexts (Farr & Ford, 1990). Through continuously making advantageous changes, employees may regard their jobs as meaningful functioning roles (Ekvall & Ryhammar, 1999). Perceiving one's work as particularly meaningful is associated with a strong sense of calling (Dobrow & Tosti-Kharas, 2011). Therefore, we hypothesized that a perceived climate of innovation would enhance the development of job calling among employees.

Hypothesis 1: Innovative climate is positively related to job calling of employees.

### **Job Calling and Extra-Role Behaviors (IWB and OCB)**

Employees who perceive work as a calling are driven by their passion for their calling to perform above and beyond the delineated job requirements (Elangovan et al., 2010). Employees with a job calling are also willing to make personal sacrifices and devote extra time for their job (Serow, 1994). They engage in activities beyond their duties and go the extra mile, such as focusing on excellence and paying extra attention to details (Elangovan et al., 2010). Employees' discretionary behaviors that go beyond formal job descriptions and are not recognized by formal reward systems are commonly known as extra-role behaviors (Van Dyne & LePine, 1998). Among different types of extra-role behaviors, we focused on employees' IWB and OCB.

First, IWB has been described as a voluntary behavior of generating, introducing, and applying novel ideas within a job role, a group, or an organization, aiming at improving role performance, the group, or the organization (West & Farr, 1989). IWB is a complex behavioral task that involves idea generation, idea

promotion, and idea realization (Janssen, 2000; Scott & Bruce, 1994). Research reported that employees with a job calling tend to engage in IWB at work (e.g. Hwang, 2015; Lee & Hwang, 2015). Individuals who have a job calling make an effort to make the world a better place (Wrzesniewski, 2002). In the work context, employees with a job calling are passionate about making their working environment a better place. They use new work methods and introduce new technologies because these new technologies and methods are “better” than the existing ones and are expected to improve performance and efficiency (Yuan & Woodman, 2010).

Second, OCB has been defined as helpful behaviors that support organizations’ social framework and that are beyond an employee’s core job duties (Organ, 1997). OCB includes volunteering to do extra tasks and helping colleagues accomplish their tasks (Bormon & Motowidlo, 1993). Research identified that individuals who have a calling are more prone to engage in helping behaviors for the sake of others’ and the society’s welfare (Bunderson & Thompson, 2009). In organizational contexts, employees with a job calling tend to engage in OCB (Park et al., 2016; Xie et al., 2017), which facilitates organizational effectiveness. Although there has been ample empirical evidence that shows the relationships between job calling and both IWB and OCB, no empirical test has been conducted for the Malaysian population. Therefore, we hypothesized and tested the relationships in our study.

Hypothesis 2a: Job calling is positively related to IWB.

Hypothesis 2b: Job calling is positively related to OCB.

### **Innovative Climate, Job Calling, and Extra-Role Behaviors (IWB and OCB)**

An innovative climate strengthens employees’ beliefs that new ideas and processes can contribute to performance gains (Yuan & Woodman, 2010). When perceiving that their organizations value and support innovation, employees have an increased sense of challenge and engage in more innovative behaviors (Amabile, 1988). Existing studies showed that IWB is more strongly influenced by an employee’s perception of his/her organization’s support for innovation than by objective organizational features

themselves (e.g., Amabile et al., 1996; Park & Jo, 2018; Shanker, Bhanugopan, Van der Heijden, & Farrell, 2017). Consistent with prior studies, we proposed that innovative climate is positively related to IWB, but it is through the mediator of job calling. In other words, we expected that job calling may play an important role, at least in part, in the relationship between an innovative climate and IWB.

Innovative climates convey the need for change and encourage employees to exert effort in challenging the traditional ways of doing things (Van der Vegt et al., 2005). In this case, not only are employees' challenging job demands increased, but employees' sense of calling toward their job is increased (Esteves & Lopes, 2017). When there is an increase in the sense of calling, employees are more likely to get involved in work activities that go beyond their formal job requirements (Elangovan et al., 2010), such as engaging in IWB.

Moreover, climate is known as a critical mechanism to bring out OCB in employees (Schneider, Ehrhart, Mayer, Saltz, & Niles-Jolly, 2005). We suggested that a climate of innovation increases the likelihood of employees engaging in OCB in their workplaces. Although research has found that an innovative climate is positively linked to change-oriented OCB (Choi, 2007), there are still gaps in our knowledge about the underlying mechanism of how and why innovative climates influence employees' OCB. Therefore, we addressed this gap in the literature by examining if and how innovative climate predicts employees' OCB in organizations through job calling.

Organizations that are perceived as supportive of innovation prefer innovative change and encourage employees to function independently in pursuing novel ideas (Siegel & Kaemmerer, 1978). With this, employees tend to initiate effort to seek challenges related to innovation at work, leading them to develop a job calling (Esteves & Lopes, 2017). Employees with a job calling not only have altruistic tendencies (Xie et al., 2017), but they emphasize service to others to make the world a better place (Wrzensniewski, 2002). Also, by definition, OCB is prosocial behavior (Coleman & Borman, 2000). Therefore, employees with a job calling have a higher tendency to engage in OCB that can improve the welfare of individuals, groups, or organizations.

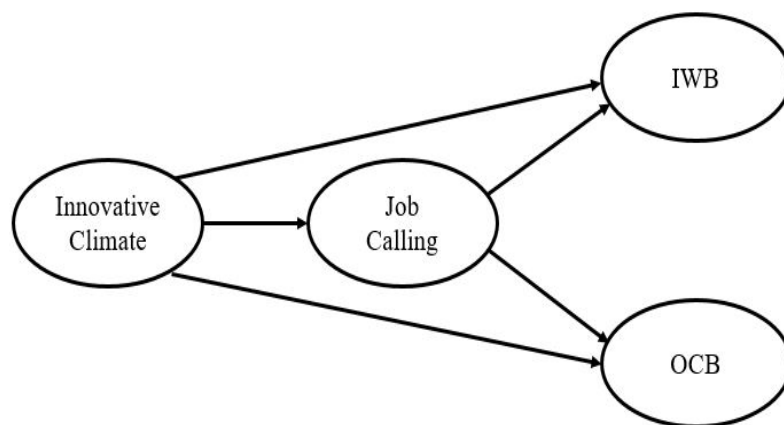


Taken together, we proposed that employees who interpret their organizations as supportive of innovation are more likely to develop a sense of calling toward their jobs, which in turn increases their tendency to engage in IWB and OCB that can facilitate the long-term success and adaptability of an organization. We thus hypothesized the following:

Hypothesis 3a: Innovative climate is positively related to IWB and the relation is mediated by job calling.

Hypothesis 3b: Innovative climate is positively related to OCB and the relation is mediated by job calling.

Figure 1. The hypothesized model.



## Method

### Procedure and Participants

We recruited participants using a snowball sampling method. A snowball sampling method allows a wider sample with different professions and ages being represented (Benfield & Szlemko, 2006). This sampling method also works as an effective technique to achieve higher response rates and to recruit respondents from various locations (Baltar & Brunet, 2012). We recruited potential participants from the first author's personal contacts and their referrals. The online questionnaire was distributed to employees who showed an interest in participating in the study. The online questionnaire consisted of the overview of this study, informed consent

information, human subjects protection information (e.g., reminders of voluntary participation and assurances of confidentiality of their responses), and instructions for the study. Participants were also asked to answer some demographic questions, such as age, occupational field, education, gender, and etcetera.

A total of 177 Malaysian employees coming from diverse occupational fields voluntarily responded to the survey. Twelve participants' data were excluded due to incomplete responses. The final sample consisted of 165 employees of which 61.2% were female and 34.5% were male. The mean age of participants was 33 years old ( $SD = 6.87$  years), ranging from 22 to 54 years old. The average organizational tenure was 4.52 years ( $SD = 5.36$ ). The majority of participants were Malaysian Chinese (77%), followed by Malay (9.7%), Malaysian Indian (7.9%), and other ethnicities (1.2%). The sample represented a variety of industries, including health care (28.5%), information technology and trading (19.4%), service (14.5%), accounting and finance (14.5%), manufacturing (10.3%), education (7.3%), and construction (1.2%). Most of the participants held non-managerial positions (69.7%) and held at least a bachelor's degree or a higher degree (71.6%).

## Measure

***Climate for innovation.*** We assessed the extent to which employees perceive their organization's climate as innovative by using 4 items, adapted from the Developmental Culture Dimension of Organizational Culture Profile (OCP) scale (Marchand, Haines, & Dextras-Gauthier, 2013). Some sample items include "A willingness to experiment" and "Being innovative." Each participant was asked to indicate the extent to which each of the values (items) describes his or her organization. The five response choices range from 1 = "not at all" to 5 = "to a great extent." The internal consistency of the scale as represented by Cronbach's alpha was 0.75.

***Job calling.*** The calling and vocation questionnaire (CVQ-Presence; Dik, Eldridge, Steger, & Duffy, 2012) was used to assess the degree to which employees perceive their jobs as a calling. CVQ-Presence is comprised of 3 subscales and each subscale consists of 4 items. The 3 subscales include transcendent summons, purposeful work, and prosocial orientation. Some example items were "I was drawn

by something beyond myself to pursue my current line of work" (transcendent summons), "I see my career as a path to purpose in life" (purposeful work), and "The most important aspect of my career is its role in helping to meet the needs of others" (prosocial orientation). Each participant was asked to indicate the degree to which he or she believes each item describes his or her career as a whole. The four response choices range from 1 = "not at all true of me" to 4 = "absolutely true of me." Cronbach's alpha for this scale was 0.85.

***Innovative Work Behaviors (IWB).*** Employees' innovative behavior at the workplace was assessed with IWB scale from Janssen (2000). The IWB scale contains 3 subscales and each subscale includes 3 items. The 3 subscales are identified as idea generation, idea promotion, and idea realization. Some example items were "Creating new ideas for difficult issues" (idea generation), "Acquiring approval for innovative ideas" (idea promotion), and "Transforming innovative ideas into useful applications" (idea realization). Each item asks each employee to indicate how often he or she performs each of the behaviors at his or her present job. The seven response choices range from 1 = "never" to 7 = "always." Cronbach's alpha for this scale was 0.94.

***Organizational Citizenship Behavior (OCB).*** OCB of employees was measured using a scale developed by Spector, Bauer, and Fox (2010). The OCB scale consists of 2 dimensions of OCB, in which 5 items refer to OCB directed toward individuals, and the other 5 items refer to OCB directed toward organization. Some sample items included "Taking time to advise, coach, or mentor a co-worker," and "Volunteering to attend meetings or work on committees on own time." Each item asks each employee to indicate how often he or she performs each of the behavior at his or her present job. The five response choices range from 1 = "never" to 5 = "every day." Cronbach's alpha for this scale was 0.92.

***Control variables.*** Corresponding with prior studies (e.g. Janssen, 2000; Organ & Konovsky, 1989), we controlled the impacts of certain demographic variables by entering the demographic variables as control variables in the analysis of this study. The control variables were employees' gender (0 = female, 1 = male), educational level (dummy coding of 0 = below bachelor's degree, 1 = bachelor's

degree and higher degrees), organizational position (0 = non-manager, 1 = manager), and organizational tenure (in months).

### **Analytic Strategy**

We tested our hypotheses by conducting structural equation modeling (SEM) with the maximum likelihood estimation method using Mplus 8.1 (Muthén & Muthén, 2018). First, we conducted a series of confirmatory factor analysis (CFA) in order to demonstrate construct distinctions among the variables of interest. As a second step, we fit the data to the hypothesized model with control variables (i.e., gender, educational level, organizational position, and organizational tenure) to test our hypotheses. In the analyses, both individual item scores and parcel scores were used to serve as indicators of the latent variables.

We used individual item scores for the latent variable of innovative climate. Parcel scores were used for the latent variables of job calling, IWB, and OCB. We formed three parcels for job calling in line with the three subscales of CVQ-Presence (Dik et al., 2012), representing transcendent summons, purposeful work, and prosocial orientation. Three parcels for IWB were constructed based on the three subscales of IWB scale from Janssen (2000), comprising idea generation, idea promotion, and idea realization. Ten items were specifically assigned to two parcels according to two dimensions of OCB from Spector, Bauer, and Fox (2010), including OCB directed toward individuals and OCB directed toward organization.

We used Chi-squared tests, comparative fit index (CFI), Tucker-Lewis Index (TLI), and root-mean-square error of approximation (RMSEA) to evaluate the overall fit of models. To test our mediation hypotheses, we adopted a bootstrap approach with 10,000 resamples (Preacher & Hayes, 2004).

## **Results**

The means, standard deviations, reliability estimates, and intercorrelation

matrix for each studied variable are displayed in Table 1.

*Table 1. Means, Standard Deviations, and Correlations Among Studied Variables*

Variables	Mean	SD	1	2	3	4
1. Innovative climate	3.41	0.77	(0.75)			
2. Job calling	2.75	0.53	.29**	(0.85)		
3. IWB	4.40	1.19	.48**	.46**	(0.94)	
4. OCB	3.24	0.90	.29**	.44**	.51**	(0.92)

*Note.*  $N = 165$ . Reliabilities (Cronbach's alpha) are on the diagonal in parentheses.  
 IWB = innovative work behavior; OCB = organizational citizenship behavior.

\* $p < .05$ . \*\* $p < .01$ .

### Tests of the Measurement Model

We first conducted a series of confirmatory factor analysis to examine whether our measurement model (four-factor model, Model 1) is more adequate than alternative models (Models 2 and 3). Prior research has characterized IWB and OCB as extra-role behaviors. Therefore, we tested a three-factor model where IWB and OCB were loaded on one factor (Model 2). Finally, all the variables of interest were combined into a single factor (Model 3).

Model 1 showed excellent fit with the data,  $\chi^2 = 52.67$ ,  $df = 48$ ,  $p = 0.30$ ; CFI = 1.00, TLI = 0.99, RMSEA (90% CI) = .024 (0-0.058); SRMR = 0.04. Compared to Model 1, both the Model 2 and the Model 3 demonstrated a significantly worse fit with the data (see the fit measures in Table 2). In conclusion, Model 1 represents the best fit for the data.

*Table 2. Model Fit Statistics and Model Comparisons*

Model	$\chi^2$ (df)	<i>p</i>	$\Delta\chi^2$ (df)	<i>p</i>	CFI	TLI	RMSEA (90% CI)
Model 1 (4-Factor)	52.67 (48)	0.30			1.00	0.99	0.024 (0-0.058)
Model 2 (3-Factor)	146.89 (51)	< .001	94.22 (3) <sup>a</sup>	< .001	0.90	0.87	0.11 (0.09-0.13)
Model 3 (1-Factor)	370.79 (54)	<.001	318.11 (6) <sup>b</sup>	< .001	0.67	0.59	0.19 (0.17-0.21)

*Note.* a. Model 1 vs. Model 2, b. Model 1 vs. Model 3.

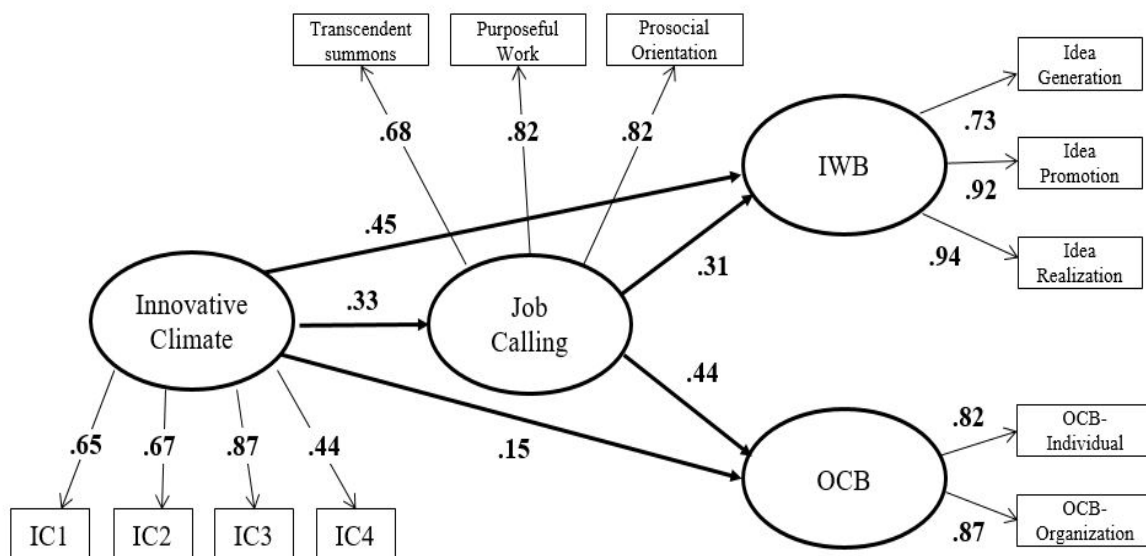
### Hypotheses Testing

We fit the hypothesized model, which showed an excellent fit with the data, in which  $\chi^2 = 102.62$ ,  $df = 88$ ,  $p = .14$ ; CFI = 0.98, TLI = 0.98, RMSEA (90% CI) = .032 (0-0.056); SRMR = 0.07. We also fit an alternate model, in which job calling fully mediates the relationship between innovative climate and both IWB and OCB (a full mediation model). That is, there is no direct effect of innovative climate on either IWB or OCB. The alternate model also demonstrated an excellent fit with the data,  $\chi^2 = 129.4$ ,  $df = 90$ ,  $p < 0.01$ ; CFI = 0.96, TLI = 0.95, RMSEA (90% CI) = .053 (0.03-0.072); SRMR = 0.01. However, the fully mediated model showed a slightly worse fit compared to the partially mediated model. Hence, we chose the partially mediated model in the current study. Figure 2 shows the standardized estimates of each parameter of the partial mediation model.

Based on the results of parameter estimates of the partial mediation model, Hypothesis 1 was supported in that innovative climate was positively related to employees' job calling ( $Beta = 0.33$ ,  $SE = 0.1$ ,  $p < 0.01$ ). We also found that employees' job calling had a positive and significant association with IWB ( $Beta = 0.31$ ,  $SE = 0.08$ ,  $p < 0.01$ ) and OCB ( $Beta = 0.44$ ,  $SE = 0.1$ ,  $p < 0.001$ ). Therefore, Hypotheses 2a and 2b were supported.

Moreover, the bootstrapping analyses showed that the indirect effects of innovative climate on both IWB (indirect effect = 0.10,  $p < 0.01$ , 95% CI = 0.04 to 0.21) and OCB (indirect effect = 0.15,  $p < 0.05$ , 95% CI = 0.06 to 0.29) through job calling were significant. Hence, Hypotheses 3a and 3b were supported. Finally, innovative climate exerted a significant direct effect on IWB ( $Beta = 0.45$ ,  $SE = 0.1$ ,  $p < 0.001$ ), but not on OCB ( $Beta = 0.15$ ,  $SE = 0.1$ ,  $p > 0.05$ ). Thus, these results indicated that job calling had a partial mediating effect on the relationship between innovative climate and IWB. On the other hand, job calling fully mediated the relationship of innovative climate and OCB.

Figure 2. The standardized parameter estimates for the hypothesized model .



Note. All parameter estimates were significant at  $p < 0.01$ , except the estimate of the path from innovative climate to OCB.

## Discussion

The present research represents one of the first attempts to test the importance of employees' perception of an organization's innovation in promoting the development of job calling. As expected, the results supported that employees who perceive their organizations as having an innovative climate are more likely to develop job calling

and to show more IWB and OCB. These results have important implications for both research and practice.

First, these findings extend the job calling literature by adding perceived climate of innovation as a significant predictor of job calling. Thus far, numerous studies have attempted to find potential antecedents of job calling, paying attention to personal factors and job characteristics, such as public service motivation (Kim & Kim, 2018), personal growth (Bott & Duffy, 2015), and job autonomy (Jin & Son, 2015). The current findings add an interesting nuance to our understanding of how employees' perception of organizational environment can help employees discover their job calling at work. From the traditional perspective, sense of calling is being assumed to be a stable construct that is unchanging (Bunderson & Thompson, 2009). However, similar to other studies on the predictors of job calling, our findings also provide evidence that job calling can be an outcome variable that is significantly affected by psychological climate.

Second, as expected, employees who interpret their organizations as supportive of innovation tend to do more IWB. What makes this interesting is the fact that at least some of the effect of innovative climate on IWB was mediated by job calling. That is, the more employees perceive their organizations as having an innovative climate, the more they will engage in IWB because they have higher levels of job calling. Although researchers reported that autonomy (Sönmez & Yıldırım, 2019), creative self-efficacy, and expected image gains (Kao, Pai, Lin, & Zhong, 2015) mediate the relationship of innovative climate and IWB, our study offers another new insight on how the psychological process of innovative climate facilitates IWB.

Third, innovative climate was also positively correlated with OCB and the effect of innovative climate on OCB was fully mediated by job calling. In other words, our findings indicated that employees who perceive their organization as supportive of innovation engage in more OCB mainly because employees have a higher level of job calling. Despite a study that demonstrated a positive relationship between innovative climate and change-oriented OCB (Choi, 2007), ours is one of the first studies to investigate the effect of innovative climate on employees' OCB through an



underlying mechanism called job calling. Taken together, our findings clarify the nature and role of job calling in the relationships between innovative climate and both types of extra-role behaviors.

The current study has important practical implications for organizations. Our findings highlight innovative climate playing a critical role in helping employees to develop sense of calling for their jobs in the organization. Organizations can assist employees in forming the perception that their organization has an innovative climate to facilitate the development and increase of job calling. In turn, employees who have a job calling are more likely to engage in extra-role behaviors that are beneficial to organizational effectiveness and success. Hence, we encourage organizations to convey the importance of perceiving organizations as having an innovative climate and of developing a sense of calling toward their job.

Considering the long-term and beneficial outcomes of an innovative climate, the organization's human resources policies should be adequately adjusted to fit with organizational goals for innovation (Shanker et al., 2017). For example, practitioners who intend to institute a healthy and effective climate of innovation could insert new systems and structures that promote greater innovative challenges and changes among employees. New practices for the purpose of innovation can lead to a change of perception about the climate of innovation among employees (Schneider et al., 1996). Also, practitioners could conduct training programs to coach managers on how to be more supportive of innovative working methods and how to help employees interpret their organizations as having an innovative climate (King, De Chermont, West, Dawson, & Hebl, 2007).

### **Limitations and Future Directions**

Some limitations of the present study warrant discussion. First, we employed a cross-sectional study design. The cross-sectional study design prevents us from drawing strong causal inferences concerning the direction of the specified relationships. That is, although the current study maintains that innovative climate is an antecedent of job calling, a reverse causation or spurious relationship caused by a third factor also can explain the correlation between innovative climate and job

calling. Further, our study design also restricts us from completely ruling out common method bias as an alternative explanation (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Therefore, longitudinal designs are highly recommended for future studies, because longitudinal studies are more effective and useful in drawing conclusions on the causal direction of the relationships and in determining the changes among study variables over time.

Second, this study examined the role of the psychological climate in forming a job calling. While psychological climate is an individual attribute, researchers have also studied climate as an organizational attribute. Organizational climate focuses on a shared perception of employees within an organization (Joyce & Slocum, 1984). Both psychological climate and organizational climate are relevant but distinct constructs (Schulte et al., 2006). Taking into consideration that both psychological climate and organizational climate are needed in understanding the multi-level nature of organizational climate (Glick, 1985), future research should reexamine the current findings by assessing innovative climate at the organizational level of analysis.

The majority of our sample being Malaysian Chinese limits the degree to which our findings can be generalized to other samples. To counteract the issue on the generalizability of our results, we sampled employees from a variety of industries and organizations. Further, researchers also reported no specific meaningful difference in terms of job calling among employees from different ethnicities in the United States (Duffy & Sedlacek, 2010). Yet, we suggest future studies consider ethnic diversity of participants.

Finally, there are many ways to extend the current study. In this study, we focused on the role of innovative climate in facilitating employees' job calling and extra-role behaviors. There should be a variety of potential organizational characteristics that may influence job calling. We recommend future research examine whether other types of climates, such as service climates and supportive climates, could possibly predict job calling of employees and further be associated with employees' work-related outcomes. Also, our research has only identified a mediating effect of job calling on the relationship between innovative climate and

extra-role behaviors. Yet, there may be potential moderating effects that possibly strengthen or weaken the relationship in the workplace. Moreover, our study has simply examined the impact of innovative climate and job calling on positive work-related outcomes. Hence, future studies can employ a theoretically based moderator to not only investigate the predictor of job calling, but the positive and negative work-related outcomes of job calling.

### **Conclusion**

The current study deepens our knowledge about the predictor and work-related outcomes of job calling. Our findings particularly underscore the critical role played by a perceived climate of innovation in promoting the development of job calling. Our findings also have important practical implications in that they show how job calling explains the relationship of a perceived climate of innovation and extra-role behaviors. Lastly, future research on the predictors and consequences of job calling are important given the positive influence of job calling in the organizational settings.

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