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Organizational Citizenship Behavior in the Public Sector: A Systematic Literature Review and Future Research Agenda

Research Article

Abstract: *This article presents a systematic literature review of organizational citizenship behavior (OCB) in the public sector. The findings show that although OCB is gaining more attention in the public sector, research often does not take specific public sector characteristics or concepts into account. Based on the available evidence, the authors develop a framework of antecedents, outcomes, mediators, and moderators of OCB. Three areas for future research are recommended: (1) regarding theory: link OCB to public sector concepts such as bureaucratic red tape, public leadership, and public service motivation; (2) regarding research designs: use stronger survey designs, experiments, and case studies and devote more attention to cross-sectoral and cross-country differences; and (3) regarding the consequences of OCB: address the gap in our knowledge of how OCB has an impact on public organizations, including negative impacts.*

Evidence for Practice

- Public managers can use knowledge of organizational citizenship behavior (OCB) to stem negative behaviors and enhance positive workplace behaviors. For example, practitioners can influence lower turnover rates, lower rates of absence, and higher workplace trust.
- Public managers should focus on cultivating positive environments for OCB. This research suggests that employee characteristics such as job satisfaction and organizational characteristics such as organizational justice are important levers for increasing OCB in the public sector.
- Public managers can also learn how OCB can be increased by focusing on trust, organizational identification, and psychological empowerment.

It has been 30 years since Organ (1988, 4) introduced the concept of organizational citizenship behavior (OCB), which he defined as “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization.” Organ based this concept on earlier distinctions made between in-role and extra-role behavior by Barnard (1938) and Katz (1964). The latter made a distinction between the assigned roles of an employee and the spontaneous behavior that does not fall under these assigned roles. Such spontaneous behavior does, however, contribute to the accomplishment of organizational goals and was called “extra-role behavior.” Organ and other scholars gave the concept greater specificity using the lens of OCB. According to Organ (1988) and Konovsky and Organ (1996), OCB consists of five categories: conscientiousness, sportsmanship, courtesy, altruism, and civic virtue. Other terms subsequently came to be used as synonyms for OCB, such as “organizational spontaneity” and “extra-role behavior.”

The study of OCB has evolved since, and new taxonomies of OCB have emerged. For example, Williams and Anderson (1991) and LePine, Erez, and Johnson (2002) drew a distinction between OCB directed at the organization (OCBO) and OCB focused on person-to-person interactions at the individual level (OCBI). Parallel developments have taken place in public sector scholarship. Thus, OCB has been studied in relation to typical public sector concepts such as public service motivation (PSM) (Mostafa, Gould-Williams, and Bottomley 2015; Pandey, Wright, and Moynihan 2008) and general citizenship behavior (Cohen and Vigoda 2000). Using cases of management in public organizations, OCB has also been studied in relation to more generally used management concepts such as job satisfaction (Van Scotter 2000) and leadership behaviors (Hassan, Park, and Raadschelders 2019; Ritz et al. 2014). Through these studies, public administration scholars have begun to underscore the importance of OCB in public organizations.

OCB findings have encouraged public organizations to use citizenship behavior to increase organizational

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performance (Vigoda-Gadot and Golembiewski 2005). Indeed, today, public organizations increasingly face greater scrutiny and performance expectations from citizens while simultaneously struggling to maintain service levels amid declining budgets (Hassan 2015; Levine 1979; Pandey 2010; Vigoda-Gadot and Golembiewski 2005). Therefore, OCB may be a necessary ingredient of organizational responses to such challenges because OCB encourages employees to go above and beyond formally established role requirements. On the other hand, other scholars have found evidence of negative effects of OCB, such as job stress and role creep (Bolino et al. 2013; Koopman, Lanaj, and Scott 2016).

We see OCB in public organizations as if “through a glass darkly,” providing an unclear and fragmentary picture of the causes, mechanisms, and consequences of OCB and how these fit in with the general incentive structures, environments, and missions of public organizations (Ingrams 2018). How should public managers know how and when to manage and stimulate OCB? We argue that the empirical knowledge available to managers is currently difficult to apply. More is needed to organize the literature into a coherent body of findings and lessons. But to be able to do this, we need to better understand how OCB is activated and managed in public organizations. Despite advances in conceptual development, we do not have a cohesive empirical picture of how public sector OCB comes about in terms of the individual- and organizational-level factors. Nor is there a cohesive empirical picture of the mediating and moderating variables factors that turn organizational and individual processes into performance-level variables.

In this article, we conduct a systematic review of the literature on OCB in the public sector. In doing so, we contribute to the literature in three ways. First, we describe how OCB research has developed in the public sector. We look at how it is conceptualized, what its subdimensions are, and how it relates to organizational performance. Second, we analyze the variables that cause OCB and those that are caused by OCB in the public sector. This gives us insights on how OCB could be managed. Third, we identify what major gaps still exist and make recommendations for what should be done in future research. To reach our research goals, we conduct a systematic literature review based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; see appendix S1 in the Supporting Information) (Moher et al. 2009).

The article addresses four research questions:

1. How is OCB conceptualized in the public sector?
2. What are the antecedents of OCB in the public sector?
3. What are the outcomes of OCB in the public sector?
4. What are the moderators and mediators of OCB in the public sector?

In the next section, we provide theoretical background on the existing knowledge of OCB in the public sector. Thereafter, we discuss our methods for analyzing the literature on OCB in the public sector. After that we present the results of the systematic review, and then finally we draw conclusions and provide suggestions for future research on OCB within public administration.

Theoretical Background

Conceptualization of OCB in the Public Sector

OCB is a multidimensional concept. The distinction between OCBI and OCBO provides a useful analytical lens for understanding individual and organizational manifestations of OCB (LePine, Erez, and Johnson 2002; Williams and Anderson 1991). Rayner, Lawton, and Williams (2012) confirmed that this distinction between OCB aimed at the individual and OCB aimed at the organization also holds in the public sector. But these two constructs, while similar in the two sectors, involve different sets of causal relationships. Some concepts are related to OCBI but not to OCBO, and vice versa. For example, two dimensions of public service ethos, public service belief and public interest, are positively associated with OCBI but not with OCBO (Rayner, Lawton, and Williams 2012).

Besides the distinction made between OCBI and OCBO, different OCB dimensions are starting to emerge in the literature that have a distinct basis in public administration. For example, Hassan (2015) studied the influence of ethical leadership on voice as an extra-role behavior, whereby employees protest or speak up in the face of ethical concerns. Stritch and Christensen (2016) pioneered the idea of environmental OCB, whereby employees voluntarily go beyond their formal tasks to act in ways they believe will be better for the environment, such as saving paper or recycling.

Public Sector Antecedents and Outcomes

OCB is regularly studied as a performance correlate in the public sector along with other types of output- or task-oriented types of performance (Kim 2004; van Loon 2017). New managerial tools from the private sector, such as high-performance human resource practices that are designed to build motivation and commitment, have been used to study how public managers can raise the level of OCB in their organization (Mostafa, Gould-Williams, and Bottomley 2015). This research has led to notions of how to enhance employee motivation in ways that have emerged and been developed in public sector settings. For example, attention has been given to individual-level concepts such as PSM (e.g., Mostafa, Gould-Williams, and Bottomley 2015; Pandey, Wright, and Moynihan 2008) and mission matching (Resh, Marvel, and Wen 2018).

This trajectory follows what Coyle-Shapiro and Kessler (2003) described as the search for a better understanding of the relationship between individual predispositions and situational factors such as organization type. Baarspul and Wilderom (2011) argued that we cannot understand individual-level behaviors in the public sector without using sharply defined, theory-based definitions from public administration. Thus, while research on PSM gives us information about possible individual-level distinctiveness of OCB in the public sector, there are also unique additional organizational and social factors that are needed for a fuller understanding of OCB causes and consequences.

A relatively unexplored area of organizational distinctiveness and behavior in the public sector concerns the concept of “citizenship.” Prior research has shown that there are relationships between OCB in the public sector and general citizenship behavior in areas such as participation in civic life or loyalty and trust shown toward social and political institutions (Cohen and Vigoda 2000; Vigoda-Gadot and Golembiewski 2001). What characterizes these behaviors as

“extra” to prescribed roles may differ significantly from the private sector. Unlike private companies that offer consumer goods and services, public organizations interact with customers *as citizens* according to a different set of legal and normative constraints (Pandey 2010; Rainey 2014; Rosenbloom 2013). These constraints may summon a range of different role expectations and conditions for going beyond in-role behavior.

Methods

Studies of OCB in the public sector have been built around core concepts from the general management literature, but they are beginning to branch out with several novel and public sector-specific conceptualizations and links to public sector concepts. These growth areas show that public sector conceptualizations and the range of antecedents and outcomes are diversifying the field and opening up new avenues of inquiry in areas such as public organization priorities, motivation, and values.

Literature Search

We used several search strategies to identify scholarship on OCB in the public sector. First, we searched 47 journals listed in the Public Administration category of the Social Sciences Citation Index. As only studies written in English were eligible for this literature review, 4 of the 47 journals were excluded because they were not available in English. Second, studies were searched in Scopus and Google Scholar. Lastly, several experts were contacted to identify missing articles. In the next section, we discuss the criteria we used to deem articles as eligible. The eligibility criteria can be found in appendix S2 in the Supporting Information.

The search generated 2,554 possible studies for inclusion. The selection process is presented in figure 1. Two of the authors established inter-rater reliability before taking the next step of selection and data extraction. If there was disagreement about the eligibility, it was resolved through discussion and consultation with other coauthors. First, all titles, abstracts, and keywords were checked to see whether they contained one of the search terms and to check whether the articles were in English and published between January 1988 and December 2016. In this phase, 2,153 records were excluded. Of the remaining 401 studies, the full text was screened. In this phase, 272 studies were excluded for several

reasons. First, studies were excluded because they covered a different subject. For example, some articles discussed a general form of citizenship behavior such as civic engagement in associations instead of OCB. Second, studies were excluded because they did not state if the sample was taken from a public organization. Many of these studies were conducted in a school and did not state whether the school was public or private. The remaining 129 studies were included in this literature review. These studies are listed in appendix S3 in the Supporting Information.

For the remaining studies, a data extraction form was made in which the journal, author(s), title, publication year, abstract, research question, hypotheses, country, research method, research design, sector, type of organization, type of OCB measurement, type of OCB that was measured, antecedents, and outcome variables were recorded.

Results

General Results

Before answering the four research questions, we first describe the data. Figure 2 shows the change in the number of publications on OCB in the public sector between 1988 and 2016. A steady trend in the growth of public sector studies is evident, with a notable jump in the 2000s and then again in 2010. Since 2012, the trend

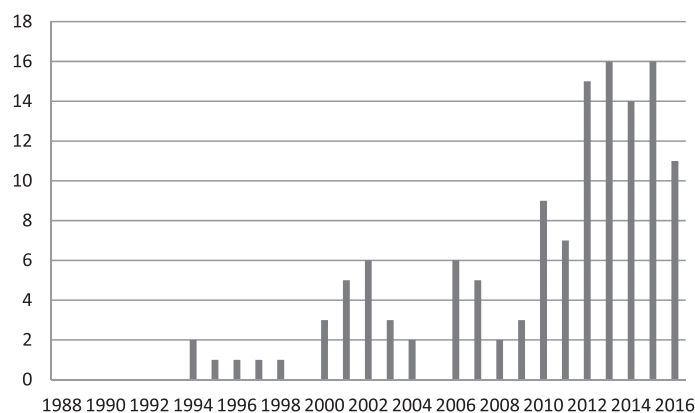


Figure 2 Number of Publications on OCB in the Public Sector per Year

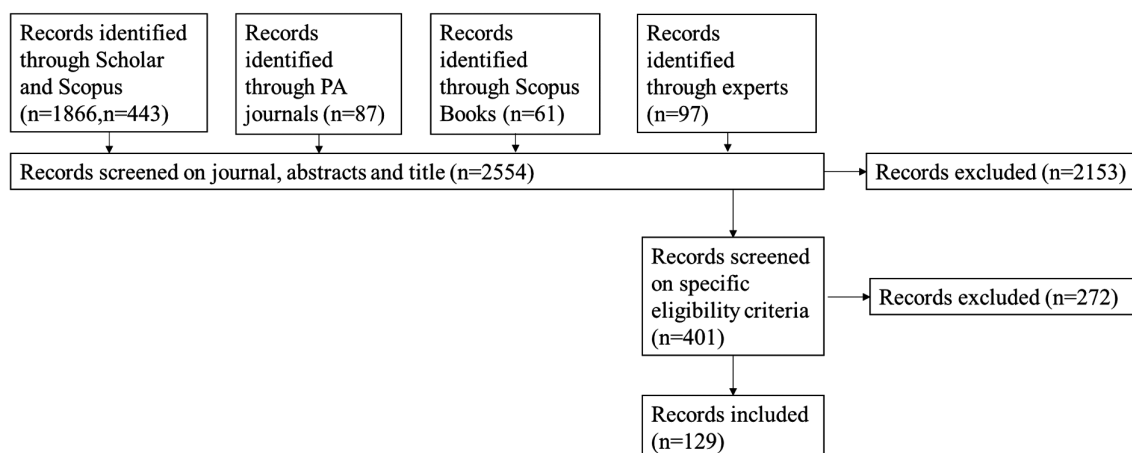


Figure 1 Data Collection Flowchart

seems to have stayed relatively stable. Growth in OCB studies focused on the public sector was initially slow, but after 20 years, attention to OCB in the public sector increased substantially.

The 129 eligible studies were found in 128 articles in 73 journals. The vast majority of journals had published just one ($N = 49$) or two ($N = 12$) articles. Table 1 shows the most prolific journals with at least two published OCB studies. The most prolific journals are *Public Personnel Management* (eight articles), *International Journal of Human Resource Management* (seven articles), *Journal of Public Administration Research and Theory* (six articles), *Review of Public Personnel Administration* (six articles), and *Public Management Review* (five articles). Among the top 12 journals, eight are public administration journals.

OCB has been studied at all government levels. Local government was studied most often. Among policy areas, education, health, and defense are notably dominant (table 2). Agencies such as these are at the front lines of public service delivery, frequently (in the case of education and health) have daily interactions with the public, and therefore are an important context for extra-role behaviors in which voluntary gestures of altruism, conscientiousness, sportsmanship, or other OCB attributes can have a direct effect on citizens. Furthermore, performance in these types of agencies is highly visible, and therefore their organizational effectiveness and the professionalism of their employees are regularly subject to public scrutiny. These organizations have the citizen at the street level of

interaction as the benefactor of citizenship behavior. This represents a markedly different state of affairs from the private sector, because citizens in the public sector are, in a sense, owners to the extent that the organization is funded by taxes and established in statutory law. Indeed, going further than immediate service mandates to ensure that citizens are treated equally and fairly is what Rosenbloom (2013) called the “mission-extrinsic” value of public organizations. Unlike in the private sector, mission-extrinsic values are vital values of the public sector that typically go beyond their formal (“mission-intrinsic”) values.

The results in table 3 show that OCB is a concept with a global reach, but there is a concentration of studies focused in specific countries in the major global regions. Notably, Chinese and Israeli studies in Asia and the Middle East, U.S. studies in North America, and U.K. studies in Europe. In contrast, African and Latin American countries are markedly less well represented in the research, a trend that raises questions about the aspirations of generalizable social science knowledge on OCB (see, e.g., Rad, Martingano, and Ginges 2018 on population sampling in the psychology field).

Research Question 1: How Is OCB Conceptualized in the Public Sector?

The first research question focuses on how OCB is conceptualized in public sector research. We investigated OCB conceptualization in two ways: (1) through analysis of the terminology used to describe OCB and its cognates, such as “extra-role behavior,” and (2) through analysis of the measurement scales and research methodologies.

Table 1 Names of Journals and Academic Disciplines Publishing OCB Studies with Public Sector Samples*

Journal Name	Number	Academic Discipline
<i>Public Personnel Management</i>	8 (6 percent)	Public administration
<i>International Journal of Human Resource Management</i>	7 (5 percent)	Human resource management
<i>Journal of Public Administration Research and Theory</i>	6 (5 percent)	Public administration
<i>Review of Public Personnel Administration</i>	6 (5 percent)	Public administration
<i>Public Management Review</i>	5 (4 percent)	Public administration
<i>Military Psychology</i>	4 (3 percent)	Psychology
<i>American Review of Public Administration</i>	4 (3 percent)	Public administration
<i>Journal of Applied Psychology</i>	4 (3 percent)	Psychology
<i>International Public Management Journal</i>	3 (2 percent)	Public administration
<i>Public Administration</i>	3 (2 percent)	Public administration
<i>Journal of Educational Administration</i>	3 (2 percent)	Education
<i>Public Administration Review</i>	3 (2 percent)	Public administration
<i>Administration & Society</i>	2 (2 percent)	Public administration
<i>Social Behavior and Personality</i>	2 (2 percent)	Psychology
<i>Journal of School Leadership</i>	2 (2 percent)	Education
<i>Human Performance</i>	2 (2 percent)	Human resource management
<i>Advances in Environmental Biology</i>	2 (2 percent)	Biology
<i>International Journal of Educational Management</i>	2 (2 percent)	Education
<i>Journal of Managerial Psychology</i>	2 (2 percent)	Psychology
<i>International Journal of Intercultural Relations</i>	2 (2 percent)	Sociology
<i>Psychological Reports</i>	2 (2 percent)	Psychology
<i>International Journal of Manpower</i>	2 (2 percent)	Human resource management
<i>International Journal of Stress Management</i>	2 (2 percent)	Human resource management
<i>Journal of Occupational and Organizational Psychology</i>	2 (2 percent)	Psychology

Table 2 Policy Areas in OCB Studies

Government Level and Policy Area	Number
Level	
Local government level	22 (17 percent)
National government level	11 (9 percent)
Regional government level	7 (5 percent)
Multiple levels	6 (5 percent)
Policy area	
Education	27 (21 percent)
Defense and security	19 (15 percent)
Health care	16 (12 percent)
Multiple types of agency	15 (12 percent)
Social service	3 (2 percent)
Other	3 (2 percent)
Total	129

Table 3 Countries

Country	Number (percentage)
United States	29 (22 percent)
Israel	14 (11 percent)
China	11 (9 percent)
United Kingdom	8 (6 percent)
South Korea	8 (6 percent)
Iran	7 (5 percent)
Turkey	7 (5 percent)
Australia	6 (5 percent)
Taiwan	5 (4 percent)
Other (23 countries or multiple countries)	34 (26 percent)
Total	129 (100 percent)

First, the analysis of the terminology used to describe OCB in the public sector shows that a majority of studies ($N = 89$, 69 percent) used the construct of OCB itself or the OCBI and OCBO dichotomy (table 4). Reflecting the historical development of the OCB construct from research on extra-role behavior and contextual behavior, the latter concepts also have salience in the literature, though not nearly as much as OCB. The results from the review suggest that the field of OCB studies of public organizations is overwhelmingly focused on OCB along the lines of the construct first developed by Organ in 1988. Use of OCBI/OCBO reflects the use of general scales created mainly by Williams and Anderson (1991); Smith, Organ, and Near (1983); and Podsakoff et al. (1990). Systematic reviews of OCB in the private sector (e.g., LePine, Erez, and Johnson 2002) are primarily characterized by either simply ‘OCB’ or the OCBI/OCBO dichotomy. There is here an important puzzle for future public sector studies to explore: whether the OCBI/OCBO divide is entirely fitting for the public sector, or whether there are subtle distinctions between private and public types of OCBI and OCBO in terms of whether they are equally important. Prosocial motivation has a positive influence on the relationship between mission match and effort through meaningfulness (Smith 2016). Therefore, public employees are likely to behave (in both an extra-role and in-role sense) toward their organization in distinct ways.

Exploration of the public sector dimensions of OCB is currently rare, but there are some valuable examples. For example, Lee (2001, 1029) looked at service-oriented OCB, where “service quality’ behavior is recognized as an important contributor to organizational success.” Indeed, street-level service delivery organizations in health, education, and law enforcement seem particularly ripe for analysis of public personnel fulfilling their mandate of treating citizens equitably and lawfully without expectation of profit or reward. A further important public organization dimension has been suggested by Hassan (2015), who looked at extra-role behavior in terms of demonstration of “voice,” whereby employees take the initiative to make suggestions for change and improvement needed to counteract bureaucratic challenges of red tape or inflexibility. Extra-role behaviors could also extend in interesting ways to citizens as “clients,” whereby possible negative or possible bureaucratic responses are conceived as organizational coping strategies (Tummers et al. 2015).

However, in general, we do not see many efforts yet in these areas. There has so far been limited empirical and theoretical exploration regarding OCB in the public sector that serves to refine and develop

the idea of OCB in terms that are uniquely suited to public sector employees. For example, the concept of discretionary behavior, which builds on a related branch of public administration research on administrative discretion, politics, and accountability (Hupe and Hill 2007; Romzek and Dubnick 1987), could be explored to understand why, when, and with what legal and normative consequences public sector employees use their discretion to go beyond their prescribed roles. Other new constructs such as environmental OCB involve OCB in the increasingly salient area of public sector responsibility for environmental and climate impacts (Stritch and Christensen 2016).

Second, the analysis of the OCB measurement scales and research methodologies shows that measurement is based on a small set of conventional scales and that OCB in the public sector is most often studied through quantitative surveys. Table 5 shows the OCB studies that are followed by OCB authors when developing OCB measurement scales. Many of the early scales established by Smith, Organ, and Near (1983); Organ (1988); and Williams and Anderson (1991) are still used. The Williams and Anderson scale adopts the OCBI and OCBO distinction, but the underlying measures are almost identical to those of Smith, Organ, and Near.

Later scales developed by Lee and Allen (2002) and Podsakoff et al. (1990) are also used frequently, as are new scales developed by scholars, classified in table 5 as “authors’ own scale / scale based on multiple scales.” The Podsakoff et al. scale marks a distinctive turn from the earlier scales by explicitly basing the scale on Organ’s (1988) original five dimensions of OCB (altruism, sportsmanship, conscientiousness, civic virtue, and courtesy). Lee and Allen advanced earlier scales by removing items that have ambiguous relevance to the benefit of the organization, such as time spent taking work breaks or making personal phone calls. There are thus several well-developed scales for public sector studies to choose among depending on whether theoretical constructs focus on narrow scales using OCB/OCBI/OCBO or broad scales including finer distinctions among OCB characteristics. Scholars should continue testing and adapting these scales for the public sector. The choice of scale can also help advance particular kinds of research questions that are vital for the public sector. Williams and Anderson’s OCBI/OCBO approach favors attempts to disentangle individual and organizationally based behaviors in the public sector particularly given that public organizations are characterized by unique organizational challenges and constraints (Rainey 2014).

Table 4 Types of OCB Measured

OCB Type	Number (Percentage)
General OCB	76 (59 percent)
OCBI and/or OCBO	13 (11 percent)
Extra-role behavior	11 (8 percent)
Contextual behavior	8 (6 percent)
Interpersonal citizenship behavior (ICB)	4 (3 percent)
Prosocial/helping behavior	3 (2 percent)
Compulsory citizenship behavior (CCB)	2 (2 percent)
Group organizational citizenship behavior (GOCB)	2 (2 percent)
Other	10 (7 percent)
Total	129 (100 percent)

Table 5 Types of OCB Measurement Scales Used

Scale Author(S)	Number (Percentages)
Authors’ own scale/scale based on multiple scales	32 (25 percent)
Williams and Anderson (1991)	12 (9 percent)
Lee and Allen (2002)	8 (6 percent)
Smith, Organ, and Near (1983)	6 (5 percent)
Podsakoff et al. (1990)	5 (4 percent)
Farh, Earley, and Lin (1997)	4 (3 percent)
Organ (1988)	3 (2 percent)
Balfour and Wechsler (1996)	3 (2 percent)
Other/unclear/not applicable	56 (43 percent)
Total	129 (100 percent)

A large majority of studies on OCB in the public sector used a quantitative methodology (table 6), and most of these ($N = 121$, 93.8 percent) used a survey to collect their data. There is a shortage of qualitative approaches such as case studies, interviews, or ethnographies. Only four studies used a qualitative research methodology, namely, interviews. Oplatka (2012), for instance, held interviews with educators to obtain an understanding of discretionary activities in alcohol and drug prevention education. Overwhelmingly, within the literature on OCB in the public sector, the data are predominantly focused on self-reported items in multi-item surveys. Table 7 reports whether the measurement scales used in surveys are taken from the perspective of employees themselves (self-reported; $N = 99$), reported by the employees' supervisor (supervisor; $N = 19$), reported by the employees' coworkers (coworker; $N = 4$), or established from company records or taken at the level of the work unit.

Research Question 2: What Are the Antecedents of OCB in the Public Sector?

A large number of antecedents have been theorized and tested in empirical research on OCB in the public sector. Here, work on general antecedents such as job satisfaction and trust is increasingly supplemented in studies with more specific public sector antecedents such as PSM. Table 8 shows the antecedents that were found in studies in the literature grouped according to Podsakoff et al.'s (2000) four categories of antecedents: employee characteristics, organizational characteristics, task characteristics, and leadership behaviors (the last category had just one antecedent, so it is subsumed under the category of organizational characteristics). Employee characteristics are the most prevalent type of antecedent used, and organizational commitment, PSM, and job satisfaction are the most studied. Each of these is generally found to be positively correlated with OCB.

The focus of research on the relationship between OCB in the public sector and PSM demonstrates a growing interest in connecting individual factors and the organizational setting of the public sector (see also Caillier 2016; Kim 2006). Indeed, interest in the relationship between PSM and OCB has broadened to include diverse types of OCB such as interpersonal citizenship behavior (Pandey, Wright, and Moynihan 2008) and individual employee

Table 6 Data Collection Methods of OCB Studies

Data Source	Number
Survey	121
Interview	4
Survey and company records	2
Document or content analysis	1
Experiment	1
Total	129

Table 7 Type of Organizational Respondent

OCB Measured Using:	Number of Studies
Self-reported	99
Supervisor	19
Coworker	4
Company records	1
Unit	1
unclear/not applicable	5
Total	129

Table 8 Summary of Associations between Antecedents and OCB

Antecedent	Positive	Negative	Not Significant	Total
Employee characteristics				
Organizational commitment	16	0	3	19
Public service motivation	11	0	0	11
Job satisfaction	8	1	1	10
Affective commitment	6	0	2	8
Stress	0	5		5
Trust of management	5	0	0	5
Person-organization fit	3	0	1	4
Self-efficacy	2	0	0	2
Cognitive ability	1	0	1	2
Community involvement	1	0	1	2
Conscientiousness	0	0	2	2
Empathy	1	0	1	2
Job characteristics				
Goal clarity	5	0	1	6
Job autonomy	2	0	0	2
Organizational characteristics				
Good leadership	16	0	1	17
Interpersonal justice	7	0	2	9
Procedural justice	6	0	3	9
Distributive justice	5	0	2	7
Organizational support	6	0	0	6
Psychological empowerment	5	0	1	6
Organizational politics	0	3	0	3

Notes: Only antecedents that occurred in at least 2 cases are shown. Full list of antecedents can be found in the full data appendix.

environmental initiative (Stritch and Christensen 2016). As PSM research has moved forward using psychological theories of self-concept and organizational identification, there is an opportunity to explain and activate OCB through similar theoretical perspectives.

PSM has also been explored as a mediating and moderating variable that influences the relationships commonly studied in research on OCB in the private sector such as goal clarity, job satisfaction, and leadership. For example, Ritz et al. (2014) found that PSM and organizational goal clarification mediates the relationship between transformational leadership and OCB, while Caillier (2016) found a mediating relationship of PSM between goal clarity and extra-role behavior. Such studies have advanced the field by taking core OCB constructs and developing interesting connections to public sector concepts. But, despite the advances of these studies, the call by Bozeman and Bretschneider (1994) and Rainey (2014) to explain these relationships in terms of public organization contexts, taking into account their institutional, legal, and cultural differences, has not been answered.

The shortage of organizational analyses is demonstrated further in table 8. Organizational characteristics are mainly oriented around organizational justice and leadership. Organizational justice is also a key antecedent in private sector studies (e.g., Moorman, Blakely, and Niehoff 1998; Niehoff and Moorman 1993). However, what remains unclear is whether different types of reward and fair treatment matter between the two sectors. This question seems especially pertinent given prior evidence that public sector employees may be more motivated by intrinsic rewards (Crewson 1997; Houston 2000). Organizational support, which Hopkins (2002, p. 4) defines as "feeling valued, helped and personally rewarded by the organization as a whole," has been commonly used in the public sector to explain higher levels of

OCB. Other organizational variables estimated with OCB and positively correlated are performance measurement, job feedback, OCB norms, organizational intelligence, and sector. Garg and Rastogi (2006) found that levels of OCB were significantly higher in teachers in public schools compared with those in private schools. Performance measurement has been found to be positively correlated with OCB (e.g., Jung and Hong 2008; Messersmith et al. 2011), but this relationship relies on whether the performance measurement involves forms of effective management evaluation and learning systems (Messersmith et al. 2011). In contrast, when performance measurement is used primarily to monitor it can be perceived by employees as a kind of “pressure” that may negatively impact OCB (e.g., Borman, White, and Dorsey 1995).

Good leadership behaviors are commonly investigated as antecedents. Two primary types of leadership are found: transformational and ethical leadership. Research has considered how transformational leadership encourages more affective commitment among employees and encourages them to aspire to higher levels of OCB (Kim 2012; Ritz et al. 2014), while ethical leadership looks at how managers communicate and promote ethical principles to employees (Beeri et al. 2013). In all but one instance (94 percent), the relationship between transformational and ethical leadership behavior with OCB was positive. Job characteristics are the least studied kind of antecedents. Eighteen job characteristic variables are found in the literature, mostly focused on clear and/or ambiguous types of roles or goals. In public administration research, job autonomy, task significance (Perry and Wise 1990; Wright and Kim 2004), as well as more material characteristics such as pay and stability (Houston 2000) have been found to affect employee performance.

Research Question 3: What Are the Outcomes of OCB in the Public Sector?

There are a total of 36 relationships hypothesized between OCB and its outcomes (table 9). This number is small compared to the number of OCB antecedents (322 relationships). This imbalance in the literature makes sense given that OCB has been studied because of its usefulness as an extra-role, performance-related outcome. For the same reason, variables chosen to study the outcomes of OCB are overwhelmingly positive attributes for individuals and organizations. For example, there are various types of job and organizational performance such as satisfaction (Van Scotter 2000), health (Russo, Guo, and Baruch 2014), work rate (Shen, Benson, and Huang 2014), and knowledge development and knowledge sharing (Mehrabani et al. 2014). However, there are notable instances of outcome variables connoting possible negative outcomes of OCB, such as turnover intentions, burnout, stress, and negligent behavior. These negative individual outcomes highlight OCB’s often ambiguous status in the literature as a performance indicator that is vulnerable to manipulation, poor regulation, and even exploitation precisely because of its status as a type of behavior that cannot be integrated into the ordinary reward and incentive structures of in-role work tasks. As in the general management literature, where awareness of this “dark side” of OCB is growing, such research has value for advancing knowledge in the public sector, too. Given recent evidence of political factors (e.g., Vigoda-Gadot and Beeri 2011) and PSM (e.g., Bakker 2015) bringing out possible negative effects on workplace behavior, this could be a vital area for future research.

Table 9 Summary of Associations between OCB and Outcome Variables

Outcome	Positive	Negative	Not Significant	Total
Individual performance	11	0	4	15
Knowledge sharing	5	0	0	5
Workplace deviance	0	4	0	4
Organizational performance	1	0	2	3
Mental health	2	0	1	3
Turnover intention	1	1	0	2
Innovation	1	0	0	1
Job satisfaction	1	0	0	1
Physical health	1	0	0	1
Organizational politics	0	1	0	1

The OCB outcomes measured in the included studies have not been clearly demarcated as constructs within a public sector context. Except for a couple of unique public organizational practices such as “reenlistment” (in the military) and student achievement, teaching satisfaction, and exam results, they are outcomes that could be equally pertinent to the private sector. These outcomes can be better connected to public organizations especially as the outcomes evidence the famous difficulty of defining outcomes in the public sector compared to the focus on the profit motive in the private sector. One interesting development is that some of the investigated outcomes of OCB were also considered alongside other public sector-specific predictors such as PSM. For example, Campbell and Im (2016) tested the role of change-oriented OCB as a mediator between PSM and turnover intention. However, the small number of studies on OCB outcomes as well as the absence of trends or strong interest areas among the OCB outcomes also suggests that this is a particularly understudied area that requires more exploration.

Research Question 4: What Are the Moderators and Mediators of OCB in the Public Sector?

The last research question focused on the moderators and mediators of OCB in the public sector. Quantitative research estimates mediators and moderators to develop complex causal pathways. Mediation, often relying on structural equation modeling (Bottomley et al. 2016; Caillier 2015), has been more widely used than moderation. Table 10 shows that the most commonly used mediators are from among the employee antecedents of table 8; variables such as organizational commitment and psychological empowerment, which suggest that psychological and attitudinal states of employees are—according to the scholars—vital parts of the causal mechanism that forms OCB in public sector organizations. Organizational characteristics such as justice and quality of working life are also mechanisms in this sense but less frequently than the employee characteristics.

Mediating effects can also have a negative impact on OCB. For example, research by Vigoda-Gadot and colleagues in the context of the Israeli public service, investigates important mediation variables such as the influence of politics and the influence of general types of citizenship behaviors beyond the workplace. Cohen and Vigoda-Gadot (2000) found that contextual work attitudes such as job satisfaction and decision participation mediate the relationship between general citizenship behavior and OCB, while Vigoda-Gadot and Beeri (2011) and Vigoda-Gadot (2000) found that perception of politics negatively mediates the relationship between leadership and OCB and that perception of politics mediates the relationship of job congruence with OCB.

Table 10 Mediators of OCB

Variables	Positive	Negative
Organizational commitment	11	1
Psychological empowerment	9	0
Organizational identification	6	0
Job satisfaction	6	0
Trust	5	0
Organizational politics	0	4
Person-organization fit/person-job fit	3	0
PSM	3	0
Goal clarity	3	0
Careerism	2	0
Justice	2	0
Participation in decisionmaking	2	0
Other	9	0
Total	61	5

Note: Only significant results are shown. Not all studies mentioned the strength and/or significance between the mediator and OCB.

Table 11 Moderators of OCB

Variables	Positive	Negative
Intrinsic motivation	6	0
Justice	5	0
Norm of reciprocity	0	4
Trust	3	0
Control	3	0
Workload	2	0
Group size	2	0
Organizational collectivism	2	0
Other	5	3
Total	28	7

Note: Only significant results are shown. Not all studies mentioned the strength and/or significance between the moderator and OCB.

Moderators shown in table 11 are different from mediators in that they tend to involve psychological or external, organizational characteristics pertinent to the public sector that have an effect on OCB by interacting with individual factors. Rather than being mechanisms for carrying a relationship between two variables, moderators are hypothesized to interact with other variables and in this way influence OCB. For example, Cohen, Ben-Tura, and Vashdi (2012) showed how group cohesiveness strengthens the effect of organizational commitment on OCB by building greater stores of trust and mutual identity between employees that employees then draw upon to show OCB. Other external characteristics such as job control can have this effect as can intrinsic motivation (Hassan 2015; Lazauskaite-Zabielske, Urbanaviciute, and Bagdziuniene 2015).

While there is certainly potential to further explore the relevance of different moderators and mediators to OCB in the public sector, we would suggest that a more valuable addition to improve validity of mediator/moderator theorizing in the public administration literature would be to accompany this exploration with a new approach to pre-registration of research designs. Such an approach could improve the robustness of scientific hypothesis-building and help empirical models to be built with greater attention to the theoretical value of moderators and mediators in the public sector as opposed to an approach in which every possible type of moderator or mediator is tried without strong theoretical justification (Kerr 1998; Rosenthal 1979). Further, variables from the public sector such as PSM and politics, while important antecedents have not yet been tested as moderators. By taking these loose ends and connecting them in more organizationally salient ways, a much richer picture of OCB in the public sector can be developed.

Discussion

The systematic review presented here marks a significant step forward for OCB research in the public sector. The status of scholarly knowledge of OCB and future research agendas have been explored through multiple systematic literature reviews and meta-analyses, but these studies did not focus specifically on the public sector (e.g., LePine, Erez, and Johnson 2002; Podsakoff et al. 2000; Podsakoff, MacKenzie, and Bommer 1996). The review in this study reveals that research on OCB in the public sector started soon after the major precedents in the field, such as Organ's (1988) and Smith, Organ, and Near's (1983) studies. However, while growth was relatively steady in the private sector, studies in the public sector took longer to develop and have lately started to gather pace. Interestingly, these trends in OCB research output are broadly parallel to trends in PSM research (see Hatmaker et al. 2017).

In an earlier review of OCB literature in the private sector, LePine, Erez, and Johnson (2002) found that antecedents of OCB have equivalent relationships with the different dimensions of OCB. We have found no evidence to suggest that similar equivalences would not hold in the public sector, but it does seem important to carry out related analysis of differences *within* the public sector; differences of policy area, government level, political influence, citizen proximity, and many other public sector qualities. Our results indeed show that the OCBI/OCBO dichotomy is a valuable distinction. However, there are signs that the OCB construct in the public sector is beginning to diversify, which may lead to uncovering more granular connections between antecedents and different dimensions of OCB in the future. While research in the public sector has mostly been centered around the measurement of OCB in general or via OCBI and OCBO, there are a variety of other constructs that have developed from the core construct—for example, by narrowing it to individual components such as compliance and altruism or focusing on a more concrete manifestation of extra-role behavior such as knowledge sharing behavior or environmentally friendly initiatives. All these variants of OCB have the essential quality of being separate from formally approved tasks that are recognized within workplace reward systems, and it is in this sense that they are marked as a distinct theoretical construct with unique antecedents and outcomes that have important implications for public sector performance.

Figure 3 shows a concept map of the range of antecedents, outcomes, moderators, and mediators of OCB in the public sector. Only the most salient variables from the literature review are shown here, and we have also simplified the map by synthesizing some variables. For example, the three dimensions of justice (process, outcome, and interpersonal) have been synthesized into a general “justice” category.

Three primary conclusions can be drawn from figure 3. First, as indicated by figure 3, the findings from the review suggests that reverse causality is an unresolved empirical ambiguity in the literature on OCB in the public sector as both organizational commitment and job satisfaction have been found to be antecedents and outcomes of OCB. Rather than complicate the diagram we chose to leave the same variables as antecedents and outcomes. Future work could uncover the causal mechanisms that explain how and when such variables could be antecedents or outcomes and how they interact. A second conclusion from the figure is that

research on OCB in the public sector has been primarily focused on individual and organizational factors that increase levels of OCB, but there have also been studies developing knowledge of different variables. In addition to the interest in conventional antecedents from the private sector literature such as leadership, justice, job satisfaction, and personality traits, public sector studies have made substantial advances in tying the concept of PSM to OCB. Interestingly, there are some private sector parallels to the finding regarding the different roles of leadership and internal motivation of employees. For example, in their private sector meta-analysis, Podsakoff et al. (2000) found that employee and task characteristics and leadership were more important than organizational characteristics such as formalization, size, or support. In an earlier OCB literature review, Podsakoff, MacKenzie, and Bommer (1996) found that leadership *and* leadership substitutes, such as knowledge professionalism, are associated with OCB, though the effect is stronger for leadership substitutes. Uncovering different leadership and employee characteristics and their relationship with OCB may therefore also be a fruitful area of inquiry in the public sector.

Finally, beyond what is shown in the figure, there are complex institutional, social, and political systems where these variables are embedded. These should be brought into greater empirical focus by narrowing research to specific variables in the conceptual model and investigating the causal directions, causal mechanisms, effect sizes, and individual and organizational differences. Public managers, like managers in the private sector, are faced with a complex array of causal relationships that influence their decisions to cultivate certain

organizational conditions or to incentivize employees. It would be virtually impossible to try to replicate those challenges in a single diagram, but figure 3 focuses on the most important variables in each part of the causal chain.

Recommendations for Future Research

We have identified research gaps in our analysis, but there are three in particular in which we believe the main challenges for developing a more coherent picture of public sector OCB lie.

Recommendation 1: Test Concepts Informed by Public Organization Settings.

First, with the exception of PSM, OCB research in the public sector has mostly been limited to testing constructs and relationship found in the private sector. We would expect a field in the process of maturing to address pertinent problems in the context of public organizations and address variables for theory building for future studies (Houston and Delevan 1990). Many of the “big topics” in public administration theory are yet to be addressed. For example, the effects of red tape, public leadership, administrative reform, and private-public collaboration. In contrast to PSM, other unique public sector constructs such as red tape (Pandey, Pandey, and Van Ryzin 2017; Rainey, Pandey, and Bozeman 1995) and public leadership (Tummers and Knies 2016) have received very limited attention. Our review found just one study on the relationship between red tape and OCB (Taylor 2018) and no studies on the relationship between public leadership and OCB. Prior research outside the OCB area found that these variables have powerful effects on the

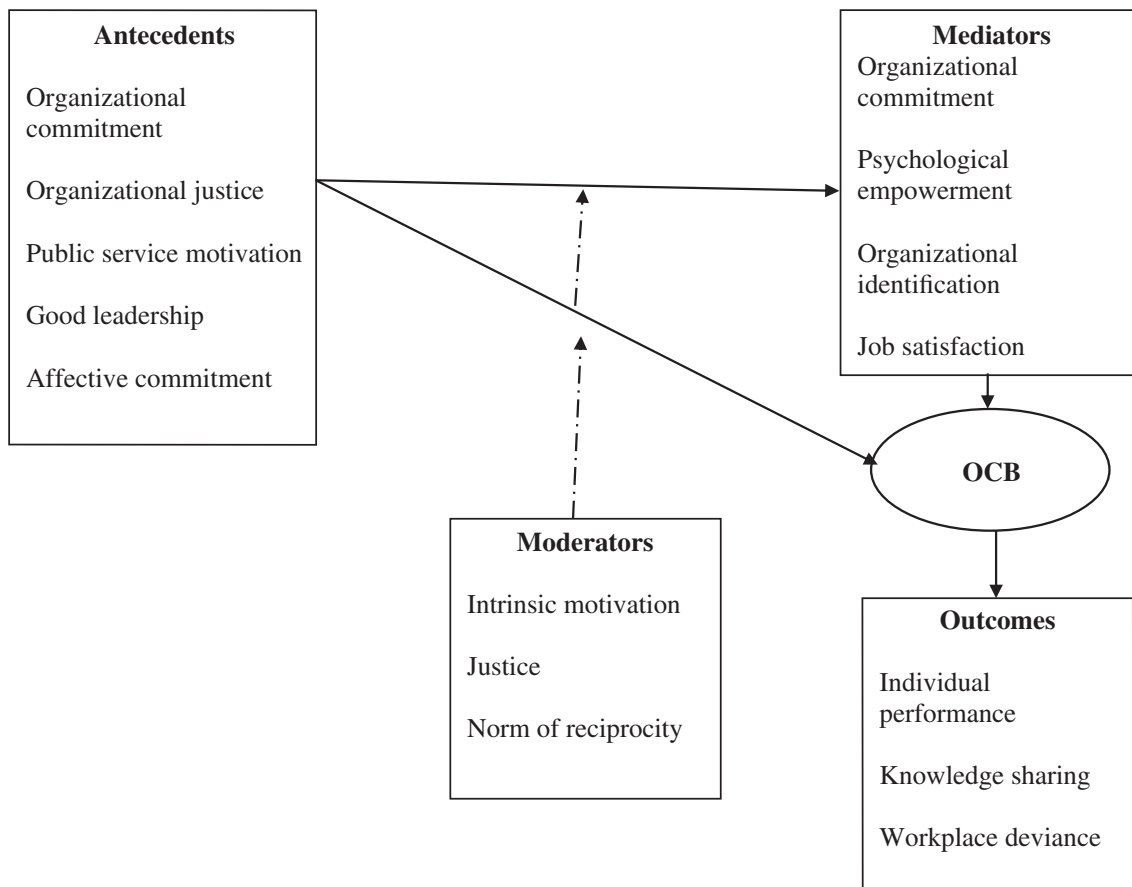


Figure 3 Concept Map Based on OCB Studies in the Public Sector

capacity of employees to perform effectively, and OCB may have interesting connections here as an antecedent or outcome.

Recommendation 2: Use Different Research Designs. Most studies used single-source, single-time survey designs to make causal claims. Such designs suffer from endogeneity issues (Antonakis et al. 2010). Experiments could provide proper tests of cause and effect relationships. The studies included in this review measure job satisfaction both as an antecedent and as an outcome of OCB. Using experiments, scholars can also analyze to what extent OCB is a cause of job satisfaction and/or a consequence. Next, more qualitative designs are encouraged. Our review uncovered only four qualitative articles (Hyde, Harris, and Boaden 2013; Oplatka 2012,2013; Oplatka and Golan 2011). Qualitative methods would offer better insights into the nuances of the public sector aspects of OCB. For example, qualitative methods could distinguish the origins of the extra-role behavior. We also encourage more cross-sectoral designs to expand our understanding of the differences in OCB between private and public sector organizations. Using such a design, Sharma, Bajpai, and Holani (2011) showed the difference in degree of OCB between public and private sector employees. Further cross-sectoral or cross-national research could shed light on the difference in strength of the relationships between antecedents and outcomes of OCB. This has been done earlier with other concepts such as motivation (e.g., Buelens and Van den Broeck 2007). Research designs could also discuss whether surveying antecedents, OCB or outcomes from the perspective of colleagues or supervisors can be helpful. A large majority of surveys are self-reported, which may lead to biased responses. However, we do acknowledge that non self-reports are not by definition superior as compared to self-reports (Conway and Lance 2010; George and Pandey 2017).

Recommendation 3: Focus on the Consequences of OCB. In this review, we found notably more studies focused on the relationships between antecedents and OCB than on the consequences of OCB. We propose that future studies within the public sector focus on the outcomes of OCB to further explore the value of OCB within the public sector. Most of the studied outcomes are positive for the organization, such as job satisfaction, and are often not specific to the public sector. A few negative consequences were studied in the included studies, such as workplace deviance and turnover intention. Evidence suggests that OCB has a “dark side” (e.g., Bolino et al. 2013), and a related concept of compulsory citizenship behavior (CCB) has been developed by Vigoda-Gadot (2007). However, research on harmful consequences in the public sector is lacking.

Conclusion

We set out in this article to perform a systematic literature review to answer questions about OCB research in the public sector with regard to its main characteristics and its antecedents and outcomes. We identified 129 empirical studies in 128 articles on OCB in the public sector, and the coverage of these in the major public administration is evidence of the quality of the research and its theoretical contributions. Public sector research on OCB has a long history. OCB became a topic of attention soon after it emerged as a research growth area in private sector management and psychology research in the 1980s. But research in the public sector took longer to gather pace. There is no shortage of empirical research progressing in this area. But, while scholars frequently state how important OCB is to organizational performance, the reality

in public sector research is that knowledge advancement is uneven across public sector phenomena in terms of organizational contexts, and employee experiences, or policy and program areas. Some characteristics, such as interrelationships with core organizational constructs such as organizational commitment, are quite often studied. In addition, some public sector-specific linkages have been addressed, such as with PSM. However, there are gaps in areas that are needed to take the field forward; notably in contextualization with many public policy and public service areas, and diversification and strengthening of research designs.

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Supporting Information

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