



Understanding civil servants' public service motivation, withdrawal behavior, and taking-charge behavior through the lens of self-determination theory

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journals.sagepub.com/home/cpp**Shenghao Guo¹, Bo Wen² and Xiaochun Zhu³**

Abstract

Contemporary public management research has focused heavily on the consequences of public service motivation (PSM). However, only a handful of studies have been conducted to develop context-indifferent measurement scales that reflect the nature of this central concept, which ranges along a continuum from controlled to autonomous motivation. This study proposes a new PSM model grounded in self-determination theory (SDT) and empirically validates two behavioral elements for the SDT-based PSM using data from Guangdong Province of China. Specifically, it is found that (1) the withdrawal behavior of public employees is positively influenced by their external PSM, negatively associated with identified and introjected PSM, and independent of intrinsic and integrated PSM; (2) there are positive relationships between introjected-, intrinsic-, identified-PSM, and taking-charge behavior; and (3) integrated and external PSM do not show significant outcome effects. Acknowledging that different motivational dimensions underlying the SDT-based PSM vary in their importance to the stimulation of withdrawal and taking-charge behaviors, the paper concludes with a future agenda for SDT- and PSM-related research that can be furthered in a manner that enriches theory or illuminates practice.

Keywords

Measurement scale, public service motivation, self-determination theory, taking-charge behavior, withdrawal behavior

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Introduction

Over the past two decades of new public management (NPM)-inspired reforms, public service motivation (PSM) has gained unprecedented popularity in the literature (e.g. Hsieh, 2019; Huang, 2019; Liu & Chen, 2021; Park & Lee, 2023), in part because it helps public administration scholars carve out a disciplinary identity (Chen & Bozeman, 2013). The PSM literature reflects the accomplishment of many scholarly tasks, such as crystalizing the theoretical boundaries of the PSM construct and examining its antecedents and consequences in light of different methodological approaches (e.g. DeHart-Davis et al., 2006; Thant, 2023; Wright et al., 2012).

As a buzzword in public management, PSM is always conceived to be a subset of, largely pertaining to, or even equated with, altruism (e.g. Bright, 2008; Perry & Hondeghem, 2008). While it is hard to dispute the prevalence of altruistic motives among public service providers,

PSM is not solely determined by altruism. In addition to the commitment to benefiting citizens and society, there are egoistic reasons for people to deliver public services, including the need to boost self-esteem, experience a sense of career stability, and earn reasonable salaries to support their families (Ritz et al., 2016). Despite its indisputable usefulness, the current conceptualization of PSM may thus need further scrutiny that takes individuals' egoism into account. Although Perry (1996) depicts "attraction to public policy-making" (APM) as a rational aspect in his

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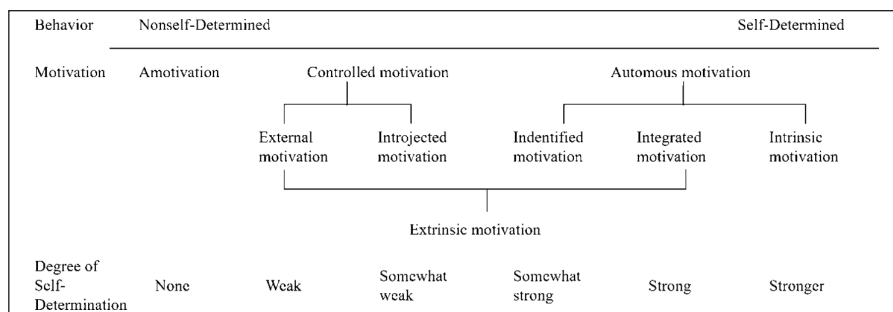


Figure 1. Motivational typology of SDT.

seminal PSM measurement scale, this dimension has been criticized for being conceptually underdeveloped and statistically unsatisfactory in that it is too closely related to political power to resonate with the majority of public employees (Ritz, 2011). Another problem of Perry's (1996) scale has arisen since scholars, led by Kim (2009), began to cast doubt on whether it can be generalized to Korea and other non-Western contexts.

To respond to this skepticism and ultimately improve the applicability of the PSM concept in multicultural investigations, Chen and Bozeman (2013) advocated for the incorporation of self-determination theory (SDT), which focuses on the generic motivation behind the choices people make without external influence and interference. Similarly, Xu and Chen (2016) suggested the use of SDT to explore the egoistic side of PSM. It is their belief that individuals' motivation can hardly be made sense of through a simple altruistic-egoistic dichotomy; instead, it should be considered a continuum, encapsulated in the degree of self-determination, which extends from amotivation to controlled and autonomous motivation (see Figure 1).

Unfortunately, one of the major concerns regarding the scale proposed by Chen and Bozeman is the omission of integrated motivation, which is considered by the founders of SDT as a unique motivational type between one's intrinsic and identified motivations (Ryan & Deci, 2000a, 2000b). In addition, Chen and Bozeman (2013) integrate the remaining five motivations into a single index in their study. Unfortunately, this single-indexing method obliterates the most promising aspect of the SDT—namely, its character as a continuum extending along the degree of self-determination—and is thus less desirable.

By reviewing both the strengths and weaknesses of previous research, we determine that understanding PSM through the lens of SDT is a promising approach. Hence, this study strives to accomplish two primary tasks. First, SDT specifies six motivational categories: intrinsic motivation, integrated motivation, identified motivation, introjected motivation, external motivation, and amotivation (Ryan & Deci, 2000a, 2000b). Which of these are empirically related to individuals' PSM and how can they be combined to holistically measure one's PSM levels? A validated measurement scale for the SDT-based PSM is presented in this paper. Second, while

behavioral scientists and psychologists from various disciplines have obtained fruitful findings on how different SDT-based motivations positively or negatively influence individuals' organizational behaviors, they rarely extend their reach to the discussion and comparison of passive and proactive behaviors. Thus, this study demonstrates the explanatory power of different types of motivation on individuals' *taking-charge* (i.e. responsibility-shouldering) and *withdrawal* (i.e. responsibility-shirking) behaviors in a local bureaucratic context in China.

Understanding civil servants' behaviors through SDT-based PSM

PSM concept and measurement

PSM has been defined in several ways. The most commonly cited definition, which has gained a solid footing and wide acceptance in the mainstream of public management research, is provided by Perry and Wise (1990, p. 368). They defined PSM as "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations." Another commonly cited definition is by Brewer and Selden (1998): "a general altruistic motivation to serve the interests of a community of people, a state, a nation, or humankind" (p. 23). Two decades later, Bright (2008) defined PSM as "altruistic intentions that motivate individuals to serve the public interest" (p. 151), and Wright and Pandey (2008) described it as "work-related values or reward preference such as the employees' desire to help others, benefit society, or engage in meaningful public service" (p. 503). In a study conducted by Liu et al. (2008), PSM is defined as "an expression of prosocial and other-oriented motives and values and actually represents an individual's predisposition to enact altruistic or prosocial behaviors regardless of setting" (p. 720). Despite the slight differences among these definitions, PSM seems to be inevitably intertwined with concepts such as "altruism," "helping others," "providing public services," and "prosocial motivation." While undoubtedly related to altruism, PSM is not tantamount to altruism. Bozeman and Su (2015) argue that PSM should be differentiated from altruism in their critique of PSM concepts and

theory. An important but practically ignored perspective in the current literature is the egoistic side of PSM (Xu & Chen, 2016). For example, in the appropriation of government spending for localized projects, it may be difficult to distinguish whether a government employee participates in it for benefits from the pork barrel, citizen satisfaction, or the public interest. Stillman (1996, p. 177) even points out that “what draws all political appointees together and keeps them loyal and responsible to the elected official’s policy agenda is the fact that they can be removed or transferred by their leaders. Fear of losing a job can be a powerful incentive to stay in line with the top-level agenda, or at least to refrain from stating opposing views in public.”

In addition to the conceptualization of PSM itself, an even more important task is to reach a consensus on how it can be convincingly measured. In other words, an agreement on the key dimensions of PSM is urgently needed. Several researchers have developed PSM measurement scales in both the United States and in other countries. Perry (1996) identified a multidimensional scale to measure PSM in the US context, which has four components: attraction to public policymaking (APM), commitment to public interest, compassion, and self-sacrifice. Trying to give self-interested elements a foothold, Perry (1996) considered APM the rational part of the PSM construct. However, APM has proved to be problematic in many ways; for example, as APM is closely related to the political power in the hands of politicians, it is far-fetched to extend it to street-level bureaucrats. Put differently, APM only appeals to those who conceive themselves as “political” and who enjoy discussing politics, while there are some people indifferent to or even sick of politics (Ritz, 2011). Moreover, some studies have shown that the generalizability and applicability of Perry’s (1996) scale cannot be ensured because of the different structural, social, political, and economic environments across countries. Liu et al. (2008) found that the compassion dimension of PSM was unconfirmed. Indicating that Perry’s (1996) scale cannot be generalized to Korea, Kim (2009) provided his revised four-factor 12-item measurement scale of PSM. However, as himself wrote, “it needs to be acknowledged that there is no evidence of how much if any improvement it would offer using civil servants of other nationalities” (p. 161). After that, Kim et al. (2013) scholars from 12 countries developed a 16-item international instrument; however, they also found that “the exact meaning and scaling of PSM dimensions are likely to differ across cultures and languages,” and claim their “results raise serious concerns regarding the ability to develop a single universal scale of PSM, or making direct comparisons of PSM across countries” (p. 79).

To overcome the shortcomings reflected in previous scales, Chen and Bozeman (2013) focused on the actual individual-level decision-making processes and improved the scale applicability through the use of SDT. However,

there are two notable issues that we can draw lessons from and try to avoid in our study. First, they considered integrated motivation to be difficult to differentiate from identified motivation and therefore did not include integrated motivation, while many recent SDT studies have successfully distinguished integrated motivation from identified motivation and developed reliable, valid motivation scales (e.g. Wilson et al., 2006). In addition, they integrated the five motivations into a single motivation index. This statistical method actually obscures the great strength of SDT, which treats motivation as a continuum extending along the degree of self-determination.

In summary, there are some problems with the PSM concept and measurement scale that need to be addressed, such as the taken-for-granted altruistic-egoistic dichotomy and the lack of scale applicability. Although far from being widely discussed in the field of public management, SDT can serve as an important alternative for refining PSM constructs and developing an applicable PSM measurement scale. First, it integrates altruistic and egoistic elements and is able to capture the multi-dimensionality of PSM. Second, it lays great emphasis on the motivation behind choices made without external influence or interference (Ryan & Deci, 2000b), which means that an SDT-based PSM measurement scale may be more applicable and generalizable to various contexts. With this importance in mind, one goal of this study is, therefore, to refine and measure the concept of SDT-based PSM.

SDT-based PSM

SDT represents a broad psychological framework for the study of human motivations and personalities that are related to people’s inherent growth tendencies and innate psychological needs. It is concerned with the motivation behind choices made without external influence or interference (Ryan & Deci, 2000b). The identified motives under the umbrella of SDT can be classified into the following types: autonomous motivation, controlled motivation, and amotivation. The motivational typology is shown in Figure 1.

First, autonomous motivation consists of intrinsic, integrated, and identified motivations. When people are autonomously motivated, they experience self-acceptance and self-endorsement of their actions. More specifically, *intrinsic motivation* is defined as performing an activity for its own sake, that is, because it is interesting and enjoyable. When people are intrinsically motivated, they engage in activities that interest and delight them, and they do so freely, with a full sense of perseverance and without the necessity of material rewards or constraints (Deci & Ryan, 1985). Trying to master certain difficult duties in order to experience personal satisfaction represents an example of intrinsic motivation in the public sector. *Integrated motivation* is the fullest, most complete form of internalization of

extrinsic motivation, as it not only involves identifying with the importance of behaviors but also integrating those identifications with other aspects of the self (Ryan, 1995). Civil servants who work because they feel that their involvement contributes to a part of their growth and development as a person represents an example of integrated motivation. *Identified motivation* refers to doing an activity because one identifies with its value or meaning and accepts it as one's own, such that this form of internalization is volitional (Deci & Ryan, 2000). Civil servants who participate in their jobs because they feel that their involvement contributes to representative bureaucracy and democracy represent an example of identified motivation.

Second, controlled motivation comprises both external and introjected motivations. When people are motivationally controlled, they experience pressure to think, feel, or act in certain ways. *Introjected motivation* refers to the regulation of behavior through internal stress, such as ego-involvement, shame, and guilt. This requires individuals to accept external regulations and maintain them in a relatively isomorphic form (Ryan & Connell, 1989). Civil servants who participate in jobs because they feel the inner pressure to do so and feel embarrassed or ashamed when they are left behind by their colleagues are an example of introjected motivation. *External motivation* serves as the driving force when people's behavior is controlled by external contingencies. People take action to obtain desired results, such as tangible rewards, or to avoid punishment. For example, civil servants may work hard for their government to avoid criticism from their leaders and to receive promotions by their organizations.

Contrasting with *amotivation*, which refers to a lack of intention and motivation (Deci & Ryan, 2008), both autonomous and controlled motivation stimulate and guide behavior. The extent of self-determination gradually decreases when the primary motivational force underlying one's behavior moves from autonomous motivation to controlled motivation.

As mentioned above, SDT goes beyond the altruistic-egoistic dichotomy and offers an all-encompassing typology that captures the coexistence of individuals' different motivations for a public service career. We then suggest that *SDT-based PSM is an intention to serve the public interest, which is based on the pursuit of interest and enjoyment, hierarchical synthesis of goals, conscious valuing of activities, ego involvement, and reaction to punishment or rewards*. This proposal is inspired by the work of Ryan and Deci (2000a), Bozeman and Su (2015), and Goertz (2006). First, Ryan and Deci (2000a) suggest that the terms "pursuit of interest and enjoyment," "hierarchical synthesis of goals," "conscious valuing of activities," "ego involvement," and "reaction to punishment or rewards" can represent intrinsic, integrated, identified, introjected, and external motivation, respectively. Second, Bozeman and Su (2015) point out that PSM is not peculiar to private sector employees, although it tends to be more prevalent in public organizations (see also Andersen et al., 2011; Houston, 2000). With this suggestion,

we choose the term "individual" and do not confine SDT-based PSM to public employees, government workers, or public organizations. Finally, we supplement our SDT-based PSM with Goertz's (2006) framework, which offers consistent and practical guidance for conceptualization. Goertz (2006) maintains that important concepts are always multidimensional and multilevel, and we need to first begin with the *basic level* (i.e. the concept at the top of the pyramid). In this case, the basic level concept is "intention to serve the public interest." The next level, *the secondary level*, is the constitutive dimension or fundamental attribute of the basic level. If we go back to the SDT, there are five components that make up the secondary level, namely (by the degree of self-determination) intrinsic PSM, integrated PSM, identified PSM, introjected PSM, and external PSM. Amotivation is not considered due to statistical concerns and the fact that it refers to a lack of intention and motivation. The third level, namely the *indicator/data level*, concerns the need for measurement and empirical tests, which are presented in the following sections.

Behavioral outcomes of different motivations

Since SDT provides a continuous, spectral, and all-encompassing motivational typology, an SDT-based PSM can predict individuals' behaviors of various kinds, which can be generally divided into passive and proactive behaviors (Bateman & Crant, 1993). Researchers in different disciplines have gained fruitful findings on behavioral outcomes resulting from different motivations in SDT. For example, Edmunds et al. (2006) suggest that strenuous exercise behavior is positively correlated with identified and introjected motivations but negatively correlated to external motivation. Hayamizu (1997) investigated 483 junior high school students and found that external motivation exerts a stronger positive effect on their maladaptive coping behaviors than introjected and identified motivations. These SDT-related scholarly enquiries are particularly useful and thought-provoking because (1) they emphasize that motivation could be consequential, coinciding with the previous PSM literature (Kim & Vandenberg, 2010); and (2) they remind us that there is a dearth of research on whether civil servants' passive and proactive behaviors can be simultaneously influenced by SDT-based motivations. Therefore, we examine *withdrawal* and *taking charge* as two exemplars of passive and proactive behaviors to fill this research vacuum. Moreover, we compare the explanatory powers of different motivations on individuals' withdrawal and taking-charge behaviors, ultimately providing action-oriented insights into how to reduce withdrawal and improve taking charge.

Withdrawal behavior is a typical example of passive behavior. Voluntary employee lateness, absenteeism, and turnover are often referred to as withdrawal behaviors because they represent some physical removal from the workplace (Hanisch & Hulin, 1991; Koslowsky, 2000).

Withdrawal behavior is highly visible and costly for most organizations. Employees who are late to or absent from work can cause disruption and affect the quality and quantity of customer services (Koslowsky, 2000). Lateness and absenteeism hinder employees from performing the essential duties of their jobs and cause severe stress for their coworkers and managers who have to fill the gaps. Other negative impacts include loss of expertise and experience, training costs for replacements, administrative costs to implement the turnover policy, termination of contract, and a lower level of employee morale and organizational performance (Singh et al., 2016). With such prevalence and costs, it is important to determine the potential causes of withdrawal behavior and ways to prevent it.

Currently, there is some support for the role of PSM in predicting withdrawal behavior. For example, based on the responses of 217 public servants in Pakistan, Quratulain and Khan (2015) showed that PSM moderates the relationship between red tape and employee withdrawal, and the effect is stronger for those with high PSM rather than low PSM. Campbell et al. (2014), using data from a large survey of civil servants in South Korea, reported that PSM can moderate the negative relationship between efficiency emphasis and employee turnover intention. Based on the survey data of 4,974 Korean street-level bureaucrats, Shim et al. (2017) found a direct negative association between PSM and turnover intention. To examine whether the withdrawal behavior of public employees is significantly and negatively predicted by PSM measured under an SDT framework, we test the following hypothesis:

H1: SDT-based PSM is negatively related to the withdrawal behavior of civil servants.

The exemplar of proactive behavior is *taking-charge behavior*. As opposed to withdrawal behavior, which often has negative effects, taking-charge behavior is conducive to organizational survival and individual development. Morrison and Phelps (1999) defined taking charge as a form of discretionary behavior intended to effect organizational functional change and improvement, such as adopting improved procedures for doing one's job, changing how one's job is executed in order to be more effective, changing organizational rules or policies that are nonproductive or counterproductive, making constructive suggestions for improving how things operate within the organization, and correcting a faulty procedure or practice. Some empirical research has further demonstrated the positive impact of taking-charge behavior. Studying 212 employee-supervisor pairs, Kim et al. (2015) found that taking charge is positively related to job performance. In a recent extension of their previous work, Kim and Liu (2017) also reported that taking charge can lead to higher levels of job satisfaction and affective organizational commitment.

Given the importance of taking-charge behavior, several researchers have attempted to explore its antecedents, one of which is PSM. For instance, based on survey data from a state police force in Germany, Homberg et al. (2019) confirmed that PSM mediates the relationship between perceived transformational leadership and taking-charge behavior. Using survey data from employees in a city undergoing a reorganization and reduction in workforce, Wright et al. (2013) found empirical support for the positive effect of PSM, particularly its subdimensions of self-sacrifice and compassion, on affective commitment to change. The authors then argued that "employees with higher PSM are more likely to support organizational change, primarily because of their direct commitment to changes that improve public service provision and less because of their commitment to the organization" (Wright et al., 2013, p. 739). Although not fully equal to taking charge, commitment to organizational change represents its most essential feature, and Homberg et al. (2019) also directly cited the abovementioned findings to develop taking-charge-related hypotheses. To examine whether findings of this nature hold true when PSM is measured on an SDT-based scale, we test the following hypothesis:

H2: The SDT-based PSM is positively related to the charge-taking behavior of civil servants.

Data sources and methods

Sample

We collected our data in China because in recent years, different levels of the Chinese government have formally discouraged withdrawal behavior as well as recommended taking-charge behavior among civil servants (e.g. Central People's Government of the People's Republic of China, 2017, 2019). The Chinese government has taken legislative, executive, and judiciary measures to handle civil servants' laziness, hedonism, and reluctance to take responsibility. For example, if the withdrawal or mistake of a governmental organization causes personal loss to a citizen, the citizen may sue this department pursuant to the Administrative Procedure Law of the People's Republic of China and the Administrative Reconsideration Law of the People's Republic of China. Guangdong Province investigated and warned 1,707 civil servants due to their withdrawal behavior in 1 year, stating that if they did not change such behavior in the immediate future, they would be demoted to posts at the next lower level in compliance with the prescribed procedures. In contrast, in order to cultivate compassion at work, friendliness toward the public, and the development of politics and economy, the Chinese government since 2018 has formally recommended that civil servants undertake their responsibility, putting forward the *Five Requirements for Civil Servants on How to Take Charge*,

including: Civil servants should stick to principles and dare to speak their minds when faced with an issue of right and wrong; civil servants should try to overcome difficulties and never retreat; civil servants should step forward boldly and not be afraid of a crisis; civil servants should face mistakes directly and take responsibility; and civil servants should point out the problems of misconduct and not be afraid of offending others (Tang, 2018). Withdrawal and taking-charge behaviors, although completely different, have coexisted and become increasingly prominent in the Chinese public sector. For example, governments of Guangdong Province have taken various measures to simultaneously reduce withdrawal and improve their civil servants' ability to take charge, such as creating public-service-oriented organizational cultures and training teams and managers on public service values. Due to these enacted policies and, more importantly, the coexistence of Chinese civil servants' withdrawal and taking-charge behaviors, we believe it appropriate to gather data among Chinese civil servants.

The data for this study were collected using an online self-administered survey. Each participant completed the questionnaire on his or her mobile phone, and rules of anonymity and confidentiality were emphasized throughout the entire process. A total of 441 grassroots bureaucrats and city-level officials from Guangdong, a province of China that has striven to "punish withdrawal and encourage taking-charge," participated in this study; 317 questionnaires were collected and 277 valid questionnaires were finally obtained. Among the 277 civil servants, 46.9% were male and 53.1% were female. Their average age was 32.56 years ($SD=7.183$) and their average tenure was 7.47 years ($SD=7.661$). In terms of education, 0.4% were junior middle school students, 2.2% were vocational school students, 1.8% were senior middle school students, 16.6% were junior college students, 74.7% were undergraduate students, and 4.3% were master students.

Measures

SDT-based PSM. The initial task in developing an SDT-based PSM scale is to devise an item pool. Currently, there are few established or empirically tested SDT-based PSM measurement scales. We begin by systematically reviewing previous SDT-based motivation measurement scales of other disciplines, including Gagné et al.'s (2015) Work Motivation Scale, Chen and Bozeman's (2013) Public and Nonprofit Manager Motivation Scale, Noels et al.'s (2000) Language Learning Orientations Scale, and Pelletier et al.'s (1995) Sports Motivation Scale.

We omit all items pertaining to amotivation, not only because amotivation refers to a lack of intention and motivation, but also because of the following concerns: (1) positively worded items are more desirable for motivation measurement scale (Kim, 2009; Perry, 1996); we are interested in civil servants' intentions to provide public services, and amotivation is characterized by inability, unwillingness,

or low interest; (2) compared to items measuring the other motivation types, previous studies have demonstrated poor factor loadings of amotivation items (Denman et al., 2016; Levesque et al., 2007). Ingledew and Markland (2008) suggest that it is inappropriate to include amotivation as a separate construct in structural equation modeling; and (3) after Markland and Tobin (2004) included amotivation items when developing the second version of the Behavioral Regulation in Exercise Questionnaire, many validation studies have empirically rebutted the discriminant validity of the scale, and indeed have reported high ($>.70$) inter-factor correlations between intrinsic and identified factors (Chung & Liu, 2012; Markland & Tobin, 2004), raising multicollinearity issues.

Next, the content validity of the items was assessed by a panel of 12 bilingual colleagues and graduate students who have a comprehensive understanding of SDT and PSM. Adopting the procedures used by Ap and Crompton (1998), this panel judged the representativeness of each item as an SDT-based PSM. Taking intrinsic PSM as an example, the panel was asked to evaluate the degree of representativeness by indicating whether the item was (1) clearly representative of intrinsic PSM, (2) somewhat representative of intrinsic PSM, or (3) not representative of intrinsic PSM. We determined which items should be retained through a frequency count. An item was retained when 8 or more judges rated the item as clearly representative, or when 10 or more judges assessed the item as either clearly or somewhat representative. This panel was also asked to (1) edit and improve the items to make them clearer, readable, and conceptually valid; (2) identify any items that may be offensive to respondents; and (3) brainstorm and offer suggestions for enhancing the proposed scale. Since we intended to collect data in China, this panel also helped to review and critique all scale translations.

To further reduce the number of items to a more manageable number, we deleted the obviously repetitive items. For example, one item in Noels et al.'s (2000) Language Learning Orientations Scale "for the pleasure that I experience in knowing more about the literature of the second language group" is very similar to the item included in Pelletier et al.'s (1995) Sports Motivation Scale, which is "for the pleasure it gives to me to know about the sport that I practice."

In the final version, 15 items were retained. The overarching prompt was, "Why are you engaged in public service?" and items beneath this prompt indicated possible answers to the question. Participants responded by showing their levels of agreement with each item on a 7-point scale: 1=*very strongly disagree*, 2=*strongly disagree*, 3=*disagree*, 4=*neither disagree nor agree*, 5=*agree*, 6=*strongly agree*, and 7=*very strongly agree*. All measurement items are listed in Table 1, and their reliability and validity are shown and discussed in the results section.

Withdrawal behavior ($\alpha=.943$): We use the Lehman and Simpson's (1992) physical withdrawal behaviors scale,

Table 1. Measurement scales.

Constructs	Factors	Items	Standardized factor loadings	Internal consistency	
SDT-based PSM	Intrinsic PSM	Because I enjoy this work very much	0.928	$\alpha = .876$, CR = .961, AVE = .893	
		Because I have fun doing my job	0.958		
		For the moments of pleasure that this job brings me	0.948		
	Integrated PSM	Because this job fits my personal habits	0.934		$\alpha = .949$, CR = .950, AVE = .862
		Because this job is in lines with my self-recognition	0.929		
		Because this job is consistent with my personal values	0.923		
	Identified PSM	Because this job is meaningful	0.966		$\alpha = .954$, CR = .954, AVE = .874
		Because this job is of great value	0.924		
		Because this job has positive effects	0.913		
	Introjected PSM	Because I have to be the best in my job, I have to be a "winner"	0.823		$\alpha = .802$, CR = .830, AVE = .623
		Because my work is my life and I don't want to fail	0.887		
		Because my reputation depends on it.	0.637		
	External PSM	Because this job affords me a certain standard of living	0.875		$\alpha = .811$, CR = .815, AVE = .603
		Because it allows me to make a lot of money	0.845		
I do this job for the paycheck		0.573			
Left work early without permission		0.920	$\alpha = .943$, CR = .943, AVE = .831		
Taken longer lunch or rest break than allowed		0.919			
Taken supplies or equipment without permission		0.895			
Fallen asleep at work		0.854			
Taking-charge behavior	I can stick to principles and dare to speak my mind when faced with an issue of right and wrong	0.848	$\alpha = .906$, CR = .941, AVE = .800		
	I will try to overcome the difficulties and never retreat	0.918			
	I can step forward boldly and not be afraid of a crisis	0.915			
	I can face mistakes directly and take responsibilities	0.799			
	I can point out the problems of misconduct and not be afraid of offending others.	0.618			

Note. All standardized factor loadings and correlations are significant at $p < .01$.

which contains four items: "left work early without permission," "taken longer lunch or rest break than allowed," "taken supplies or equipment without permission," and "fallen asleep at work." Withdrawal behavior was self-evaluated by civil servants and measured using a 7-point scale, with 1 = *very strongly disagree* and 7 = *very strongly agree*.

Taking-charge behavior ($\alpha = .906$): The Chinese government's version of or guidelines on cadres' taking-charge standards, namely the Five Requirements for Civil Servants on How to Take Charge, shares many similarities with Morrison and Phelps's (1999) taking-charge scale. Thus, we use these five requirements to evaluate civil servants' taking-charge behavior. We measure taking-charge behavior of civil servants through five items: "I can stick to principles and dare to speak my mind when faced with an issue of right and wrong," "I will try to overcome the difficulties and never retreat," "I can step forward and not be afraid of a crisis," "I can face mistakes directly and take responsibilities," and "I

can point out the problems of misconduct and not be afraid of offending others." Taking-charge behavior is self-evaluated by civil servants and measured on a 7-point scale, with 1 = *very strongly disagree* and 7 = *very strongly agree*.

Control variables: Following previous studies, gender, age, education, and tenure were used as the control variables in this study. As women often report higher levels of compassion (DeHart-Davis et al., 2006), commitment, and willingness to exert prosocial effort (Leisink & Steijn, 2009), the effect of gender needs to be controlled for. Age is another crucial control variable because older people often manifest the inclination to "give" to future generations (Pandey & Stazyk, 2008), a higher stage of moral development (Perry, 1997), and a higher stock of social capital (Putnam, 2000). In addition, a higher level of education is consistently correlated with higher PSM (Vandenabeele, 2011), and job tenure implies attrition and socialization that influence on-the-job motivation (De

Table 2. Discriminant validity testing.

Model	χ^2	df	$\Delta\chi^2$	χ^2/df	CFI	TLI	RMSEA	SRMR
IN; IT; ID; IJ; and EX	207.892	80	—	2.599	0.954	0.940	0.076	0.058
IN+IT; ID; IJ; and EX	299.434	84	91.542**	3.565	0.923	0.904	0.096	0.060
IN+ID; IT; IJ; and EX	509.825	84	301.933**	6.069	0.848	0.810	0.135	0.069
IN+IJ; IT; ID; and EX	386.550	84	178.658**	4.602	0.892	0.865	0.114	0.088
IN+ EX; IT; ID; and IJ	386.678	84	178.786**	4.603	0.892	0.865	0.114	0.089
IN; IT+ID; IJ; and EX	404.077	84	196.185**	4.810	0.886	0.858	0.117	0.064
IN; IT+ IJ; ID; and EX	316.247	84	108.355**	3.765	0.917	0.897	0.100	0.071
IN; IT+EX; ID; and IJ	350.780	84	142.888**	4.176	0.905	0.881	0.107	0.074
IN; IT; ID+IJ; and EX	304.775	84	96.883**	3.628	0.921	0.902	0.097	0.077
IN; IT; ID+ EX; and IJ	384.340	84	176.448**	4.575	0.893	0.866	0.114	0.084
IN; IT; ID; and IJ + EX	282.052	84	74.160**	3.358	0.929	0.912	0.092	0.062

Note. N=277. IN=intrinsic PSM; IT=integrated PSM; ID=integrated PSM; IJ=introjected PSM; EX=external PSM.

** $p < .01$.

Cooman et al., 2009). Both the educational levels and the length of service of the respondents were controlled for.

Empirical analyses

Common method variance testing. As with all self-reported data, there is the potential for the occurrence of common method variance (CMV). To minimize its effect, we ensure that only after all items of one variable were answered did the items of another variable appear on the next page. Additional analyses were performed to test the extent of CMV following the procedures recommended by Fornell and Larcker (1981) and Podsakoff et al. (2003). In this approach, a multifactor measurement model, a model with a single method factor, a measurement model with an additional method factor, and a null model were examined. The results of these analyses indicate that while the choice of methods does improve model fit, it accounts for only a small portion (21.768%) of the total variance, which is less than the 50% cutoff criterion identified by Fornell and Larcker (1981) and indicates a meaningful construct. Thus, CMV was not a serious problem in this study.

Reliability and validity testing. The standardized factor loadings and internal consistencies are presented in Table 1. In this study, the standardized factor loadings are all above .55, demonstrating that the model fits reasonably well (Tabachnick et al., 2007). The Cronbach's alpha of the concerned variables ranged from .802 to .954, which are all above Nunnally's (1978) recommended level of .70. Fornell and Larcker (1981) suggest that composite reliability (CR) should be greater than .60, and average variance extracted (AVE) should be higher than .50. In this study, CRs were between .815 and .961, and AVEs were between .603 and .893, indicating adequate convergent validity.

Discriminant validity between constructs is assessed following Fornell and Larcker's (1981) recommendation that the square root of AVE for each construct should exceed the

bivariate correlations between that construct and all other constructs. Table 3 shows that the numbers in brackets (square roots of AVE) exceed the non-diagonal elements in the same row or column (bivariate correlations), indicating that the discriminant validity of all scales is also adequate.

Robustness testing. A series of confirmatory factor analyses (CFA) was conducted to further examine the discriminant validity of the five motivational variables. Specifically, we compared a five-factor model (intrinsic PSM, integrated PSM, identified PSM, introjected PSM, and external PSM) against 10 four-factor models (e.g. Model I: intrinsic PSM and integrated PSM combined into one factor; Model II: intrinsic PSM and identified PSM combined into one factor; Model III: intrinsic PSM and introjected PSM combined into one factor). According to the CFA results in Table 2, the model-fit indices of the five-factor model ($\chi^2/df=2.599$, CFI=0.954, TLI=0.940, RMSEA=0.076, SRMR=0.058) met the criteria recommended by Hair et al. (2010). Thus, this model is statistically superior to the alternatives, suggesting that it provides sufficient discriminant validity among intrinsic, integrated, identified, introjected, and external PSM.

Findings

Descriptive statistics and correlations

Table 3 shows the means, standard deviations, and correlations of all focal variables included in this study. Intrinsic PSM ($r=-.118$, $p < .05$), integrated PSM ($r=-.135$, $p < .05$), identified PSM ($r=-.183$, $p < .01$), and introjected PSM ($r=-.121$, $p < .05$) were negatively correlated with withdrawal behavior, while external PSM ($r=.045$, $p > .10$) did not exert any significant effect on withdrawal behavior. Intrinsic PSM ($r=.554$, $p < .01$), integrated PSM ($r=.538$, $p < .01$), identified PSM ($r=.525$, $p < .01$), introjected PSM ($r=.560$, $p < .01$), and external PSM ($r=.386$,

Table 3. Means, standard deviations, and correlations among study variables.

Variables	Mean	SD	1	2	3	4	5	6	7
1. Intrinsic PSM	5.384	1.399	(.945)						
2. Integrated PSM	5.374	1.376	.882**	(.928)					
3. Identified PSM	5.792	1.286	.773**	.812**	(.935)				
4. Introjected PSM	5.456	1.199	.673**	.724**	.736**	(.789)			
5. External PSM	5.374	1.241	.463**	.534**	.455**	.629**	(.777)		
6. Withdrawal behavior	2.996	1.753	-.118*	-.135*	-.183**	-.121*	.045	(.912)	
7. Taking-charge behavior	5.450	1.089	.554**	.538**	.525**	.560**	.386**	-.153*	(.894)

Note. $N=277$. The diagonal values in brackets are the square roots of the AVE.

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

$p < .01$) were positively correlated with taking-charge behavior. In addition, withdrawal behavior was negatively correlated with taking-charge behavior ($r = -.153, p < .05$). This provides a preliminary basis for further verification of these relationships in the regression section.

Regression results

We first entered the control variables (gender, age, education, and tenure), and then we entered items for intrinsic, integrated, identified, introjected, external, autonomous, and controlled motivations. Finally, we entered all items underlying the SDT-based PSM. The strong-to-weak sequence of motivational effects can be identified by comparing the absolute values of each regression coefficient.

Analyses of variance inflation factor (VIF) were also conducted to detect possible multicollinearity problem among the explanatory variables included in the model. According to the cutoff points suggested by O'Brien (2007), the values of tolerance and VIF for the predictors should be larger than 0.1 and less than 10, respectively. All five independent variables in our model, intrinsic PSM (tolerance=0.972, VIF=1.029), integrated PSM (tolerance=0.958, VIF=1.044), identified PSM (tolerance=0.979, VIF=1.021), introjected PSM (tolerance=0.970, VIF=1.031), and external PSM (tolerance=0.974, VIF=1.027), fell within the acceptable ranges. Therefore, it is safe to conclude that no serious multicollinearity issue exists among them.

Table 4 shows regression results for the effects of different motivations on withdrawal behavior. Models 2 to 6 demonstrate that withdrawal behavior is negatively related to intrinsic PSM ($\beta = -.143, p < .10$), integrated PSM ($\beta = -.161, p < .05$), identified PSM ($\beta = -.235, p < .01$), and introjected PSM ($\beta = -.152, p < .10$), but insignificantly associated with external PSM ($\beta = .089, p > .10$). The strong-to-weak rank of effect sizes is illustrated through Models 7 to 9. In Model 7, autonomous motivation (i.e. intrinsic PSM, integrated PSM, and identified PSM) is considered an independent variable and withdrawal behavior is considered as a dependent variable. Results show that identified PSM ($\beta = -.290, p < .05$) negatively influences withdrawal behavior, while the effects of intrinsic PSM

($\beta = .049, p > .10$) and integrated PSM ($\beta = .017, p > .10$) are not significant. Model 8 concerns the relationship between controlled motivation (i.e. introjected PSM and external PSM) and withdrawal behavior, and the results indicate that withdrawal behavior is negatively influenced by introjected PSM ($\beta = -.341, p < .01$) but positively associated with external PSM ($\beta = .294, p < .01$). Model 9 includes all kinds of motivations and shows that withdrawal behavior is still positively associated with external PSM ($\beta = .294, p < .01$) and negatively associated with identified PSM ($\beta = -.264, p < .10$); the effects of other motivations on withdrawal behavior, however, are not significant ($\beta = .064, -.083, -.115, p > .10$). To sum up, individuals' withdrawal behavior is positively influenced by their external PSM but negatively influenced by their identified and introjected PSM. It also merits mentioning that intrinsic and integrated PSM failed to significantly predict withdrawal behavior. Therefore, H_1 is partially verified.

Table 5 shows all the regression coefficients between different motivations and taking-charge behavior. Models 11 to 15 demonstrate that taking-charge behavior is positively related to intrinsic PSM, integrated PSM, identified PSM, introjected PSM, and external PSM ($\beta = .423, .416, .432, .499, .325; p < .01$). In Model 16, autonomous motivation (i.e. intrinsic PSM, integrated PSM, and identified PSM) is considered an independent variable and taking-charge behavior a dependent variable. Results show that intrinsic PSM ($\beta = .247, p < .01$) and identified PSM ($\beta = .173, p < .05$) still positively influence taking-charge behavior, whereas the effect of integrated PSM on taking-charge behavior is insignificant ($\beta = .062, p > .10$). Model 17 concerns the relationship between controlled motivation (i.e. introjected PSM and external PSM) and taking-charge behavior; introjected PSM ($\beta = .471, p < .01$) exerts a stronger positive effect on the outcome than external PSM does ($\beta = .043, p > .10$). Model 9 includes all kinds of PSM and shows that introjected PSM ($\beta = .263, p < .01$) and intrinsic PSM ($\beta = .236, p < .01$) are positively associated with taking-charge behavior but the effects of other motivations are not significant ($\beta = -.031, .069, \text{ and } .033, p > .10$). To sum up, the introjected, intrinsic, and identified PSM of civil servants in China are positively related to their

Table 4. Regression results for the effect of SDT-based PSM on withdrawal behavior.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Constant	4.771**	5.319**	5.324**	5.754**	5.271**	4.415**	5.741**	4.718**	5.116**
Control variables									
Gender	0.257	0.282	0.276	0.254	0.243	0.265	0.243	0.252	0.269
Age	-0.012	-0.008	-0.009	-0.007	-0.006	-0.013	-0.008	-0.005	-0.007
Education	-0.307 ⁺	-0.286 ⁺	-0.268 ⁺	-0.260	-0.269 ⁺	-0.322*	-0.260	-0.271 ⁺	-0.264 ⁺
Tenure	-0.008	-0.007	-0.005	-0.006	-0.009	-0.009	-0.007	-0.015	-0.010
Autonomous motivation									
Intrinsic PSM		-0.143 ⁺					0.049		0.064
Integrated PSM			-0.161*				0.017		-0.083
Identified PSM				-0.235**			-0.290*		-0.264 ⁺
Controlled motivation									
Introjected PSM					-0.152 ⁺			-0.341**	-0.115
External PSM						0.089		0.294**	0.294**
R ²	.019	0.032	0.034	0.048	0.030	0.023	.049	.055	.075
Adjusted R ²	.005	0.014	0.017	0.031	0.012	0.005	.024	.034	.044
F	1.329	1.783	1.935 ⁺	2.743*	1.654	1.277	1.983 ⁺	2.638*	2.396*

Note. N=277.

⁺p < .10. *p < .05. **p < .01.

Table 5. Regression results for the effect of SDT-based PSM on taking-charge behavior.

Variables	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15	Model 16	Model 17	Model 18
Constant	3.757**	2.136**	2.328**	1.946**	2.114**	2.452**	1.875**	2.034**	1.672**
Control variables									
Gender	0.076	0.002	0.025	0.081	0.122	0.106	0.027	0.123	0.066
Age	0.014	0.005	0.006	0.006	-0.003	0.009	0.004	-0.002	-0.001
Education	0.241*	0.180*	0.140 ⁺	0.154 ⁺	0.117	0.187*	0.156 ⁺	0.117	0.130
Tenure	0.006	0.004	-0.001	0.004	0.011	0.002	0.003	0.010	0.007
Autonomous motivation									
Intrinsic PSM		0.423**					0.247**		0.236**
Integrated PSM			0.416**				0.062		-0.031
Identified PSM				0.432**			0.173*		0.069
Controlled motivation									
Introjected PSM					0.499**			0.471**	0.263**
External PSM						0.325**		0.043	0.033
R ²	.032	.319	.297	.287	.325	.166	.341	.326	.381
Adjusted R ²	.018	.307	.285	.274	.312	.151	.324	.311	.360
F	2.272**	25.443**	22.950**	18.803**	26.078**	10.813**	19.911**	21.791**	18.227**

Note. N=277.

⁺p < .10. *p < .05. **p < .01.

taking-charge behavior. Their integrated and external PSM, however, fail to significantly predict such behavior. Therefore, H₂ is partially supported as well.

Discussion and conclusions

Inspired by previous findings and emboldened by the scholarly call for the incorporation of the SDT framework into motivation studies, we find that SDT can indeed serve

as an important theoretical point of departure to explore PSM. Through the lens of SDT, we are able to embrace a renewed sense of PSM that transcends the altruistic-egoistic dichotomy, a PSM measurement scale with verified reliability and validity, and a pair of behavioral correlates that are differentially influenced by SDT-based PSM. We hope that the findings of this study can stimulate the development of more SDT- or PSM-related ideas among researchers.

Table 6. Explanatory powers of different motivations and practical advice..

Behaviors	What kinds of motivations should be focused on	Relationship	Practical advice
Withdrawal behavior	1. External PSM	Positive	(a) Not just focus on or overemphasize material rewards and punishments (b) Construct a reasonable mechanism where civil servants can exert their expertise and accomplish their tasks, and this mechanism should elicit civil servants' potential and should not be objectionable
	2. Identified PSM	Negative	(a) Improve civil servants' perceptions of the attractiveness of their jobs (b) Show civil servants how their work benefits citizens and the society
	3. Introjected PSM	Negative	(a) Use direct competition or cooperative competition to generate some anxiety (b) Encourage hard work and give both positive and negative feedback
Taking-charge behavior	1. Introjected PSM	Positive	(a) Make full use of promotion and demotion mechanisms (b) Continuously raise the bar and set loftier goals
	2. Intrinsic PSM	Positive	(a) Facilitate work environments (b) Host exciting team-building events
	3. Identified PSM	Positive	(a) Tell powerful, memorable, and actionable stories (b) Provide a bold, specific, and consistent vision

Specifically, based on theoretical considerations and empirical analysis, we showed that PSM is more than altruism and its notional boundary can be extended to embrace an egoistic dimension by virtue of an SDT-oriented perspective. Although the refined measurement scale may not be as parsimonious as those commonly cited in the mainstream literature (e.g. Perry, 1996), our effort constitutes a significant attempt to provide a quantification strategy through which the complex nature of PSM can be accurately dissected and represented in an Asian context. Our analysis ultimately demonstrates that five key motivations specified in SDT (i.e. intrinsic PSM, integrated PSM, identified PSM, introjected PSM, and external PSM) can be applied to the public sector and combined to develop an SDT-based PSM measurement scale. The results also show that our SDT-based PSM model is relatively reliable and valid for measuring the PSM levels of civil servants. Additionally, these five motivations have different effects on civil servants' withdrawal and taking-charge behaviors, and the magnitudes of these effects can be ranked from the strongest to the weakest. In the case of withdrawal behavior, the effect of external PSM is positive, while the effect of identified PSM and introjected PSM is negative. In the case of taking-charge behavior, introjected PSM has the strongest positive effect, followed by intrinsic PSM and identified PSM. These differences in effect sizes are potentially instructive because they can inform public managers in prioritizing the stimulation of different kinds of employee motivation under different circumstances. For example, if public managers need to reduce civil servants' withdrawal behavior, they may focus on the impact of external PSM, identified PSM, and introjected PSM. If public managers aim to solicit civil servants' taking-charge behavior, they may need to seek reinforcement for introjected PSM, then intrinsic PSM, and finally identified PSM. More detailed

practical advice is provided later in the text and is also presented in Table 6.

Our research makes several theoretical contributions to the literature. First, we present a pioneering effort to synthesize the literature on SDT and PSM in order to develop, operationalize, and test an SDT-based PSM measurement model. Since this model is grounded in SDT, its applicability, generalizability, reliability, and validity are sufficient for further research. Second, while many researchers in other disciplines hold that different motivations in SDT can lead to various behavioral outcomes, such relationships are rarely verified in the public sector. This study reveals that the majority of the motivations embodied in the SDT framework can noticeably influence civil servants' withdrawal and take-charge behaviors at the same time. Such findings are not only consistent with prior research, but also expand the scope of behavioral outcomes caused by SDT-based motivations. Finally, previous studies suggest that civil servants value intrinsic rewards over non-intrinsic rewards (Houston, 2000). However, our findings do not necessarily support this assertion. We find that Chinese civil servants care more about non-intrinsic than intrinsic rewards. Compared with the intrinsic PSM, for instance, their introjected PSM plays a much stronger role in determining their proclivity for taking-charge behavior. With regard to withdrawal behavior, the effect of intrinsic PSM is not even significant.

Our study also provides several action-oriented insights into how managers and leaders can improve the PSM of and induce desirable behaviors from civil servants. First and foremost, in order to reduce public employees' withdrawal behavior, we need to pay greater attention to their external PSM, identified PSM, and introjected PSM. Since external PSM is positively related to withdrawal behavior, public managers should not overemphasize the availability

of external rewards or punishments. Excessive external pressure can lead to frustration and dissatisfaction among employees, which in turn increases their withdrawal cognition, withdrawal expected utility, and turnover (Hom & Kinicki, 2001). Considering the importance of identified PSM in curbing employees' withdrawal behavior, public managers should also seek various ways to make civil servants recognize the significance of their jobs, such as improving civil servants' perceptions of the attractiveness of their jobs and showing how their work can greatly benefit citizens and society. By doing so, civil servants will view their job as meaningful, improve their identified PSM, and be more willing to deliver public services. In terms of how the taking-charge behavior of civil servants can be attained, our study reveals that great importance should be attached to introjected PSM, which is derived from ego-involvement, shame, and guilt. Public managers may thus adopt reasonable competition mechanisms and performance appraisals to stimulate their subordinates' introjected PSM and taking-charge behavior thereafter (Guangdong Commission for Discipline Inspection, 2019-4). Intrinsic PSM is equally important in this scenario, which can be improved by hosting interesting team-building events or developing a positive superior-subordinate relationship. Table 6 presents these practical implications.

Admittedly, our study has a few limitations. First, our sample includes only street-level bureaucrats and city-level government employees. As a result, our SDT-based PSM model has not been tested at other levels of government or in other sectors. Researchers interested in SDT and PSM may consider collecting data from different levels of government employees, such as county- and nation-level officials. Second, social desirability bias may occur in this study because the topic of withdrawal behavior is somewhat sensitive. The participants may give a socially accepted answer rather than reveal their true feelings. Researchers are encouraged to utilize different methods to prevent or reduce social desirability bias, such as the use of forced-choice items, randomized response techniques, and the use of proxy subjects. Third, while identified PSM functions as a valid predictor for both withdrawal and taking-charge behaviors in China, this conclusion may become inapplicable or implausible in other contexts. Collectivist employees often report lower job turnover (Chen et al., 2016) and higher satisfaction with their work (Hui et al., 1995). Since China is known to be a highly collectivist culture, Chinese civil servants are naturally more inclined to act in the best interests of the group rather than themselves. In an individualism-oriented country, however, the withdrawal and taking-charge behavior of civil servants may be better predicted by external PSM. Finally, the mediating or moderating variables were not included in the analysis. This is because we already have seven variables—five independent variables (intrinsic PSM, integrated PSM, identified PSM, introjected PSM, and external PSM) and two dependent variables (withdrawal behavior

and taking-charge behavior). By adding more mediating or moderating variables, the development and verification of hypotheses would become very complex and arduous. That said, possible mediation or moderation processes should be considered to further improve the practical implications of this line of research and facilitate a more comprehensive and nuanced understanding of the specific influencing mechanism. Possible mediating or moderating variables include organizational commitment, organizational identification, organizational justice, perceived organizational support, citizen satisfaction, and many others.

In conclusion, SDT opens a new gateway for public management scholars. It not only helps to explore both the altruistic and egoistic sides of PSM, but is also capable of predicting a host of behavioral outcomes in the public sector. With a growing number of scholars recognizing the possibility of operationalizing PSM from an SDT standpoint, a fertile ground for more rigorous PSM-related studies is being created.

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