

Career Calling and Taking Charge Behavior among Street-Level Public Servants: the Roles of Public Service Motivation and Collectivist Orientation

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Abstract: Taking charge behavior (TCB) is fundamental to government governance and public reform, especially in developing countries like China. Based on the conservation of resources theory, this study presents a moderated mediation model to examine whether and how career calling (CC) impacts TCB among Chinese street-level public servants. The sample was based on a survey of 548 full-time street-level public servants from the Chinese public sector, and the data were analyzed using structural equation modeling and bootstrap analysis. The results show that the CC of street-level public servants positively influenced TCB; that public service motivation (PSM) partly mediated the CC–TCB link; and that this relationship was stronger among street-level public servants with a high level of collectivist orientation (CO). These findings have theoretical implications for the TCB literature and managerial implications for public sector administrators.

Keywords: Career Calling; Taking Charge Behavior; Public Service Motivation; Collectivist Orientation; Conservation of Resources Theory;

1. INTRODUCTION

In response to an increasingly dynamic and evolving social landscape, public sectors across numerous nations have embarked on, or are currently undergoing, waves of reform aimed at achieving good governance (Homberg et al., 2019). However, reform fatigue—stemming from costly and challenging-to-implement top-down initiatives—has become pervasive (De Vries, 2013; Homberg et al., 2019), particularly among street-

level public servants, who are integral to the functioning of public organizations. Consequently, fostering the willingness and capacity for continuous, bottom-up change has emerged as a critical imperative for public organizations. This study seeks to explore how the change-oriented capabilities of these individuals—specifically, their taking charge behavior (TCB)—can be effectively cultivated. Taking charge behavior (TCB) is conceptualized as a discretionary and change-oriented action (Chen et al., 2023). It is defined as “subordinate individuals voluntarily make constructive efforts to carry out organizational functional changes in the way of work execution within the scope of their work, work unit or organization”. Extant research has predominantly examined TCB and its antecedents among private sector employees, particularly in contexts characterized by proactive leadership styles, such as transformational leadership (Coursey & Pandey, 2007; Homberg et al., 2019), ethical leadership, visionary leadership, and secure-base leadership. While leadership style, as an external situational factor, undeniably plays a pivotal role in fostering employees’ TCB, it is important to note that individuals with similar demographic characteristics and work environments may exhibit divergent responses to identical leadership approaches. Consequently, the elicitation of TCB cannot be assured solely through external influences. Scholars have posited that intrinsic motivation, as opposed to extrinsic factors, is more effective in driving individual behaviors (Ahola & Groop, 2013). Examples of such intrinsic motivators include self-efficacy and proactivity. Despite the increasing bureaucratic constraints and demands for change faced by street-level public servants, they are still expected to exhibit a proactive disposition, emotional regulation, and a willingness to take initiative, signaling their enthusiasm for their work. This intrinsic drive is often rooted in career calling (CC), which serves as a critical motivational force in shaping their behaviors and attitudes toward organizational change. The Conservation of Resources (COR) theory posits that individuals strive to protect, maintain, and accumulate valuable resources. In dynamic and unpredictable environments, the TCB of street-level public servants often entails significant resource depletion, including interpersonal conflicts, deterioration of workplace relationships, and heightened job insecurity. Consequently, these employees frequently find themselves ensnared in a cycle of resource loss (Cangiano et al., 2021), which diminishes their propensity to engage in TCB. To address this imbalance, enhancing their intrinsic motivation emerges as a critical strategy (Du et al., 2021; Du & Yan, 2022). Career calling (CC), a profound form of intrinsic motivation,

has been shown to significantly influence street-level public servants' commitment and job satisfaction (Duffy & Dik, 2013), thereby facilitating the effective implementation of policies and delivery of public services (Gassner & Gofen, 2018). Despite its importance, the impact of CC on TCB remains underexplored, with limited understanding of the mechanisms underlying their positive association. Public service motivation (PSM), defined as "the orientation of individuals to provide services to people with the purpose of benefiting others and society" (Perry & Hondeghem, 2008) p. vii), is widely recognized as a pivotal factor driving individuals to pursue careers in public service (Christensen et al., 2017). Empirical studies have demonstrated that PSM positively influences TCB (Homberg et al., 2019). Building on these insights, the current study extends the literature by examining the mediating role of PSM in the relationship between CC and TCB among street-level public servants. This investigation aims to provide a more nuanced understanding of how intrinsic motivation collectively shape the behavior of public sector employees. Furthermore, the extent to which the relationship between CC and TCB is culturally invariant, whether at the national or international level, remains an open question. Culture is defined as a shared system of values, meanings, and behaviors. According to Hofstede (Hofstede et al., 2010), cultural value framework comprises six dimensions: power distance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, long-term versus short-term orientation, and indulgence versus restraint. In 1980, Hofstede's seminal work identified individualism-collectivism culture as the most salient dimension differentiating cultural groups based on national origin. This construct has since become a cornerstone in cross-cultural psychological research. Subsequent studies have demonstrated that collectivism manifests more strongly in non-Western cultural contexts (Hofstede, 2001), with Oyserman et al. (Oyserman et al., 2002) specifically highlighting its pronounced expression in Chinese culture relative to other Asian societies. Collectivist orientation (CO), characterized by its emphasis on common interests, group harmony, and cooperative behaviors, exerts a profound influence on organizational dynamics. In public institutions, the deeply ingrained nature of CO fundamentally shapes civil servants' cognitive frameworks and professional approaches. This cultural orientation fosters a heightened sense of responsibility toward collective interests and organizational objectives (Wong & Ahuvia, 1998), which has been shown to directly enhance employees' TCB. Within the Chinese cultural context, civil servants perceive their alignment with collective norms as an integral

component of their professional ethos and commitment to public service, consequently influencing their policy formulation and implementation processes. While existing research has predominantly focused on the direct effects of individual CO on TCB and PSM, the potential moderating role of CO in the CC-TCB relationship remains underexplored. This gap in the literature underscores the need for a more nuanced examination of CO's regulatory mechanisms. Therefore, the present study aims to investigate the moderating effects of CO and elucidate its underlying mechanisms in this specific context. The present study offers three distinct theoretical contributions to the emerging literature on organizational behavior in public administration. First, this study inquiry contributes to a deeper understanding of the motivational factors that drive TCB among street-level public servants. While extant literature has largely concentrated on the antecedents of TCB within the context of private enterprises, with a particular focus on organizational leadership, this study highlights that intrinsic motivation is a more robust catalyst for individual behaviors than extrinsic incentives (Ahola & Groop, 2013). Building upon the foundation of resource conservation theory, thus, this research establishes a significant positive correlation between CC and TCB within the public sector context. This conceptual reframing not only underscores the importance of CC as a catalyst for TCB but also provides novel insights into the cultivation of grass-roots organizational change initiatives and contributes to the enrichment of scholarly discourse on bottom-up transformation strategies within the realm of public service. Second, the study elucidates the psychological mechanism underlying the CC-TCB relationship. Our findings reveal that CC enhances public service motivation (PSM) among civil servants who conceptualize career success through prosocial contributions, thereby catalyzing change-oriented behaviors. This mediation analysis not only enriches the nomological network connecting intrinsic motivation to public sector reform but also contextualizes these dynamics within China's unique administrative ecosystem. Third, the current research delineates CO as a critical boundary condition that moderates the relationship between CC and TCB. Although previous academic works have recognized the impact of cultural factors on employee behaviors, this study uniquely operationalizes CO as a contingency variable within the CC-TCB framework, thereby addressing the theoretical lacunae in the CC literature concerning contextual moderators. This scholarly contribution responds to the academic imperative for more sophisticated examinations of the cultural embeddings that shape public service motivations. This research significantly enhances

our understanding of how CC influences TCB among Chinese street-level public servants, providing valuable insights into the complex interplay between individual motivations and cultural context. The structure of this study is systematically organized into five distinct sections. Initially, we conduct a comprehensive literature review and develop theoretical hypotheses to establish the conceptual framework. Subsequently, the methodology section elaborates on the research design, encompassing data collection procedures, measurement validation protocols, and statistical analysis techniques. Following this, we present and interpret the results derived from our empirical analyses. In the concluding sections, we thoroughly examine the theoretical contributions and practical implications of our findings. The paper culminates with a discussion of the study's limitations and proposes potential avenues for future research in this domain.

2. THEORETICAL BACKGROUND AND HYPOTHESES

2.1 Career Calling (CC) and Taking Charge Behavior (TCB)

Career calling (CC) is conceptualized as a vocational orientation characterized by responsiveness to transcendent summons, enabling individuals to derive existential significance and actualize prosocial purposes through occupational engagement. This multidimensional construct comprises three cardinal components: transcendent summon, purposeful work, and prosocial orientation (Elangovan et al., 2010). Each dimension fundamentally shapes individuals' phenomenological interpretation of work, encompassing affective responses, cognitive schemas, and behavioral patterns toward occupational tasks. Within China's contemporary sociopolitical context of institutional transformation, street-level public servants constitute a pivotal yet understudied cohort in governance modernization. These frontline administrators confront multifaceted challenges including resource scarcity, excessive workload, conflicting role expectations, and bureaucratic inefficiencies. Such systemic stressors have precipitated a marked erosion in the vocational attractiveness of public service (De Vries, 2013), underscoring the imperative for scholarly inquiry into psychosocial mechanisms that may mitigate these effects—particularly the interplay between CC and TCB among grassroots bureaucrats. While extant literature has examined CC's vocational implications in pedagogical and law enforcement professions (Savage, 2013), its operational dynamics within

street-level civil service remain conspicuously underexplored. TCB, as a prototypical manifestation of proactive organizational behavior, is typified by three constitutive attributes: voluntary initiation, change-oriented objectives, and norm-challenging characteristics. However, its enactment consume certain social psychosocial resources, including relational friction, occupational stress escalation, and perceived job insecurity (Sun et al., 2022). Conservation of Resources (COR) theory posits that employees' behavioral repertoires are principally governed by motivational calculus aimed at offsetting resource depletion through strategic resource acquisition, with personal agency factors—such as CC—serving as critical psychological resources that energize this process (De Clercq & Pereira, 2021). Individuals manifesting strong CC tend to transcend utilitarian career paradigms, anchoring their professional identity in societally-meaningful contributions rather than individualistic gains. This transcendent orientation facilitates internalization of organizational missions, engendering vocational pride and spontaneous engagement in extra-role initiatives (Bunderson & Thompson, 2009). Empirical evidence indicates that CC not only buffers against relative deprivation and occupational burnout but also correlates with heightened goal specificity, aspirational ambition, and collaborative organizational stewardship. Theoretically, such psychological resources equip street-level public servants with the resilience and agency necessary to undertake norm-challenging TCB despite inherent risks. Synthesizing these theoretical insights, we posit that elevated CC levels among street-level public servants will positively predict TCB enactment through dual mechanisms: (1) enhanced intrinsic motivation derived from prosocial vocational meaning, and (2) increased psychological capital to offset TCB-associated resource depletion. This proposition yields the first hypothesis:

H1: CC positively enhances TCB.

2.2 The Mediating Role of Public Service Motivation (PSM)

PSM relates to the belief systems, value orientations, and attitudinal dispositions that transcend self-interest and organizational interest, fundamentally reflecting someone's intrinsic predisposition toward societal betterment and civic engagement. This theoretical framework operationalizes through four distinct yet interrelated dimensions : attraction to policy formulation (APM), commitment to public interest (CPI), prosocial compassion, and self-sacrificial orientation (SS). Extant scholarship positions PSM as a critical determinant in explicating behavioral patterns among public sector personnel, particularly regarding

proactive organizational citizenship behaviors (Homberg et al., 2019). Empirical evidence indicates that public executives demonstrating heightened PSM levels manifest (1) enhanced public service delivery efficacy, (2) socio-centric value creation through institutional practices, and (3) constructive organizational participation, as evidenced by longitudinal studies (Bao & Zhong, 2024). Notably, elevated PSM correlates positively and significantly with innovative prosocial initiatives and proactive work behavior.

At the street-level bureaucracy stratum, civil servants with pronounced PSM exhibit organizational allegiance, exemplary "gong pu" (public servant) ethos; that is, they show a higher propensity for behaving prosocially at work, supporting organizational change (Wright et al., 2013), thereby engaging in greater TCB. How can the PSM of street-level public servants be fostered? Current literature predominantly adopts sociodemographic and occupational lenses to examine PSM antecedents, leaving critical lacunae regarding individual-level psychological determinants. To address this gap, we invoke COR theory to posit that CC—conceptualized as a multidimensional job resource encompassing professional dedication and societal responsibility, may serve as a PSM enhancer and a psychological buffer against TCB-induced resource depletion. This theoretical proposition suggests that TCB's inherent requirement for altruistic commitment aligns synergistically with PSM's motivational architecture, thereby creating a virtuous resource cycle. Given the absence of empirical investigations into the PSM-CC-TCB nexus, we formulate the following theoretically grounded hypotheses:

H2a: PSM exhibits a direct positive association with TCB.

H2b: CC demonstrates a significant positive correlation with PSM.

H2c: PSM mediates the relationship between CC and TCB.

2.3 The Moderating Role of Individual Collectivist Orientation (CO)

As a nation deeply rooted in Confucian philosophical tenets and institutional practices, China epitomizes a prototypical collectivist orientation society (Oyserman et al., 2002). CO is a concentrated reflection of individuals with the collective concept as the core, emphasizing interdependence and group solidarity. It is operationally defined as a value system prioritizing group goals over personal aspirations, manifests through heightened organizational identification and prosocial behavioral patterns. Empirical evidence suggests that employees exhibiting collectivist dispositions demonstrate elevated organizational citizenship behaviors through internalized role identities and systemic goal internalization

(Wright et al., 2013). This CO culture assumes particular significance in public administration contexts. Street-level public servants with pronounced CO (high CO) are more likely to perceive government reforms as institutional betterment mechanisms (Xie et al., 2016). Their intrinsic status perception as organizational custodians activates professional commitment, thereby amplifying PSM and TCB. Such individuals tend to transcend formal role prescriptions, engaging in extra-role behaviors that optimize communal welfare through PSM-mediated mechanisms. Conversely, bureaucrats with attenuated CO (low CO) exhibit instrumental work conceptualizations, prioritizing personal utility maximization over organizational objectives.

This extrinsic motivational framework engenders complacency with status quo maintenance, diminishing both PSM activation thresholds and TCB manifestation probabilities. The resultant behavioral divergence underscores CO's critical moderating function in bureaucratic value-behavior linkages. Building upon this theoretical scaffolding, we posit the following hypotheses :

Hypothesis H3a: Individual CO positively moderates the CC-TCB relationship, with the association being significantly stronger among street-level public servants exhibiting high-CO compared to their low-CO counterparts.

Hypothesis H3b: Individual CO positively moderates the CC-PSM relationship, demonstrating greater effect in high-CO civil servants relative to low-CO individuals.

Based on this hypothesis, the paper proposed a moderated-mediation hypothesis, that is, the level of individual CO of street-level public servants positively moderates the indirect effect of CC on TCB via PSM. Specifically, high levels of CO can potentially result in stronger indirect effect of CC on TCB through PSM. Conversely, low levels of CO can result in a diminished indirect effect of CC on TCB through PSM. The paper proposed the following hypothesis:

Hypothesis H3c : The indirect effect of CC on TCB through PSM is conditionally contingent upon CO levels, such that the indirect effect of CC on TCB via PSM is stronger when the level of individual CO of street-level public servants is high than when it is low.

Figure 1 displays the conceptual framework developed for the study, with the relationships between the four variables and the corresponding hypotheses indicated.

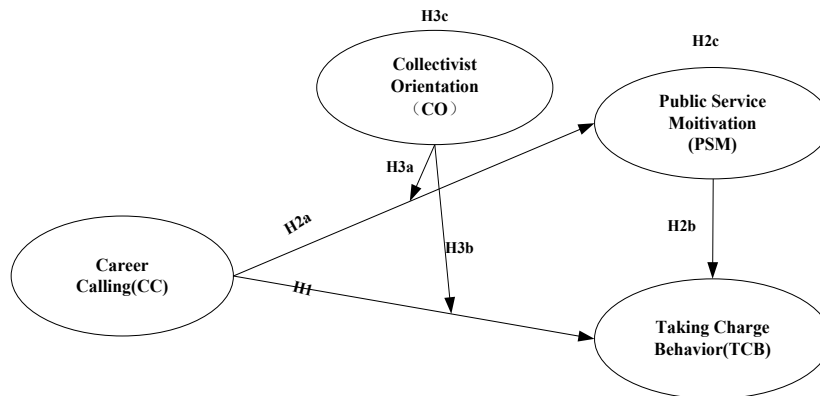


Figure 1: Theoretical Hypothesis Model

3. METHODOLOGY

3.1 Sample and Data Collection

The sample comprised street-level public servants from different cities holding various positions. These included street-level office directors, community workers, and street patrolmen. To ensure diversity and representativeness, a stratified sampling method was adopted. Firstly, several sub-district offices in different cities were randomly selected as research sites (Wuhan, Huangshi, Yichang, Changsha, Suzhou, Xi'an, Guangzhou, Zhuhai, Guiyang, and Hefei). Then, in each sub-district office, a certain number of street-level public servants were randomly selected as research objects. The data were collected primarily through a structured questionnaire survey on the participants' CC, TCB, PSM, and CO. The accuracy and operability of the questions were fully considered to ensure that the participants could understand them and answer accordingly. To improve recovery rates and data quality, a variety of strategies were adopted. First, the principals of sub-district offices in each research site were contacted and their cooperation was requested. Secondly, a special team of investigators (who were responsible for distributing questionnaires to the participants and answering any questions they might have) was organized. Finally, the survey was made available online for those who could not be present in person to complete the surveys. The questionnaires were issued and collected between March and October 2022 (7 months in all). The questionnaires were distributed in two forms: centralized distribution and decentralized distribution. A total of 610 participants were recruited. Full written informed consent was provided by all involved and anonymity was guaranteed. Participants were informed that their responses

would be used only for the study. To overcome common methodological bias issues, participants were provided with clear instructions on how to fill in the questionnaire, which was designed to be as simple as possible. Data were collected twice with a 14-day interval between two consecutive measurements. Demographic, CC, and CO data were collected at Time 1, and those for PSM and TCB were collected at Time 2.

3.2 Sample Structure

A total of 610 questionnaires were collected; 548 were valid (89.8%). Of the latter, male and female respondents accounted for 58.8% and 41.2%, respectively. The mean age was 35.7 years. Levels of education of a college or associate degree or below accounted for 22.60%, bachelor's degree, 59.50%, and 17.90%, master's degree or above. In terms of job tenure, 53.50% had worked for less than a year, and 41.82% had worked between one and five years; the remainder (5 years or more) accounted for 4.68%. Monthly incomes ranged from ¥3000 to ¥7000 (66.1%).

3.3 Measurement

All variables were measured using widely applied and validated assessments. We performed translation and back-translation to validate the translation quality, and CC, CO, TCB, and PSM scales using 5-point Likert-style responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

3.3.1 Career Calling

CC was operationalized using the 12-item Career Calling Scale, encompassing three theoretically distinct dimensions: transcendent summon, purposeful work, and prosocial orientation. This instrument's cross-cultural psychometric adequacy has been empirically established in Chinese organizational contexts (Xie et al., 2016). An example item is "My work can help me find the meaning of life." In the present study, Cronbach's $\alpha = 0.893$.

3.3.2 Public Service Motivation

The 5-item PSM scale was administered, building upon established measures by Coursey and Pandey (Coursey & Pandey, 2007) with Battaglio and Gelgec's (Battaglio Jr & Gelgec, 2017) contextual refinements. An example item is "Meaningful public service is very important to me". In the

present study, Cronbach's $\alpha = 0.921$.

3.3.3 Taking Charge Behavior

Taking charge behavior was operationalized through Morrison and Phelps' (Morrison & Phelps, 1999) seminal 10-item scale. An example item is "I often try to adopt improved procedures." In the present study, Cronbach's $\alpha = 0.912$.

3.3.4 Collectivist Orientation

Collectivist orientation was assessed via Wagner's (1995) 6-item scale. An example item is "I prefer working with others to working alone." In the present study, Cronbach's $\alpha = 0.859$.

3.3.5 Control variables

We followed previous research when controlling for demographic variables. Employee gender was coded as 0 = male and 1 = female; Age of the employee was signed at five levels (1 = 20 years old or below, 2 = 21–30 years old; 3 = 31–40 years old; 4 = 41–50 years old; and 5 = 51 years old or more); Employee education level variable was dummy-coded as 1 = college or associate's degree or below; 2 = bachelor's degree; and 3 = master's degree or above; Employee job tenure was dummy-coded as 1 = 3 years or less; 2 = 3–5 years; and 3 = 5 years or more; Employee month income was coded as 1 = ¥3000 or less; 2 = ¥3000–¥5000; 3 = ¥5000–¥7000; and 4 = ¥7000 or more.

3.4 Statistical Analysis

The hypothesized moderated mediation model was examined using structural equation modeling (SEM) implemented in AMOS 20.0. Model fit was evaluated through multiple indices: χ^2/df ratio (≤ 5.0 acceptable), root mean square error of approximation (RMSEA ≤ 0.08) (Hu & Bentler, 1999), along with normed fit index (NFI), comparative fit index (CFI), Tucker-Lewis index (TLI), incremental fit index (IFI), goodness-of-fit index (GFI), and adjusted GFI (AGFI), where values > 0.90 indicate adequate fit. Convergent validity was established through average variance extracted (AVE) scores exceeding the 0.50 threshold (Fornell & Larcker, 1981), confirming construct variance predominance over measurement error. For mediation analysis, bias-corrected bootstrapping with 5,000 resamples was conducted via SPSS PROCESS macro. Path significance

was determined by 95% confidence intervals excluding zero.

4. RESULTS

4.1 Common Method Bias Test

Common method bias was assessed through Harman's single-factor test (Tehseen et al., 2017). The analysis revealed five latent factors with eigenvalues exceeding 1.0, collectively accounting for 59.97% of the total variance. The largest factor accounted for 25.9% of the variance, which falls below the 40% threshold proposed by Podsakoff et al. (Podsakoff et al., 2003), suggesting the absence of significant common method bias in this study.

4.2 Scale Validity

Confirmatory factor analysis was conducted using AMOS 20.0 to evaluate the measurement model's psychometric properties. As presented in Table 1, all fit indices met or exceeded recommended thresholds ($\chi^2/df < 5.0$, CFI > 0.90 , TLI > 0.90 , RMSEA < 0.08 ; see Marôco, 2014; Schweizer, 2010; Hu & Bentler, 1999), demonstrating satisfactory model-data fit. The average variance extracted (AVE) for each construct surpassed the 0.50 benchmark (Fornell & Larcker, 1981), establishing convergent validity. Furthermore, comparative analysis revealed the hypothesized four-factor model's statistical superiority over alternative configurations (see Table 2), with optimal fit indices: $\chi^2/df = 1.103$, GFI = 0.975, NFI = 0.921, IFI = 0.948, RMSEA = 0.049.

Table 1: Confirmatory Factor Analysis of Each Variable

Variables	AVE	GFI	AGFI	CFI	TLI	χ^2/df	RMSEA
CC	0.507	0.975	0.952	0.984	0.974	2.303	0.049
PSM	0.511	0.915	0.900	0.949	0.926	3.355	0.061
TCB	0.644	0.990	0.969	0.994	0.988	2.854	0.058
CO	0.519	0.991	0.969	0.994	0.984	2.416	0.568

Note: $N = 548$; CC, career calling; TCB, taking charge behavior; PSM, public service motivation; and CO, collectivist orientation.

4.3 Descriptive Statistics and Correlations

Descriptive statistics (means and standard deviations) were computed using SPSS 22.0. Preliminary regression analysis examined the association between the predictor construct (CC) and outcome variable (TCB). Bivariate correlations were assessed using Pearson's product-moment coefficients with two-tailed significance testing (Cohen, 1988),

adopting $p < 0.05$ as the statistical threshold. The M , SD , and bivariate correlations for all of the variables are summarized in Table 3. Independent samples t-tests revealed no significant effects of demographic covariates (gender, age, education, job tenure, monthly income) on TCB (all p s > 0.05). Notably, CC demonstrated strong positive associations with both the mediator PSM ($r = 0.784$, $p < 0.01$) and outcome TCB ($r = 0.720$, $p < 0.01$), exceeding Cohen's (1988) large effect size benchmark ($r > 0.50$). The moderating variable CO also showed significant covariation with CC ($r = 0.698$, $p < 0.01$), while PSM-TCB linkage reached $r = 0.841$ ($p < 0.01$), indicating strong theoretical congruence.

Table 2: Model Fit Summary for Hypothetical and Alternative Models

Model	χ^2/df	RMSEA	CFI	NFI	TLI	GFI
Hypothetical four-factor model	2.473	0.049	0.963	0.921	0.948	0.975
M1: CA, PSM, TCB, CO						
Alternative three-factor model	3.071	0.082	0.926	0.914	0.962	0.951
M2: CA + PSM = one factor, TCB, CO						
Alternative three-factor model	5.373	1.326	0.992	0.979	1.00	1.00
M3: CA + CO = one factor, PSM, TCB						
Alternative two-factor model	0.75	0.356	1.00	0.99	1.00	1.00
M4: CA + PSM + CO = one factor, TCB						
Alternative two-factor model	11.127	0.165	1.00	1.00	1.00	1.00
M5: PSM + CO + TCB = one factor, CA						
Alternative one-factor model	19.289	0.183	1.00	1.00	1.00	1.00
M6: CA + PSM + CO + TCB = one factor						

Note: N = 548; CC, career calling; TCB, taking charge behavior; PSM, public service motivation; and CO, collectivist orientation .

4.4 Hypothesis Testing

Following established procedures for moderated mediation analysis (Preacher et al., 2007)(Aiken et al., 1991; Holmbeck, 1997), we adopted a three-stage analytical framework using maximum likelihood estimation in AMOS 20.0.

Stage 1: the direct effect analysis. The direct effect model ($CC \rightarrow TCB$)

demonstrated excellent fit: $\chi^2/df = 2.177$, CFI = 0.977, TLI = 0.971, RMSEA = 0.046, meeting thresholds by Hu and Bentler (1999). As indicated in Figure 2, CC had a strong positive direct effect on TCB ($\beta = 0.81$, $p < 0.01$), confirming H1.

Table 3: Descriptive and Bivariate Correlation Analysis

Variables	M	SD	1	2	3	4	5	6	7	8	9
1 Gender	1.41	0.49	--								
2 Age	2.25	1.01	0.024	--							
3 Education level	1.97	0.68	-0.097	-0.064	--						
4 Job tenure	2.65	1.23	0.050	0.745*	-	--					
				*	0.068						
5 Monthly income	2.63	1.16	-	0.329*	0.144	0.275*	--				
			0.142*	*	**	*					
			*								
6 CC	3.58	0.78	0.020	0.019	0.003	0.066	0.066	--			
7 TCB	3.62	0.82	0.056	0.053	0.056	0.0202	0.021	0.720	--		
								**			
8 PSM	3.62	0.75	0.031	0.173*	0.102	0.196*	0.094	0.784	0.841*	--	
				*	*	*	*	**	*		
9 CO	3.69	0.73	-0.003	0.152*	0.087	0.191*	0.044	0.698	0.709*	0.735**	--
					*	*		**	*		

Note. N = 548; CC, career calling; TCB, taking charge behavior; PSM, public service motivation; and CO, collectivist orientation ; * $p < .05$; ** $p < .01$

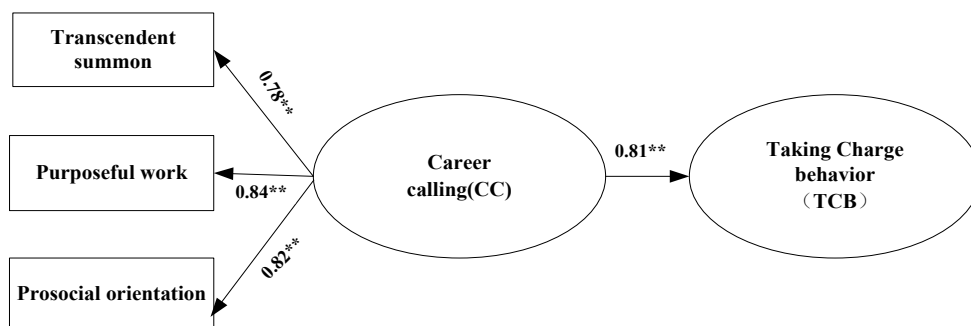


Figure 2: Direct Effect Model of CC and TCB

Note: N = 548, * $p < .05$; ** $p < .01$.

Stage 2: the mediation effect analysis. Following Holmbeck's (Holmbeck, 1997) causal steps approach, we tested the $CC \rightarrow PSM \rightarrow TCB$ chain. Assuming that the fit was sufficient, the significance test of $CC \rightarrow PSM$, $CC \rightarrow TCB$, and $PSM \rightarrow TCB$ models was carried out. Then, the degree of fit of the mediation model ($CC \rightarrow PSM \rightarrow TCB$) was evaluated under the following conditions: (a) $CC \rightarrow TCB$ path was restricted to zero; and (b) $CC \rightarrow TCB$ was not restricted. If a model fit with the unconstrained effect was worse than that of a constrained effect, then $CC \rightarrow TCB$ path

would be non-significant, thereby concluding full mediation.

The mediation model showed adequate fit: $\chi^2/df = 2.251$, CFI = 0.977, TLI = 0.947, RMSEA = 0.048. As shown in Figure 3, CC significantly impacted PSM ($\beta = 0.867^{**}$, $p < 0.01$), while PSM significantly affected TCB ($\beta = 0.879^{**}$, $p < 0.01$); H2a and H2b were confirmed. Meanwhile, CC was significantly correlated with TCB ($\beta = 0.191^{**}$, $p < 0.01$), indicating that PSM played the partial mediation effect in the CC-TCB link. Furthermore, bias-corrected bootstrap analysis (5,000 resamples) confirmed that the indirect effect of CC on TCB via PSM was significant ($\beta = 0.674^{**}$, $p < 0.01$, SE = 0.076, 95% CI = [0.500, 0.798], excluding zero). The mediated effect accounted for 77.94% of the total effect. H2c was supported.

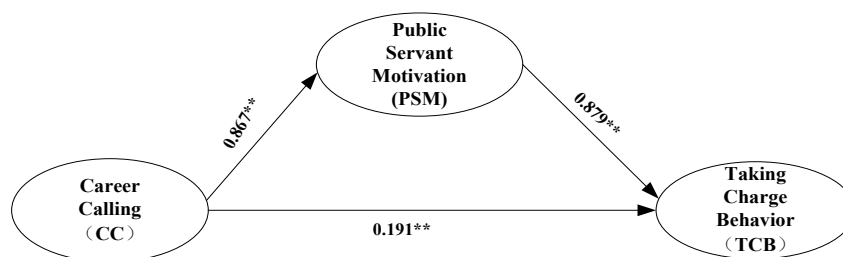


Figure 3: The Mediating Model of PSM

Note: N = 548, ** $p < .01$, * $p < .05$.

Stage 3: the moderated mediation effect analysis. The interaction variables (CC * CO) were added to the mediation model. The mediation model was within the acceptable range: $\chi^2/df = 3.14$, GFI = 0.905, NFI = 0.913, IFI = 0.938, TLI = 0.942, TFI = 0.981, RMSEA = 0.044.

Figure 4 showed that the interaction variable (CC * CO) had a notable positive effect on TCB ($\beta = 0.025$, $p < 0.05$), suggesting CO had a positive moderating effect; that is, the higher level of CO, the stronger the relationship between CC and TCB. Moreover, bootstrap analysis (5,000 resamples) revealed that the conditional indirect effects of CC on TCB at different levels of CO was significant: $\beta = 0.013$, SE = 0.004, 95% CI = [0.053, 0.081], excluding zero; thus H3a was confirmed. In Figure 4, the interaction variable (CC * CO) as a predictor positively affected PSM ($\beta = 0.097$, $p < .01$) and the positive relationship between PSM and TCB was significant ($\beta = 0.846$, $p < .01$). This indicated that the positive moderating effect of CO in the relationship between CC and PSM was significant. Simple slopes analysis (Aiken et al., 1991) visualized in Figure 5 confirmed Hypothesis 3b: CC-PSM association strengthened at high CO (+1 SD) but became nonsignificant at low CO (-1 SD). So H3b was

confirmed.

Furthermore, conditional process analysis via PROCESS macro revealed: when CO level was high, CC indirectly affected TCB through PSM significantly ($\beta = 0.167$, $SE = 0.081$, 95% CI = [0.008, 0.326], excluding zero); when CO levels were low, the indirect impact became non-significant ($\beta = 0.139$, $SE = 0.088$, 95% CI = [-0.034, 0.312], including zero). Pairwise contrasts between these conditional indirect effect index was significant ($\beta = 0.085$, $SE = 0.033$, 95% CI = [0.025, 0.151], excluding zero). Therefore, H3c was confirmed.

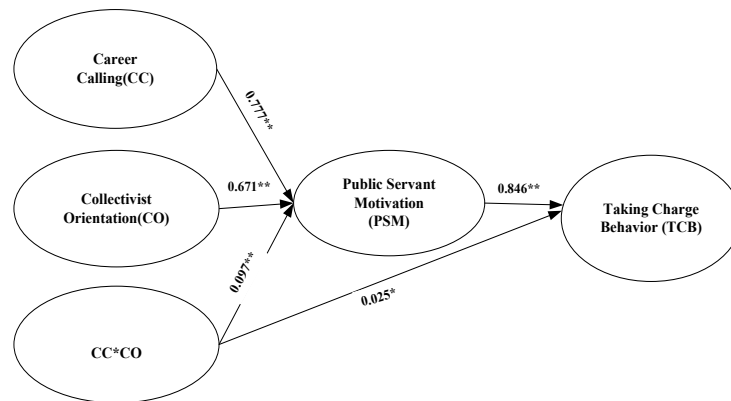


Figure 4: The Moderated Mediation Model

Note: N = 548, ** $p < .01$, * $p < .05$.

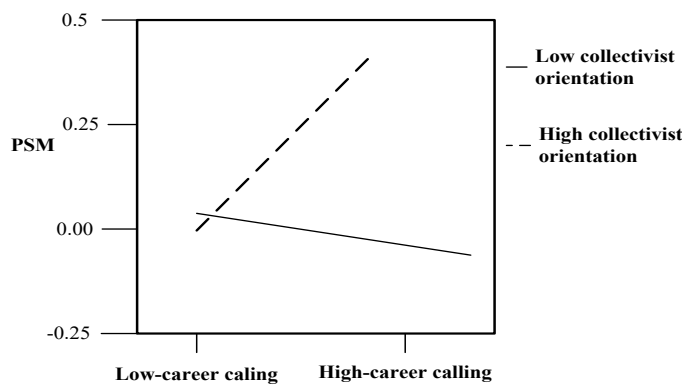


Figure 5: The Moderating Effect of CO on the Relationship Between CC and PSM

5. DISCUSSION

The implementation of large-scale top-down reforms in public sector institutions has encountered growing institutional inertia, primarily attributable to pervasive reform fatigue among organizational members (De Vries, 2013). This operational reality necessitates a shift toward

cultivating endogenous change capacities through grassroots initiatives. Within this context, developing organizational change competencies emerges as a critical strategic imperative for public administration leaders, with TCB constituting a fundamental mechanism for bottom-up organizational transformation (Homburg et al., 2019). Current scholarly discourse exhibits three critical limitations. First, empirical focus has disproportionately centered on private sector dynamics, generating an institutional knowledge gap regarding public sector specificity. Second, while extant research has identified leadership styles as salient antecedents of employee TCB, intrinsic motivational constructs and boundary conditions remain theoretically underdeveloped. Third, the psychological mechanisms bridging calling orientation and proactive behaviors in bureaucratic contexts require systematic examination. To address these gaps, we examined the influence of CC on street-Level Public Servants' TCB, the mediating role of civil servants' PSM between CC and TCB, and the moderating effect of CO on this relationship. The results revealed a positive significant correlation between CC and TCB among street-level public servants. Secondly, PSM was partly correlated with the relationship between CC and TCB. Thirdly, CO moderated the relationship between CC and TCB through PSM.

5.1 Theoretical Implications

Our findings have several principal theoretical implications for the literature on TCB and CO. First, we establish CC as a critical personal antecedent of TCB among street-Level public servants. While extant scholarship has predominantly focused on emphasized external contextual factors (e.g., institutional pressures, leadership styles) as drivers of TCB as a critical antecedent of street-level public servants' TCB, our findings reveal that intrinsically-motivated personal characteristics - particularly CC - serve as a robust predictor of proactive TCB. Specifically, civil servants with a strong CC perceive TCB as a mechanism for aligning their professional conduct with societal values (Bunderson & Thompson, 2009), even when such behaviors risk leadership disapproval. Notably, while CC's conceptual foundations have been extensively debated, its operationalization in explaining street-level bureaucrats' proactive behaviors remains understudied, particularly in contexts of reform fatigue where accountability avoidance becomes prevalent. Our work bridges this gap by empirically validating CC's predictive power over TCB. Second, we elucidate the mediating role of PSM in the CC-TCB relationship. Although Yuan et al. (Yuan et al., 2022) identified PSM's mediating effect between

red tape and TCB, our analysis reveals novel dual pathways: (1) CC fosters PSM by enhancing civil servants' desire for societal contribution through proactive service delivery (Perry & Hondeghem, 2008), thereby converting TCB into an intrinsically motivated act; and (2) CC-driven individuals evaluate self-worth through organizational/social impact rather than personal gain, prompting them to undertake challenging, extra-role responsibilities. This mediation mechanism enriches understanding of how the individual motivational factor shape behavioral outcomes. Third, we demonstrate that CO positively moderates the mediated $CC \rightarrow PSM \rightarrow TCB$ pathway, addressing scholarly calls to integrate cultural dimensions into TCB research (Bao et al., 2021). While prior work established CO's direct effect on TCB propensity (Love & Dustin, 2014), our contextualized analysis reveals its boundary conditions within Confucian-influenced bureaucracies. In collectivist societies like China, where interdependence and organizational loyalty are paramount (Wong & Ahuvia, 1998), civil servants with high CO internalize collective welfare as integral to career success. This cultural schema amplifies CC's transformative potential—professionals with elevated CO are more likely to (1) interpret CC through a collectivist lens, (2) perceive TCB as a vehicle for advancing communal goods, and (3) persist in change-oriented behaviors despite personal risks. Conversely, low-CO individuals exhibit instrumental orientations, limiting TCB to prescribed tasks that serve self-interest. Our moderation analysis thus advances cross-cultural public administration theory by explicating how cultural values condition the expression of vocational motivations.

5.2 Managerial Implications

Our findings might be usefully applied to public human resource management. First, public sector administrators should formally acknowledge the pivotal role of street-level public servants' TCB as a catalyst for organizational reform. As evidenced by institutional change theories (Fernandez & Rainey, 2017), frontline employees' discretionary change-oriented behaviors significantly influence reform implementation efficacy. This recognition necessitates systematic integration of TCB metrics into organizational performance frameworks. Secondly, given the substantial pressures inherent in public sector modernization—particularly the documented phenomenon of reform fatigue (De Vries, 2013)—cultivating robust career conviction becomes imperative. Our findings corroborate that CC enhances PSM, in turn facilitating TCB adoption through value internalization. Organizations should therefore

institutionalize CC development programs incorporating PSM alignment, and establish feedback mechanisms linking CC manifestation TCB. Thirdly, public sector leaders should use the PSM as an indicator in recruitment, training, and promotion, such as, incorporating PSM assessment through situational judgment tests, designing modular programs enhancing PSM dimensions (Perry, 1996), developing competency models weighting PSM-related behaviors, and so on. Fourthly, in a collectivist society like China, individuals with a high CO can strengthen the positive effect of CC on TCB through PSM. Thus, organizational administrators should enhance employees' collectivist beliefs and values through training initiatives and cultural development programs, while implementing targeted interventions to strategically balance individualistic orientations.

5.3 Limitations and Future Research Avenues

This study has several limitations. First, the exclusive focus on street-level bureaucrats introduces ecological homogeneity concerns. Multi-wave studies tracking CC-TCB dynamics across heterogeneous civil service categories (e.g., technical specialists vs. policy implementers) could enhance ecological validity. Second, despite consensus regarding leadership's centrality in TCB formation (Wang et al., 2020), critical organizational determinants (e.g., reward systems, psychological safety climate) remain unexplored.

Third, while our mediation analysis clarifies the CC→PSM→TCB pathway, in-depth analyses are scarce. In recent years, scholars have paid more attention to the positive effects of CC and less attention to its possible negative effects. For instance, when an organization's mission is not aligned with an individual's CC, employees may seek supportive environments elsewhere, resulting in high turnover (Elangovan et al., 2010). Fourth, our model presupposes benevolent organizational responses to TCB, overlooking possible its negative effect. For example, assuming that TCB can disrupt the status quo, supervisors and colleagues may oppose change, and negative or hostile reactions can accrue. Accordingly, future researchers might want to explore the dark side of TCB.

5.4 Ethics Statement

The study was carried out in accordance with the recommendations of "Hubei Polytechnic University's Human Research Ethics Committee" with

written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the "Hubei Polytechnic University's Human Research Ethics Committee."

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Author Contributions

Hongyan Wang: Conceptualization; Writing – original draft, review & editing; Data curation,

Ruihong Liu: Data curation; Writing – review & editing

Lie Ao: Data curation;

The authors have declared that no competing interests exist.

Data Availability Statement

The raw/processed data required to reproduce these findings cannot be shared at this time as the data also forms part of an ongoing study. The data are available from the corresponding author on reasonable request.

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