

Using goal facilitation theory to explain the relationships between calling and organization-directed citizenship behavior and job satisfaction☆

Baoguo Xie^{a,*}, Wenxia Zhou^b, Jason L. Huang^c, Mian Xia^d

^a Wuhan University of Technology, China

^b Renmin University of China, China

^c Michigan State University, United States

^d Central China Normal University, China

ARTICLE INFO

Article history:

Received 9 May 2016

Received in revised form 20 February 2017

Accepted 6 March 2017

Available online 07 March 2017

Keywords:

Calling

OCBO

Job satisfaction

Organizational instrumentality

ABSTRACT

Despite an increase in research on calling, few studies have examined how calling influences overt workplace behaviors and job satisfaction. Drawing on goal facilitation theory we examined the psychological mechanisms underlying the effects of calling on organization-directed citizenship behavior (OCBO) and job satisfaction in a sample of 322 Chinese employees. The results showed that calling (employee-reported at time 1) was positively related to OCBO (supervisor-reported at time 2) and job satisfaction (employee-reported at time 2), and organizational instrumentality (employee-reported at time 2) provided an explanatory mechanism for these relations. The theoretical and practical implications of the findings are discussed.

© 2017 Elsevier Inc. All rights reserved.

Over the last decade, there has been increasing recognition that work can be a calling, and there has been an increase in research on calling in the fields of vocational psychology and management. There is a substantial body of evidence demonstrating that having a calling not only benefits college students' career development (Bott & Duffy, 2015; Douglass & Duffy, 2015; Duffy & Dik, 2013; Praskova, Hood, & Creed, 2014) but is also associated with a large number of positive work outcomes at employee level. Generally, individuals with a calling report greater job satisfaction (Duffy, Autin, Allan, & Douglass, 2015; Greene & Robbins, 2015; Peterson, Park, Hall, & Seligman, 2009), organizational attachment (Cardador, Dane, & Pratt, 2011; Duffy, Dik, & Steger, 2011; Pei & Zhao, 2015), work engagement (Dobrow & Tosti-Kharas, 2011; Hirschi, 2012; Horvath, 2015; Xie et al., 2016), occupational self-efficacy (Hirschi, 2012; Park, Sohn, & Ha, 2016; Praskova, Creed, & Hood, 2015), and well-being (Conway, Clinton, Sturges, & Budjanovcanin, 2015; Praskova et al., 2015).

After a decade of research, researchers have accumulated some knowledge about the effects of calling on employees' work-related attitudes. However, few studies to date have examined how calling is related to overt behaviors. In a recent literature review, Duffy and Dik (2013) called for research that examines whether and how calling is related to overt behaviors such as prosocial behaviors in the workplace. In addition, although the positive relation between calling and job satisfaction is well-established (e.g., Duffy, Allan, Bott, & Dik, 2014; Duffy, Bott, Allan, Torrey, & Dik, 2012; Duffy et al., 2015; Greene & Robbins,

☆ We would like to thank associate editor Ellen Hawley McWhirter and the two anonymous reviewers for their comments and suggestions. This research was supported by the Fundamental Research Funds for the Central Universities (WUT: 2016VI021). The present study was a follow-up to an earlier large-scale investigation (Xie, Xia, Xin, & Zhou, 2016).

* Corresponding author at: School of Management, Wuhan University of Technology, 122 Luoshi Road, Wuhan, Hubei 430070, China.
E-mail address: xiebaoguo@foxmail.com (B. Xie).

2015; Peterson et al., 2009), the underlying psychological mechanism is not fully understood. Mathieu, DeShon, and Bergh (2008) stated that the task of scientific research is not only to examine the links between phenomena but also to investigate how and when they appear. Another weakness of research to date is that the majority of studies have been inductive, with scholars explaining patterns of relations without a clearly overarching theoretical framework. Theories are needed to explain how calling is related to career or work-related outcomes (Duffy & Dik, 2013). In the extant literature, although an overarching theoretical framework has been adopted to examine how calling relates to career choice attitudes (Kaminsky & Behrend, 2015), organizational identification and turnover intention (Cardador et al., 2011), work engagement and career satisfaction (Xie et al., 2016), life satisfaction (Hagmaier & Abele, 2015), and well-being (Conway et al., 2015), no studies to date have examined how calling is related to overt behaviors and satisfaction with jobs.

In this study we address these issues by extending prior research in several ways. First, we examine the relation between calling and organization-directed citizenship behavior (OCBO). Second, we attempt to uncover the psychological mechanism underlying the relation between calling and job satisfaction. Third, we draw on goal facilitation theory to provide a comprehensive, theoretically informed explanation of how calling is related to OCBO and job satisfaction.

1. Theoretical background

1.1. Conceptualization of calling

The extant literature offers three perspectives on calling: the classical, modern, and neoclassical perspectives (Dobrow & Tosti-Kharas, 2011; Ponton et al., 2014). Various scholars have recently noted that the neoclassical perspective offers the best account of calling (Conway et al., 2015; Duffy et al., 2015; Ponton et al., 2014). Accordingly, we followed the neoclassical perspective and defined calling as “transcendent summons, experienced as originating beyond the self, to approach a particular life-role in a manner oriented toward demonstrating or deriving a sense of purpose or meaningfulness and that holds other-oriented values and goals as primary sources of motivation” (Dik & Duffy, 2009, p. 427). As the present study is situated in China, it is worth noting that the neoclassical approach to calling has been supported in both a qualitative study (Zhang, Dik, Wei, & Zhang, 2015a) and a measurement study (Zhang, Herrmann, Hirschi, Wei, & Zhang, 2015b) with Chinese college students.

1.2. Goal facilitation theory

The goal facilitation theory suggests that people are in constant pursuit of personal meaningful goals, and that many of their day-to-day attitudes and behaviors are shaped by personal goals (Fitzsimons & Shah, 2008). Specifically, goal facilitation theory states that individuals often look to social environments (significant others, jobs, organizations, etc.) that can advance important goals. Hence, social environments are often considered instrumental to goal achievement. When the important and meaningful goals are advanced in social environments, individuals will generate positive attitudes and behaviors relative to their goals. The hypotheses of goal facilitation theory are supported by some empirical studies. For example, experimental studies by Labroo and Kim (2009) showed that individuals with active goals would approach instrumental others more readily. Experimental studies by Fitzsimons and Shah (2008) showed that when individuals made progress toward their goals, they evaluated instrumental environments more positively. Another study by Doest, Maes, Gebhardt, and Koelewijn (2006) found that the personal goal facilitation through work accounted for a substantial proportion of variance in job satisfaction and well-being, even after controlling for job characteristics. An individual with a calling has a clear goal (Dik & Duffy, 2009; Elangovan, Pinder, & McLean, 2010). Applying this theorizing, we posit that individuals with a calling will actively seek to overcome barriers to enter a social environment that would be conducive to fulfilling their calling. Thus, goal facilitation theory can serve as a clearly articulated overarching theoretical framework for explaining how calling is related to work-related attitudes and behaviors.

1.3. Hypothesis development

Based on goal facilitation theory, we hypothesized that: (a) calling positively predicts OCBO and job satisfaction, and (b) organizational instrumentality mediates the relations between calling and OCBO and job satisfaction. The proposed research model is shown in Fig. 1.

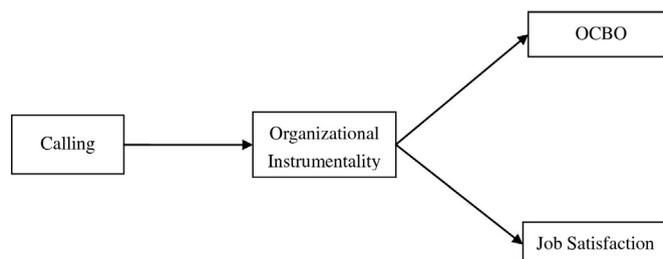


Fig. 1. The proposed model.

1.3.1. The relation between calling and OCBO

We hypothesize that calling is positively associated with OCBO. First, when pursuing personal goals, people with a calling do not limit their efforts to what is required to meet official requirements and prescribed targets; they often carry out activities that go beyond their formal job descriptions and go the extra mile at work (Elangovan et al., 2010). OCBO is an individual's discretionary behavior that helps to enhance organizational effectiveness but is not a formal requirement (Organ, 1988). Second, the individual having a calling has an altruistic tendency. To varying degrees, the individual with a calling is other-focused and willing to make personal sacrifices for the welfare of others. OCBO is a type of prosocial organizational behavior that benefits the welfare of the organization (Coleman & Borman, 2000). Generally, individuals with an altruistic tendency are more likely to feel personal responsibility for improving the welfare of their organization and hence are more likely to behave altruistically in the workplace (Arthaud-Day, Rode, & Turnley, 2012; Grant, 2007, 2008; Grant & Mayer, 2009). On the basis of these arguments, we propose that the individual with a calling is more likely to display OCBO. Third, the theoretical hypothesis is in line with the findings of two empirical studies. Serow (1994) found that teachers with a calling were more likely to make personal sacrifices in order to accomplish organizational goals. Bunderson and Thompson (2009) showed that zookeepers who had a calling were more likely to engage in helping behaviors at work. Taken together, we hypothesize that:

Hypothesis 1. Calling is positively related to OCBO.

1.3.2. The relation between calling and job satisfaction

The goal orientations of people with a calling are intrinsic, and they are motivated by intrinsic rewards (e.g., fulfillment, opportunity to make a difference in society) (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985; Conway et al., 2015; Elangovan et al., 2010; Hardy, 1990), but not by extrinsic rewards (e.g., financial gain, promotion, prestige, comfort) (Bellah et al., 1985; Bunderson & Thompson, 2009; Greene & Robbins, 2015; Hardy, 1990). Generally speaking, people motivated by intrinsic rewards experience higher job satisfaction. In addition, the calling–job satisfaction association has been observed in both cross-sectional research (e.g., Duffy et al., 2012; Duffy et al., 2014; Greene & Robbins, 2015; Peterson et al., 2009) and longitudinal research (Duffy et al., 2015). For example, the correlation coefficient for the relation between calling and job satisfaction was $r = 0.54$ in Peterson et al.'s (2009) large sample investigation ($n = 9803$). In Duffy et al.'s (2015) longitudinal study, the correlation coefficients for the relation between calling measured with different calling scales and job satisfaction three months later ranged from 0.25 to 0.49. Therefore, we predict that the positive calling–job satisfaction association will also be observed in the current study.

Hypothesis 2. Calling is positively related to job satisfaction.

1.3.3. The mediating role of organizational instrumentality

Callings suggest a certain sense of clarity of purpose, direction, meaning and personal mission (Dik & Duffy, 2009; Elangovan et al., 2010). Motivated by the clear and meaningful goal, the individual with a calling has a strong desire to achieve the goal associated with that calling. Goal facilitation theory claims that the individual with a clear and accessible goal is more likely to perceive the instrumentality of a particular social environment in fulfilling that goal (Labroo & Kim, 2009). This suggests that employees with a calling will be more likely to regard the employing organization as offering legitimate vehicle for fulfilling their calling. The term organizational instrumentality captures the perception that an organization can be instrumental to goal pursuit and fulfillment, and is defined as the degree to which individuals perceive their organization as instrumental to goal fulfillment (Cardador et al., 2011). According to goal facilitation theory, we propose that the individual with a calling will be more likely to perceive organizational instrumentality. Consequently, they may be more likely to reciprocate to the organization by engaging in OCBO and to experience greater job satisfaction because of the higher perception of organizational instrumentality. Positioning organizational instrumentality as a mediator of the relations between calling and OCBO and job satisfaction implies linkages from organizational instrumentality, OCBO and job satisfaction. Previous studies have demonstrated that organizational support for individuals' efforts to achieve personal goals can encourage individuals to display OCBO and increase their job satisfaction (Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Rhoades & Eisenberger, 2002; Riggle, Edmondson, & Hansen, 2009). In combination with the finding that calling positively predicted organizational instrumentality (Cardador et al., 2011), we argue that organizational instrumentality can explain the relations between calling and OCBO and job satisfaction. Therefore, Hypotheses 3 and 4 are as follows:

Hypothesis 3. Organizational instrumentality mediates the positive relation between calling and OCBO.

Hypothesis 4. Organizational instrumentality mediates the positive relation between calling and job satisfaction.

2. Method

2.1. Procedure and participants

Participants for this study were recruited from a large state-owned bank in China. We believe that potential confounding effects of exogenous variables (e.g., industry characteristics, organization culture, etc.) could be mitigated by sampling a single

organization. Although the sample was drawn from a single organization, a wide range of occupational fields were represented, including accountant (23.60%), consultant (20.81%), administrative personnel (17.39%), administrative assistant (11.18%), salesperson (10.56%), customer service personnel (9.94%) and security personnel (6.52%).

With the assistance of the human resources director, employees were invited to participate in our survey by an e-mail over the organization's intranet. The e-mail set out the aims of the study and assured potential participants that their responses would be confidential. Employees who were interested in participating could reply via e-mail. To reduce common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), data were collected at two time-points and from different sources. At the first time-point (Time 1), employees were asked to provide information on age, education, organizational tenure, gender and calling. Three weeks later (Time 2), employees were asked to provide information on their organizational instrumentality and job satisfaction, while their direct supervisors were asked to rate their subordinates' OCBO.

At the first time-point we distributed 1355 questionnaires to employees and received 1026 valid responses, a response rate of 75.72%. Three weeks later, we distributed questionnaires to the 1026 employees who had completed the first survey and asked them to report their organizational instrumentality and job satisfaction. 832 valid responses were received, a response rate of 81.09%. The 832 employees who had completed the second survey were from 121 work units. Their respective supervisors had as many as 13 subordinates among this group. To reduce the demand on supervisors' time and ensure their data quality, we randomly selected four subordinates for each direct supervisor to rate. These 121 supervisors then were given a large packet containing four subordinate OCBO questionnaires and a cover letter. The cover letter explained that the purpose of the survey was to investigate employees' helping behaviors in the workplace and that the scores they gave would not be disclosed to their subordinates. We received 322 usable questionnaires from 81 supervisors, a valid response rate of 66.94%. All supervisors rated four subordinates, except one who rated only two subordinates. Thus, the final sample consisted of 322 employees (172 women, 53.42%). The average age of the employees was 33.39 years ($SD = 7.05$) and their average organizational tenure was 6.06 years ($SD = 4.66$). Regarding education, 20.19% held an associate's degree, 68.63% held a bachelor's degree, and 11.18% held a master's degree.

2.2. Instruments

Following the technique of back-translation (Brislin, 1970), the instruments used were translated from English into Chinese by a native Chinese speaker fluent in English. Materials were also back-translated to further improve the translations. The structural validity of the instruments was assessed using confirmatory factor analysis (CFA) with Mplus 7.0.

2.2.1. Calling

Calling was measured at Time 1 with the 12-item presence of calling scale from the calling and vocation questionnaire (CVQ; Dik, Eldridge, Steger, & Duffy, 2012). The CVQ consists of three subscales: transcendent summons, purposeful work, and prosocial orientation. Each subscale consists of four items, and participants were asked to respond on a 6-point Likert scale ranging from 1 (*not at all true of me*) to 6 (*totally true of me*). Sample items are "I am pursuing my current line of work because I believe I have been called to do so" (transcendent summons), "I see my career as a path to purpose in life" (purposeful work), and "I am always trying to evaluate how beneficial my work is to others" (prosocial orientation). In the instrument development study (Dik et al., 2012), the CVQ showed the expected pattern of correlations with similar and dissimilar criterion variables, such as calling assessed by others, prosocial work attitudes, life meaning, life satisfaction and work hope. The internal consistency and one-month test-retest reliability for total CVQ score were $\alpha = 0.89$ and $r = 0.75$ respectively. In this study, second-order confirmatory factor analysis demonstrated that the calling scale had a higher-order latent construct overarching three factors ($\chi^2_{(51)} = 120.61$, $p < 0.01$; TLI = 0.94; CFI = 0.95; RMSEA = 0.06; SRMR = 0.04). Standardized first-order loadings ranged from 0.70 to 0.90, and standardized second-order loadings ranged 0.74 to 0.89. The internal consistency of total CVQ score was $\alpha = 0.88$.

2.2.2. Organizational citizenship behavior

OCBO was measured at Time 2 with items from the OCBO subscale developed by Lee and Allen (2002). Direct supervisors were asked to rate subordinates on a 7-point Likert scale (1 = *never*, 7 = *always*). We kept the questionnaire short to reduce respondents' time demand and ensure data quality. Following Arthaud-Day et al. (2012), we selected four items from Lee and Allen's OCBO subscale based on two criteria: (a) behaviors that could be observed by others in the organization, and (b) their factor loadings. The items selected were "Attend functions that are not required but that help the organizational image", "Keep up with developments in the organization", "Defend the organization when other employees criticize it", and "Show pride when representing the organization in public." CFA demonstrated that the reduced scale also had a one-dimensional structure ($\chi^2_{(2)} = 12.79$, $p < 0.01$; TLI = 0.92; CFI = 0.94; RMSEA = 0.07; SRMR = 0.04), and standardized factor loadings ranged from 0.76 to 0.89. In our sample, the internal consistency of the OCBO scale was 0.90.

2.2.3. Job satisfaction

Job satisfaction was measured at Time 2 using the 3-item job satisfaction scale developed by Messersmith, Patel, Lepak, and Gould-Williams (2011). A sample item is "All things considered, I feel pretty good about this job." Responses were given using a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). In Messersmith et al.'s (2011) sample of 1755 government employees, the internal consistency of the scale was 0.83. Because the one-dimensional measurement model with three

indicators was a saturated model, it showed a perfect fit, and standardized factor loadings ranged from 0.75 to 0.77. The internal consistency of this scale was $\alpha = 0.85$.

2.2.4. Organizational instrumentality

The 4-item scale developed by Cardador et al. (2011) was used to assess participants' organizational instrumentality at Time 2. A sample item is "Working at my organization helps me to achieve my personal goals." Participants were asked to respond on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). In Cardador et al.'s (2011) sample of 364 healthcare workers, the internal consistency of the scale was 0.91. In the present study, CFA demonstrated that the organizational instrumentality scale had a one-dimensional structure ($\chi^2_{(2)} = 12.79, p < 0.01$; TLI = 0.93; CFI = 0.94; RMSEA = 0.07; SRMR = 0.04), and standardized factor loadings ranged from 0.71 to 0.93. The internal consistency of the scale was $\alpha = 0.90$.

2.2.5. Control variables

Previous studies have shown that certain socio-demographic variables can affect OCBO (Bahrami, Montazeralfaraj, Gazar, & Tafti, 2013; Malek & Tie, 2012) and job satisfaction (Agho, Mueller, & Price, 1993; Brush, Moch, & Abdullah, 1987). Thus, these variables were considered as potential control variables in the current research. Participants were asked to report these data at Time 1. Socio-demographic variables were measured by age, gender (0 = male, 1 = female), education (0 = associate, 1 = bachelor, 2 = master and above), and organizational tenure.

3. Results

3.1. Preliminary analyses

We first conducted a confirmatory factor analysis with Mplus7.0 to estimate the distinctiveness of the latent variables of interest. In the CFA, we evaluated our measurement model against competing plausible models. The results showed that a four-factor model distinguishing between calling, organizational instrumentality, OCBO and job satisfaction was a better fit to the data ($\chi^2 = 684.50, df = 224, p < 0.001$; CFI = 0.90; TLI = 0.89; RMSEA = 0.07; SRMR = 0.06) than alternative models: (a) a three-factor model in which calling and job satisfaction were combined into one factor ($\chi^2 = 806.71, df = 227, p < 0.001$; CFI = 0.85; TLI = 0.83; RMSEA = 0.09; SRMR = 0.06); (b) a three-factor model in which calling and organizational instrumentality were combined into one factor ($\chi^2 = 779.68, df = 227, p < 0.001$; CFI = 0.86; TLI = 0.84; RMSEA = 0.09; SRMR = 0.06); (c) a three-factor model in which calling and OCBO were combined into one factor ($\chi^2 = 1294.984, df = 227, p < 0.001$; CFI = 0.72; TLI = 0.69; RMSEA = 0.12; SRMR = 0.11); and (d) a one-factor model in which all latent variables loaded on a single factor ($\chi^2 = 1451.94, df = 230, p < 0.001$; CFI = 0.68; TLI = 0.65; RMSEA = 0.13; SRMR = 0.11). In short, these findings showed that the respondents were able to differentiate the different latent variables.

We next conducted analyses to determine whether it was necessary to control for all four socio-demographic variables. By removing control variables uncorrelated with the dependent variables, we avoided potential spurious effects that controls may have when they are significantly related to the predictor, but not the criterion variables (Kraimer, Seibert, Wayne, Liden, & Bravo, 2011). In separate regression equations in which each of our two outcome variables was regressed on these four potential control variables, age, organizational tenure and gender significantly predicted job satisfaction, and none of the demographic variables significantly predicted OCBO. Thus, we controlled for age, organizational tenure and gender in the case of job satisfaction as the criterion variable, and none of demographic variables were controlled for in the case of OCBO as the criterion variable.

Table 1

Descriptive statistics and inter-correlations among variables.

	1	2	3	4	5	6	7	8	9	10
1. Age	NA									
2. Organization tenure	0.68***	NA								
3. Gender	0.08	0.15**	NA							
4. Calling	0.13**	0.03	-0.09	(0.88)						
5. Transcendent summons	0.16**	0.02	-0.09	0.87***	(0.87)					
6. Purposeful work	0.07	0.01	-0.08	0.90***	0.78***	(0.90)				
7. Prosocial orientation	0.11*	0.05	-0.06	0.83***	0.56***	0.64***	(0.81)			
8. Organizational instrumentality	0.09	0.00	-0.11*	0.72***	0.70**	0.71***	0.57***	(0.90)		
9. Job satisfaction	0.07	-0.04	-0.12*	0.57***	0.56***	0.54***	0.42***	0.65***	(0.85)	
10. OCBO	0.10	0.05	0.00	0.24***	0.23**	0.22**	0.17**	0.26***	0.30***	(0.90)
Measurement scale range	NA	NA	NA	1–6	1–6	1–6	1–6	1–6	1–4	1–7
Mean	33.39	6.06	0.53	4.42	4.34	4.68	4.60	4.62	3.29	4.73
Standard deviation	7.05	4.67	0.50	0.68	1.03	0.82	0.77	0.88	0.64	0.89

Note. $N = 322$; Numbers in parentheses are reliability coefficients.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

3.2. Descriptive statistics and correlations

As shown in Table 1, calling was positively correlated with organizational instrumentality ($r = 0.72, p < 0.001$), job satisfaction ($r = 0.57, p < 0.001$) and OCBO ($r = 0.24, p < 0.001$). Organizational instrumentality was also positively correlated with job satisfaction ($r = 0.65, p < 0.001$) and OCBO ($r = 0.26, p < 0.001$). These results provide preliminary support for Hypotheses 1–4.

3.3. Hypothesis testing

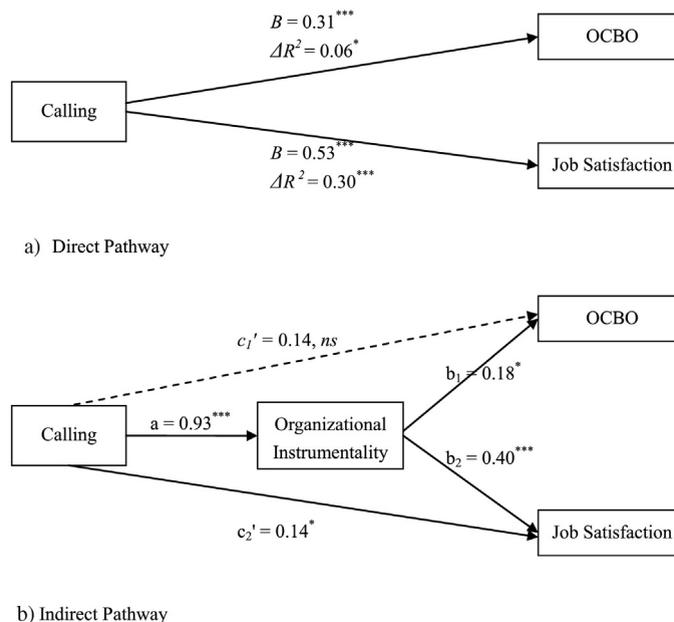
As the CFA analysis above supported the structural validity of our measurement model, we proceeded to conduct structural equation modeling focused on directional relations between observed variables (Hoyle, 2012). The results were summarized in Fig. 2.

Hypotheses 1 and 2 stated that calling is positively related to OCBO and job satisfaction. Fig. 2 shows that calling was positively related to OCBO ($B = 0.31, SE = 0.07, p < 0.001; \Delta R^2 = 0.06, p < 0.05$) and job satisfaction ($B = 0.53, SE = 0.04, p < 0.001; \Delta R^2 = 0.30, p < 0.001$). Thus, Hypotheses 1 and 2 were supported.

Hypotheses 3 and 4 stated that calling is indirectly related to OCBO and job satisfaction via organizational instrumentality. Fig. 2 also shows that calling was positively related to organizational instrumentality ($B = 0.93, SE = 0.05, p < 0.001$), which was positively related to OCBO ($B = 0.18, SE = 0.08, p < 0.05$) and job satisfaction ($B = 0.40, SE = 0.04, p < 0.001$). The RMediation program (Tofghi & MacKinnon, 2011) was used to estimate indirect effects and their 95% confidence intervals. Organizational instrumentality mediated the associations between calling and OCBO (indirect effect = 0.17, 95% CI = 0.03 to 0.32,) and job satisfaction (indirect effect = 0.38, 95% CI = 0.29 to 0.46). We also followed Preacher and Kelley's (2011) suggestion and used κ^2 to measure the effect sizes of the indirect effects. According to Cohen's (1988) criteria, the effect sizes for the mediation were medium in the case of the relation between calling and OCBO ($\kappa^2 = 0.09$) and large in the case of the relation between calling and job satisfaction ($\kappa^2 = 0.31$). These results indicate that organizational instrumentality is a practically important mediator of these relations. Thus, Hypotheses 3 and 4 were supported. Additionally, when organizational instrumentality was entered into the model, calling was still significantly related to job satisfaction ($B = 0.14, SE = 0.06, p < 0.05$), but not significantly related to OCBO ($B = 0.14, SE = 0.11, ns$). According to Barron and Kenny (1986), organizational instrumentality partially mediated the relation between calling and job satisfaction, and fully mediated the relation between calling and OCBO.

3.4. Supplementary analyses

While our research focused on calling as a whole, it is possible that the transcendent summons dimension might be more powerful than the other two dimensions of purposeful work and prosocial orientation and hence contribute uniquely to the prediction of outcomes. To assess this possibility, we conducted supplementary analyses to explore the simultaneous effects of these



Note: Unstandardized path coefficients were reported; * $p < 0.05$, *** $p < 0.001$.

Fig. 2. Results of the structural model assessment. Note: Unstandardized path coefficients were reported; * $p < 0.05$, *** $p < 0.001$.

three dimensions on OCBO and job satisfaction. The results revealed that transcendent summons was a significant predictor of OCBO ($B = 0.13$, $SE = 0.06$, $p < 0.05$), whereas purposeful work ($B = 0.09$, $SE = 0.10$, ns) and prosocial orientation ($B = 0.04$, $SE = 0.08$, ns) were not. Moreover, organizational instrumentality fully mediated the relation between transcendent summons and OCBO (indirect effect = 0.06, 95% CI = 0.01 to 0.11). Meanwhile, when predicting job satisfaction, transcendent summons ($B = 0.21$, $SE = 0.05$, $p < 0.001$) and purposeful work ($B = 0.17$, $SE = 0.06$, $p < 0.01$) both had significant unique effects, whereas prosocial orientation did not ($B = 0.08$, $SE = 0.05$, ns). Organizational instrumentality partially mediated the relations transcendent summons (indirect effect = 0.11, 95% CI = 0.06 to 0.15) and purposeful work (indirect effect = 0.13, 95% CI = 0.07 to 0.18) had with job satisfaction.

4. Discussion

The main aim of this study was to investigate the mechanism underlying the effects of calling on OCBO and job satisfaction. Analyses of a multiple-source, time-lagged dataset showed that people with a calling engage in more OCBO and experience greater job satisfaction, and organizational instrumentality provides the explanatory mechanism for the associations calling had with OCBO and job satisfaction.

4.1. Theoretical implications

This study extends existing knowledge and provides theoretical implications in three ways. First, it constitutes a thorough investigation of the relation between calling and OCBO. Elangovan et al. (2010) argued that the concept of calling held significant promise for enriching our understanding of a range of organizational phenomena and discussed its implications for OCB in detail. A recent review (Duffy & Dik, 2013) also called for more research into the links between calling and performance outcomes and prosocial behaviors at work. However to date there has been only one study of the impact of calling on OCB (Park et al., 2016). Unlike Park et al. (2016), we examined the calling-OCBO association in data collected from multiple sources and at different times. This makes our results more reliable as this approach to data collection reduces common method bias (Podsakoff et al., 2003) and potentially increases the confidence with which one can draw causal inferences (Mathieu & Taylor, 2006). Moreover, Park et al. (2016) did not distinguish among the various types of OCB. They examined the association between calling and a global measure of OCB. Thus, as far as we know, this study is the first to examine the relation between calling and OCBO.

Second, although a number of studies have examined the influence of calling on job satisfaction, few have investigated the mechanisms underlying the relation between calling and job satisfaction. Drawing on goal facilitation theory, we examined the mediating role of organizational instrumentality in the relation between calling and job satisfaction. The finding advances our understanding of the relation between calling and job satisfaction.

Third, this study provides new insight into the mechanism underlying the relation between calling and work-related attitudes and behaviors. Duffy and Dik (2013) stated that a clearly articulated theoretical framework was needed to guide future research into calling. Responding to Duffy and Dik, some scholars have used self-determination theory (Conway et al., 2015), career construction theory (Xie et al., 2016), self-discrepancy theory (Hagmaier & Abele, 2015) or self-regulation theory (Praskova et al., 2015) to explain the patterns of relations between calling and work-related attitudes. However, there are few extant studies in which a clearly articulated theoretical framework has been used to explain the patterns of relations between calling and OCB and job satisfaction. Our empirical study has demonstrated that goal facilitation theory can account for the observed pattern of associations between calling and OCBO and job satisfaction.

4.2. Practical implications

In addition to these theoretical contributions, our findings also have some practical implications for managers. First, in view of the positive effects of calling on work-related outcomes such as OCBO and job satisfaction, organizational interventions should be designed to help individuals to discover their calling. The best approaches may include interventions designed to enhance individuals' openness to new directions, to encourage individuals to explore their interests, values, and skills and match them with potential jobs or to encourage individuals to connect their work with a tangible, prosocially-oriented purpose (Duffy & Dik, 2013). Second, individuals with a calling are strongly motivated to enter and remain in environments that help them to fulfill their calling (Bunderson & Thompson, 2009; Dobrow & Heller, 2015). Our research demonstrated that there is a close relation between calling and organizational instrumentality. This suggests that to attract and manage individuals with high levels of calling, organizations should attempt to protect and maintain their perceptions of organizational instrumentality by measures such as adoption of a path-goal model of leadership, giving individuals job autonomy and making pledges about employment security (Cardador et al., 2011).

4.3. Limitations and future directions

Despite the theoretical and practical implications discussed above, our research has several limitations that suggest avenues for further research. First, in order to eliminate the potential confounding effects of exogenous variables such as industry characteristics and organizational culture, we recruited our sample from a single organization. Although this can increase the internal validity of research, it reduces the generalizability of the results (Kantowitz, Roediger, & Elmes, 2014). Thus, further research is

needed to determine whether our findings generalize to other organizational contexts in China and whether they can be replicated in other cultural contexts. Second, although we collected data at two different time-points, our research was cross-sectional in nature (Cole & Maxwell, 2003), which limits the causal inference that could be made from the data. Rigorous longitudinal research is needed to examine how calling influences employees' OCBO and job satisfaction. Such a design not only allows us confidently to determine the causal linkages between variables, but also investigate temporal changes in important constructs, which is theoretically important but empirically understudied. Third, we did not cover the full range of items constituting OCBO to keep the survey short, as required by the collaborating organization. Although the results of the CFA and reliability of our scale were comparable to those of the original scale (Lee & Allen, 2002), future research should replicate our findings using the full scale to assess OCBO.

Two unhypothesized yet interesting findings point to potential future investigations. First, calling explained more variance of job satisfaction than of OCBO in the present study. The difference in effects could be anticipated theoretically: Individuals with a calling tend to be highly intrinsically motivated (Bellah et al., 1985; Conway et al., 2015; Elangovan et al., 2010; Hardy, 1990), and approaching one's work with intrinsic motivation may lead to higher levels of job satisfaction. In contrast, intrinsic motivation may not necessarily lead to greater OCB (e.g., Mushtaq, Ahmed, & Warraich, 2014; Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009). Another possibility is the general recognition that behavior is further downstream from perceptions and attitudes (e.g., Ajzen, 1991; Madden, Ellen, & Ajzen, 1992) and are more likely constrained by various situational factors (e.g., Meyer, Dalal, & Hermida, 2010; Mischel, 1968). However, we recognize that it is premature to reach a conclusion that calling has a stronger association with job satisfaction than with OCB, as the theoretical interpretation may be confounded with a methodological one: In the present study, calling and job satisfaction were self-reported, whereas OCBO was other-reported, giving rise to the alternative explanation that common method bias contributed to the stronger calling-satisfaction relationship.

Second, our supplementary analyses found that compared to the other two components of calling, transcendent summons appeared to be a superior predictor of outcomes. This finding echoes earlier theorizing that emphasizes the role of transcendent summons in the calling construct space (Dik & Duffy, 2009; Dik et al., 2012). Taken together, our present findings highlight the need for future studies to better understand the nature of calling as it relates to important vocational outcomes.

References

- Agho, A. O., Mueller, C. W., & Price, J. L. (1993). Determinants of employee job satisfaction: An empirical test of a causal model. *Human Relations; Studies Towards the Integration of the Social Sciences*, 46, 1007–1027. <http://dx.doi.org/10.1177/001872679304600806>.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [http://dx.doi.org/10.1016/0749-5978\(91\)90020-T](http://dx.doi.org/10.1016/0749-5978(91)90020-T).
- Arthaud-Day, M. L., Rode, J. C., & Turnley, W. H. (2012). Direct and contextual effects of individual values on organizational citizenship behavior in teams. *Journal of Applied Psychology*, 97, 792–807. <http://dx.doi.org/10.1037/a0027352>.
- Bahrami, M. A., Montazeralfaraj, R., Gazar, H. S., & Tafti, D. A. (2013). Demographic determinants of organizational citizenship behavior among hospital employees. *Global Business and Management Research: An International Journal*, 5, 171–178.
- Barron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182. <http://dx.doi.org/10.1037/0022-3514.51.6.1173>.
- Bellah, R. N., Madsen, R., Sullivan, W. M., Swidler, A., & Tipton, S. M. (1985). *Habits of the heart*. New York, NY: Harper & Row.
- Bott, E. M., & Duffy, R. D. (2015). A two-wave longitudinal study of career calling among undergraduates: Testing for predictors. *Journal of Career Assessment*, 23, 250–264. <http://dx.doi.org/10.1177/1069072714535030>.
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1, 185–216. <http://dx.doi.org/10.1177/135910457000100301>.
- Brush, D. H., Moch, M. K., & Abdulllah, P. (1987). Individual demographic differences and job satisfaction. *Journal of Organizational Behavior*, 8, 139–155. <http://dx.doi.org/10.1002/job.4030080205>.
- Bunderson, J. S., & Thompson, J. A. (2009). The call of the wild: Zookeepers, callings, and the double-edged sword of deeply meaningful work. *Administrative Science Quarterly*, 54, 32–57. <http://dx.doi.org/10.2189/asqu.2009.54.1.32>.
- Cardador, M. T., Dane, E., & Pratt, M. G. (2011). Linking calling orientations to organizational attachment via organizational instrumentality. *Journal of Vocational Behavior*, 79, 367–378. <http://dx.doi.org/10.1016/j.jvb.2011.03.009>.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York, NY: Academic Press.
- Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology*, 112, 558–577. <http://dx.doi.org/10.1037/0021-1124.112.4.558>.
- Coleman, V. I., & Borman, W. C. (2000). Investigating the underlying structure of the citizenship performance domain. *Human Resource Management Review*, 10, 25–44. [http://dx.doi.org/10.1016/S1053-4822\(99\)00037-6](http://dx.doi.org/10.1016/S1053-4822(99)00037-6).
- Conway, N., Clinton, M., Sturges, J., & Budjanovcanin, A. (2015). Using self-determination theory to understand the relationship between calling enactment and daily well-being. *Journal of Organizational Behavior*, 36, 1114–1131. <http://dx.doi.org/10.1002/job.2014>.
- Dik, B. J., & Duffy, R. D. (2009). Calling and vocation at work definitions and prospects for research and practice. *The Counseling Psychologist*, 37, 424–450. <http://dx.doi.org/10.1177/0011000008316430>.
- Dik, B. J., Eldridge, B. M., Steger, M. F., & Duffy, R. D. (2012). Development and validation of the calling and vocation questionnaire (CVQ) and brief calling scale (BCS). *Journal of Career Assessment*, 20, 242–263. <http://dx.doi.org/10.1177/1069072711434410>.
- Dobrow, S. R., & Heller, D. (2015). Follow your heart or your head? A longitudinal study of the facilitating role of calling and ability in the pursuit of a challenging career. *Journal of Applied Psychology*, 100, 695–712. <http://dx.doi.org/10.1037/a0038011>.
- Dobrow, S. R., & Tosti-Kharas, J. (2011). Calling: The development of a scale measure. *Personnel Psychology*, 64, 1001–1049. <http://dx.doi.org/10.1111/j.1744-6570.2011.01234.x>.
- Doest, L. T., Maes, S., Gebhardt, W. A., & Koelwijn, H. (2006). Personal goal facilitation through work: Implications for employee satisfaction and well-being. *Applied Psychology*, 55, 192–219. <http://dx.doi.org/10.1111/j.1464-0597.2006.00232.x>.
- Douglass, R. P., & Duffy, R. D. (2015). Calling and career adaptability among undergraduate students. *Journal of Vocational Behavior*, 86, 58–65. <http://dx.doi.org/10.1016/j.jvb.2014.11.003>.
- Duffy, R. D., & Dik, B. J. (2013). Research on calling: What have we learned and where are we going? *Journal of Vocational Behavior*, 83, 428–436. <http://dx.doi.org/10.1016/j.jvb.2013.06.006>.
- Duffy, R. D., Dik, B. J., & Steger, M. F. (2011). Calling and work-related outcomes: Career commitment as a mediator. *Journal of Vocational Behavior*, 78, 210–218. <http://dx.doi.org/10.1016/j.jvb.2010.09.013>.

- Duffy, R. D., Bott, E. M., Allan, B. A., Torrey, C. L., & Dik, B. J. (2012). Perceiving a calling, living a calling, and job satisfaction: Testing a moderated, multiple mediator model. *Journal of Counseling Psychology*, 59, 50–59. <http://dx.doi.org/10.1037/a0026129>.
- Duffy, R. D., Allan, B. A., Bott, E. M., & Dik, B. J. (2014). Does the source of a calling matter? External summons, destiny, and perfect fit. *Journal of Career Assessment*, 22, 562–574. <http://dx.doi.org/10.1177/1069072713514812>.
- Duffy, R. D., Autin, K. L., Allan, B. A., & Douglass, R. P. (2015). Assessing work as a calling: An evaluation of instruments and practice recommendations. *Journal of Career Assessment*, 23, 351–366. <http://dx.doi.org/10.1177/1069072714547163>.
- Elangovan, A. R., Pinder, C. C., & McLean, M. (2010). Callings and organizational behavior. *Journal of Vocational Behavior*, 76, 428–440. <http://dx.doi.org/10.1016/j.jvb.2009.10.009>.
- Fitzsimons, G. M., & Shah, J. Y. (2008). How goal instrumentality shapes relationship evaluations. *Journal of Personality and Social Psychology*, 95, 319–337. <http://dx.doi.org/10.1037/0022-3514.95.2.319>.
- Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, 32, 393–417. <http://dx.doi.org/10.5465/AMR.2007.24351328>.
- Grant, A. M. (2008). Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. *Journal of Applied Psychology*, 93, 48–58. <http://dx.doi.org/10.1037/0021-9010.93.1.48>.
- Grant, A. M., & Mayer, D. M. (2009). Good soldiers and good actors: Prosocial and impression management motives as interactive predictors of affiliative citizenship behaviors. *Journal of Applied Psychology*, 94, 900–912. <http://dx.doi.org/10.1037/a0013770>.
- Greene, A. M., & Robbins, M. (2015). The cost of a calling? Clergywomen and work in the church of England. *Gender, Work and Organization*, 22, 405–420. <http://dx.doi.org/10.1111/gwao.12101>.
- Hagmaier, T., & Abele, A. E. (2015). When reality meets ideal: Investigating the relation between calling and life satisfaction. *Journal of Career Assessment*, 23, 367–382. <http://dx.doi.org/10.1177/1069072714547164>.
- Hardy, L. (1990). *The fabric of this world: Inquiries into calling, career choice, and the design of human work*. Grand Rapid: Eerdmans.
- Hirschi, A. (2012). Callings and work engagement: Moderated mediation model of work meaningfulness, occupational identity, and occupational self-efficacy. *Journal of Counseling Psychology*, 59, 479–485. <http://dx.doi.org/10.1037/a0028949>.
- Horvath, M. (2015). Predicting work outcomes from religiosity and perceived calling. *The Career Development Quarterly*, 63, 141–155. <http://dx.doi.org/10.1002/cdq.12010>.
- Hoyle, R. H. (2012). *Handbook of structural equation modeling*. New York, NY: Guilford Press.
- Kaminsky, S. E., & Behrend, T. S. (2015). Career choice and calling: Integrating calling and social cognitive career theory. *Journal of Career Assessment*, 23, 383–398. <http://dx.doi.org/10.1177/1069072714547167>.
- Kantowitz, B., Roediger, H., & Elmes, D. (2014). *Experimental psychology*. Stamford: Cengage Learning.
- Kraimer, M. L., Seibert, S. E., Wayne, S. J., Liden, R. C., & Bravo, J. (2011). Antecedents and outcomes of organizational support for development: The critical role of career opportunities. *Journal of Applied Psychology*, 96(3), 485–500. <http://dx.doi.org/10.1037/a0021452>.
- Labroo, A. A., & Kim, S. (2009). The “instrumentality” heuristic: Why meta-cognitive difficulty is desirable during goal pursuit. *Psychological Science*, 20, 127–134. <http://dx.doi.org/10.1111/j.1467-9280.2008.02264.x>.
- Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology*, 87, 131–142. <http://dx.doi.org/10.1037/0021-9010.87.1.131>.
- Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and Social Psychology Bulletin*, 18, 3–9. <http://dx.doi.org/10.1177/0146167292181001>.
- Malek, N. A., & Tie, F. H. (2012). Relationship between demographic variables and organizational citizenship behavior among community college lecturers. *Advances in Educational Administration*, 13, 117–138. [http://dx.doi.org/10.1108/S1479-3660\(2012\)0000013010](http://dx.doi.org/10.1108/S1479-3660(2012)0000013010).
- Mathieu, J. E., & Taylor, S. R. (2006). Clarifying conditions and decision points for mediational type inferences in organizational behavior. *Journal of Organizational Behavior*, 27, 1031–1056. <http://dx.doi.org/10.1002/job.426>.
- Mathieu, J. E., DeShon, R. P., & Bergh, D. D. (2008). Meditational inferences in organizational research: Then, now, and beyond. *Organizational Research Methods*, 11, 203–223. <http://dx.doi.org/10.1177/1094428107310089>.
- Messersmith, J. G., Patel, P. C., Lepak, D. P., & Gould-Williams, J. S. (2011). Unlocking the black box: Exploring the link between high-performance work systems and performance. *Journal of Applied Psychology*, 96, 1105–1118. <http://dx.doi.org/10.1037/a0024710>.
- Meyer, R. D., Dalal, R. S., & Hermdida, R. (2010). A review and synthesis of situational strength in the organizational sciences. *Journal of Management*, 36, 121–140. <http://dx.doi.org/10.1177/0149206309349309>.
- Mischel, W. (1968). *Personality and assessment*. New York: Wiley.
- Mushtaq, K., Ahmed, M. A., & Warrach, S. U. (2014). A study on job satisfaction, motivation and organizational citizenship behavior. *International Journal of Management Sciences and Business Research*, 3, 1–12.
- Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington: Lexington Books.
- Park, J., Sohn, Y. W., & Ha, Y. J. (2016). South Korean salespersons' calling, job performance, and organizational citizenship behavior: The mediating role of occupational self-efficacy. *Journal of Career Assessment*, 24, 415–428. <http://dx.doi.org/10.1177/1069072715599354>.
- Pei, Y. J., & Zhao, S. M. (2015). The relationship between calling and career commitment and work attitudes. *Journal of Management Science*, 28, 103–114. <http://dx.doi.org/10.3969/j.issn.1672-0334.2015.02.010>.
- Peterson, C., Park, N., Hall, N., & Seligman, M. E. (2009). Zest and work. *Journal of Organizational Behavior*, 30, 161–172. <http://dx.doi.org/10.1002/job.584>.
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26, 513–563. <http://dx.doi.org/10.1177/014920630002600307>.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903. <http://dx.doi.org/10.1037/0021-9010.88.5.879>.
- Ponton, R., Brown, T., McDonnell, B., Clark, C., Pepe, J., & Deykerhoff, M. (2014). Vocational perception: A mixed-method investigation of calling. *The Psychologist-Manager Journal*, 17, 182–204. <http://dx.doi.org/10.1037/mgr0000019>.
- Praskova, A., Hood, M., & Creed, P. A. (2014). Testing a calling model of psychological career success in Australian young adults: A longitudinal study. *Journal of Vocational Behavior*, 85, 125–135. <http://dx.doi.org/10.1016/j.jvb.2014.04.004>.
- Praskova, A., Creed, P. A., & Hood, M. (2015). Self-regulatory processes mediating between career calling and perceived employability and life satisfaction in emerging adults. *Journal of Career Development*, 42, 86–101. <http://dx.doi.org/10.1177/0894845314541517>.
- Preacher, K. J., & Kelley, K. (2011). Effect size measures for mediation models: Quantitative strategies for communicating indirect effects. *Psychological Methods*, 16, 93–115. <http://dx.doi.org/10.1037/a0022658>.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87, 698–714. <http://dx.doi.org/10.1037/0021-9010.87.4.698>.
- Riggle, R. J., Edmondson, D. R., & Hansen, J. D. (2009). A meta-analysis of the relationship between perceived organizational support and job outcomes: 20 years of research. *Journal of Business Research*, 62, 1027–1030. <http://dx.doi.org/10.1016/j.jbusres.2008.05.003>.
- Serow, R. C. (1994). Called to teach: A study of highly motivated preservice teachers. *Journal of Research and Development in Education*, 27, 65–72.
- Tofighi, D., & MacKinnon, D. P. (2011). RMediation: An R package for mediation analysis confidence intervals. *Behavior Research Methods*, 43, 692–700. <http://dx.doi.org/10.3758/s13428-011-0076-x>.
- Tremblay, M. A., Blanchard, C. M., Taylor, S., Pelletier, L. G., & Villeneuve, M. (2009). Work extrinsic and intrinsic motivation scale: Its value for organizational psychology research. *Canadian Journal of Behavioural Science*, 41, 213–226. <http://dx.doi.org/10.1037/a0015167>.
- Xie, B., Xia, M., Xin, X., & Zhou, W. (2016). Linking calling to work engagement and subjective career success: The perspective of career construction theory. *Journal of Vocational Behavior*, 94, 70–78. <http://dx.doi.org/10.1016/j.jvb.2016.02.011>.

- Zhang, C., Dik, B. J., Wei, J., & Zhang, J. (2015a). Work as a calling in China: A qualitative study of Chinese college students. *Journal of Career Assessment*, 23, 236–249. <http://dx.doi.org/10.1177/1069072714535029>.
- Zhang, C., Herrmann, A., Hirschi, A., Wei, J., & Zhang, J. (2015b). Assessing calling in Chinese college students: Development of a measure and its relation to hope. *Journal of Career Assessment*, 23, 582–596. <http://dx.doi.org/10.1177/1069072715595804>.