

Exploring the Role of Nonprofits in Public Service Provision:

Moving from Co-production to Co-governance

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Abstract

This article investigates the determinants of nonprofits' involvement in co-governance, or the planning and design of public services, utilizing a unique dataset of park-supporting nonprofit organizations in large U.S. cities. The results suggest that nonprofits are more likely to get involved in co-governance when they are younger, larger, and operate in communities which are more resourceful and stable. In addition, the likelihood of nonprofits' involvement in co-governance is negatively associated with the level of social capital and government capacity in providing corresponding public services. The article points to an emerging mode of government-nonprofit collaboration that goes beyond the production and delivery of public services. As public managers are facing extensive challenges in sustaining the desired level of public services, these findings have important policy implications for efforts to promote citizen participation and cross-sector solutions to complex social problems.

Practitioner Points

- Co-governance is a distinct type of nonprofit support for public services. Involving citizens and nonprofits in the design and planning of public services requires a different set of organizational and community capacities compared with involving nonprofits in the delivery of public services.
- As local governments suffer from increasing fiscal pressure, nonprofits' involvement in co-governance may become more prevalent. Both local governments and nonprofits need to be strategic and proactive about it.
- Co-governance is not a panacea. It raises important management and governance questions for the design and reform of public service systems.

Exemplified by administrative reforms in New Zealand and later in Western Europe and in the USA in the 1980s and 1990s, New Public Management (NPM) began to take shape. Public management borrowed the management practices from the private sector and contracting becomes a widespread practice of American governments at different levels (Kettl 2002; Salamon 2002). Government agencies are increasingly using indirect management tools and network arrangement to deliver public services (Kettl 2002; O'Toole 1997). Nonprofit organizations, or the third sector in general, receive increasing attention from public management research because of their prominent role in the provision and production of public services (Brandsen and Pestoff 2006; Smith and Lipsky 1993).

Despite this surge of scholarly interest in government-nonprofit collaboration in public service provision (Gazley and Guo 2015), existing literature in public administration focuses on the instrumental orientations of nonprofits' involvement in the delivery of public services. The key question is how nonprofits can serve as a tool of government to more efficiently produce and deliver public services. It remains a blind spot in the public administration scholarship about the role of nonprofits in creating, planning, and designing public services despite the fact that nonprofits have played these important roles since colonial times (Hall 1992), from the creation of Harvard College in 1636, the public library movement boosted by Andrew Carnegie, to Gates Foundation's efforts in improving K-12 education in recent years. This limitation is further amplified when governments at all levels are currently experiencing fiscal stress and increasingly rely on nonprofit organizations for financing public services (Nelson and Gazley 2014; Gazley, Cheng, and LaFontant 2015). A complete understanding of the role of nonprofits in multiple

phases of public service provision is, therefore, desperately needed (Fyall 2016; Mosley 2012; Brandsen and Pestoff 2006).

Literature in governance offers a promising alternative in understanding the role of nonprofits in public service provision. Governance concerns with about how different sectors interact with each other and engage in joint decision making (Klijn 2012). It emphasizes the facilitation role and cross-boundary management challenges of conductive public organizations (Agranoff 2012). Denhardt and Denhardt (2000, 2015) developed the idea of new public service to characterize the new feature of modern government: serving rather than steering. The proper role of the government is not to decide what citizens need to have. Its role is to serve the citizens to help them reach their goals through various mechanisms. In the nonprofit literature, there is also a strong focus on the role of nonprofits and voluntary associations as mediating structures or civic intermediaries between the political order and the realities of individual life (Berger and Neuhaus 1977; Fernandez and Alexander 2017; LeRoux 2007). Nonprofits getting involved in the planning and design of public services may be a manifestation of acting out this important role in the community as nonprofits help engage citizens in the key public service provision decisions.

Informed by the literature of co-production, co-governance, and government-nonprofit relationships, this article explores the key contextual and organizational factors that determine whether a nonprofit gets in involved in the co-governance, or the planning and design of public services, in the context of 204 park-supporting nonprofits in large U.S. cities. This article makes several theoretical and empirical contributions to the existing literature. First, despite a strong

foundation for understanding the role of nonprofits in coproducing public services, public administration scholars have paid less attention to the role of nonprofit organizations in the planning and design of public services. Earlier studies also pointed out that such a role of nonprofit organizations tends to be missing or underdeveloped (Tsukamoto and Nishimura 2006; Osborne and McLaughlin 2004). Focusing on local parks and recreation services in which nonprofits are documented to play a significant role in funding and supporting public services, this study contributes to a more comprehensive understanding of the role of nonprofits in public service provision.

Second, this empirical research builds on existing typologies of co-production and provides a timely contribution to our understanding of the variations of co-production, especially at the collective level. By using factor analysis and content analysis of these park-supporting nonprofits' websites, this study offers a broad range of public service supporting activities of these nonprofits and the patterns of such activities. It also provides the empirical tests of whether the distinction between co-governance and co-production is valid in characterizing government-nonprofit cooperation in public service provision.

Finally, this article offers a comprehensive theoretical framework that takes both organizational and community level characteristics into consideration. Multilevel logistic regression analysis is used to disentangle the nested data structure (park-supporting nonprofits are nested in cities) of the model. By including local governments' capacity of providing public services in the theoretical model, this article offers a more nuanced understanding of government-nonprofit

relationships and how these relationships may influence nonprofits' involvement in different phases of public service provision.

Co-governance as a Distinct Type of Nonprofit Support for Public Services

Within the political science and public administration literature, co-production is an important theoretical framework for understanding citizens' involvement in public service provision.

According to the theory of co-production, citizens' involvement in public service delivery can possibly improve the cost-effectiveness and quality of public services. This concept can be traced back to the Ostroms in the 1970s when they studied metropolitan governance and the nature of public economies (Aligica and Boettke 2009). Ostrom (1996) used co-production to reflect the fact that the value of public services cannot be fully captured without an informed and active involvement of service users.

From the origin of this idea, scholars have pointed out the possibility for both individual citizens and groups (a distinction is occasionally made between informal groups or formal organizations) to get involved in this type of joint production of public services. Parks et al. (1981) used a group effort of parents and students in improving education services to illustrate the concept of co-production. Brudney and England (1983) pointed out the importance of collective forms of co-production and further developed three types of co-production under the umbrella term "coproduction": individual co-production, group co-production, and collective co-production. In a recent review of co-production typologies, Nabatchi, Sancino, and Sicilia (2017) used the example of local parks departments working with citizens to support parks and recreation

services as a typical form of collective co-production, which provides social benefits to the whole community. Informal local volunteer groups or formal friends' organizations of the parks often play an instrumental role in facilitating and organizing citizens' involvement in such services.

Although there may be potential risks of overlooking incidental inputs by citizens by focusing on institutionalized types of co-production (Brandsen and Honingh 2016), the benefits are equally appealing. Co-production is not resource-free (Bovaird and Loeffler 2012), and it may be better coordinated by formal organizations, such as neighborhood associations or charitable nonprofit organizations (Paarlberg and Gen 2009). Therefore, by studying organizational level co-production, we may have a better understanding of how such efforts are organized and sustained. Recently, as governments at all level suffer from ongoing fiscal stress and nonprofits taking important roles in public service provision, there is an upsurge of scholarly interest in the role of the third sector in public service provision (Brandsen and Pestoff 2006).

The original conceptualization mainly treated co-production as an alternative mechanism for public service delivery. However, scholars soon found that this is not enough to cover the vast array of activities citizens are involved in public service provision. Co-production thus became an umbrella term to describe all sorts of citizen support and engagement in public services (Nabatchi, Sancino, and Sicilia 2017; Verschuere, Brandsen, and Pestoff 2012). Despite some efforts in separating co-production from co-provision (Ferris 1984), co-creation (Voorberg, Bekkers, and Tummers 2014), co-management (Brandsen and Pestoff 2006), and co-governance

(Osborne and McLaughlin 2004), those terms are generally used interchangeably in the literature (Osborne and Strokosch 2013).

For the purpose of this article, the definition of co-production will not be extensively discussed. Instead, the discussion will be developed based on the consensus of current literature on co-production. Scholars have recognized that the phases of public policy or public service cycle serve as a significant role in characterizing different types of co-production, both at the individual and organizational level (Brandsen, Steen, and Verschuere 2018). Nabatchi, Sancino, and Sicilia (2017) developed a typology of co-production based on “the use of co-production during the phases of the service cycle” (6). Co-commissioning and co-designing focus on the planning and designing phases of public services, while co-delivery and co-assessment focus on the implementation and evaluation of these services. Brandsen and Pestoff (2006) developed a typology of co-production by distinguishing between public service planning (co-governance) and public service production (co-management and co-production). Based on the degree of citizen involvement in public services, Voorberg et al. (2014) developed three roles citizens may play in public service provision: citizen as a co-implementer, citizen as a co-designer, and citizen as an initiator. Based on such distinctions, they further pointed out that it may be better to distinguish between co-creation and co-production. Co-creation is achieved when citizens serve as the co-initiator or co-designer of public services. Co-production instead mainly focuses on citizens’ involvement in the actual delivery or implementation of public service. These different types of co-production are also likely to have different effects on public service outcomes (Zambrano-Gutiérrez, Rutherford, and Nicholson-Crotty 2017). Following such a distinction between co-production and co-governance/co-creation, co-governance is defined as the

arrangement in which nonprofits participates in the planning of public services or the formulation of public policies (Brandsen and Pestoff 2006, 497)¹.

Determinants of Nonprofits' Involvement in the Co-governance of Public Services

Prior literature has identified a variety of community and organizational factors that may influence nonprofits' involvement in public service delivery and provision. Five community capacity related factors and three organizational capacity related factors are proposed to explain nonprofits' participation in public service planning and design. Figure 1 is presented to summarize the theoretical framework and corresponding hypotheses.

[Figure 1 Here]

Community's Financial and Human Resources

Community's financial and human resources play a substantial role in mobilizing and supporting collective activities. Since the task of public service design and planning requires professional knowledge and particular expertise in that public service subsector, human capital, and collective skills play a critical role in enabling the community to engage in such activities. In addition,

communities with more financial resources are likely to generate more financial support for local nonprofit organizations, such as donation and earned income opportunities. These resources, in turn, will support nonprofit organizations to get engaged in more complex public service supporting activities. Although resource-poor communities are likely to generate more demand for co-production, existing research has consistently shown that supply-side considerations are more important in terms of generating philanthropic support and citizen engagement in public service provision. Grønbjerg and Paarlberg (2001) found that income and education were positively related to the density of nonprofit organizations in local communities. Using the case of k-12 public education, Paarlberg and Gen (2009) also found that community's human and financial resources had a significant positive impact on the formation and magnitude of nonprofit support for public services. Community's human and financial resources are therefore expected to increase the likelihood of nonprofits' involvement in co-governance.

Hypothesis 1: The likelihood of a nonprofit's involvement in public service planning and design is positively correlated with the level of financial and human resources of the community in which the nonprofit operates.

Community Stability

In addition to a community's financial and human resources, community stability also plays an important role in shaping citizens' willingness and long-term commitment to supporting public services. Getting involved in the planning and design of public services requires extensive investments from citizens in the community. It is not likely to happen when residents come and go, thus not being able to enjoy the long-term benefits of such investments. More stable

communities are also more likely to have a higher level of trust between citizens and government officials. In the context of parks and recreation services, a park master plan process can easily take years and require multiple public meetings to get the plan finalized and passed. Without committed residents in the community and a certain level of community stability, it is very challenging for nonprofits to stay through this complicated process. The local homeownership rate is often used in previous literature as indicators of community stability and citizens' long-term commitment to the community (Paarlberg and Yoshioka 2016).

Hypothesis 2: The likelihood of a nonprofit's involvement in public service planning and design is positively correlated with the stability of the community in which the nonprofit operates.

Social Diversity

Social diversity is one of the key reasons for nonprofits to engage in public goods provision. Because of the constraints of the democratic voting system, local governments tend to produce public goods at the level that satisfied the median voter (Weisbrod 1988). A more socially diverse community represents more heterogeneous demands for local public goods provision, therefore presenting challenges for local governments to meet the demand of all their citizens. These residents who are unsatisfied with the current level of public good provision by local government, or the high demanders, are likely to create and support nonprofit organizations to satisfy these unmet demands. It also increases the likelihood of nonprofits' involvement in public service design and planning. Based on such rationale, the following hypothesis can be developed:

Hypothesis 3: The likelihood of a nonprofit's involvement in public service planning and design is positively correlated with the social diversity of the community in which the nonprofit operates.

Social Capital

Social capital is another type of critical community resources which may influence nonprofits' involvement in the co-governance of public services. The social capital theories emphasize the role of trust, civic engagement, and associational activities on the growth of community philanthropy and nonprofits. From the social capital perspective, richer social capital will increase interpersonal connection and trust, therefore reducing the transactional costs and collective action problems citizens face to associate. Saxton and Benson (2005) have found that the growth of the nonprofit sector is positively related to the level of social capital in the community. Paarlberg and Yoshioka (2016) also found a positive correlation between social capital and community philanthropy. Nonprofits are not only influenced by the level of social capital in a community. They also play important roles in generating these critical resources for the community. Fernandez and Alexander (2007) advanced the understanding of community-based nonprofit organizations (CBOs) as institutional actors playing important roles in generating social capital, civic engagement, and political participation in the community.

Hypothesis 4: The likelihood of a nonprofit's involvement in public service planning and design is positively correlated with the level of social capital of the community in which the nonprofit operates.

Government Capacity in Public Service Provision

The capacity of local governments in providing certain services is another factor that may influence whether nonprofits get involved in the planning and design of public services. In the public administration literature, there are different ways of defining what local government capacity is. Honadle (1981) proposed a conceptual framework to understand the capacity of local governments by their ability to engage in multiple stages of the policy-making process, which includes anticipating change, making informed decisions, obtaining resources, implementing policies, and evaluating current programs. Gargan (1981) defined local government's capacity based on the intersection of community expectations, resources, and problems. Hall (2008) focused on the capacity of leveraging federal grant funds when examining the capacity and function of regional economic development districts. The ability to secure sufficient resources to produce quality public services seems to be the key dimension of local government's capacity in public service provision.

Compared with contracting out public services to nonprofit organizations, involving nonprofits formally in public service design and planning requires extensive trust or even some level of desperation of the government sector. Empirical research also found that governments are reluctant to involve nonprofits in governance since it means giving up control to nonprofits (Tsukamoto and Nishimura 2006). Most local government-nonprofit relationships are still dominated and controlled by governments (Gazley 2008). Through the lens of resource dependence theory, this typical power imbalance between governments and nonprofits are mainly caused by resource dependence relationships (Malatesta and Smith 2014). When nonprofits depend on governments for funding to sustain themselves and deliver services, they

are in a less powerful position compared with their government counterparts. The imbalance of power may keep nonprofits away from the design and planning of core services. On the contrary, when governments suffer from fiscal distress and rely on non-governmental revenue sources, especially for functional departments that are in a relatively low position in local government budgetary priorities, it is more likely for local governments to share the platform for co-governance with nonprofit organizations. We develop the following hypothesis based on this reasoning.

Hypothesis 5: The likelihood of a nonprofit's involvement in public service planning and design is negatively correlated with the local governments' capacity in providing corresponding public services.

In addition to factors at the community level, nonprofits' involvement in public service planning and design is also likely to be determined by the organization's capacity to conduct those activities. Three major factors are proposed to indicate an organization's capacity for supporting public services: organizational size, organizational age, and the proportion of donative income.

Organizational Size

Organizational size is an important predictor of the scope of activities an organization is engaged in because organizations with more financial and human resources are more capable of supporting multiple types of co-production activities, thus more likely to be engaged in service planning and design activities. Foster and Meinhard (2002) found that smaller organizations were less likely to form formal collaborative relationships with other organizations. In the field

of nonprofit advocacy, evidence also consistently shows that an organization's size is positively correlated with the scope and intensity of its advocacy activities (Guo and Zhang 2014; Mosley 2012; Child and Grønbjerg 2007). An organization's annual total expenditure is used to indicate the size of the organization in this article.

Hypothesis 6: The likelihood of a nonprofit's involvement in public service planning and design is positively correlated with the size of the organization.

Organizational Age

Organizational age is another factor in influencing a nonprofit organization's decision in engaging in the co-governance of public services. Older organizations usually have more resources and legitimacy to conduct other types of activities. Scholars have shown that public managers' prior experiences of working with nonprofit organizations can increase their perception of partnership success (Gazley 2010). Such success would reduce the transaction costs of collaboration and motivate both public and nonprofit managers to get engaged in more complex collaborative activities (Graddy and Chen 2006), such as the planning and design of public services. Since nonprofits that are older are more likely to have a long working relationship with local governments, they are also more likely to be engaged in the design and planning of public services.

Hypothesis 7: The likelihood of a nonprofit's involvement in public service planning and design is positively correlated with the age of the organization.

The Proportion of Donative Revenue

The proportion of donative revenue is another factor that may shape an organization's decision to participate in different types of co-production activities. Young (2007) developed a benefits theory of nonprofit finance, arguing that "sources of income should correspond with the nature of benefits conferred on, or of interest to, the providers of those resources" (341). According to the benefits theory, nonprofits with more private services rely more on earned program revenues, and nonprofits with more public services rely more on donations (Fischer, Wilsker, and Young 2011). Using detailed revenue and expenditure data from eighty-seven Jewish Community Centers, Wilsker and Young (2010) have shown a significant correlation between revenue sources and the types of services nonprofits provide: nonprofits providing services of a more public good nature are more reliant on charitable sources. For public service design and planning, it is more likely to be a public good because of its diffused benefits to the whole community. In addition, relying more on charitable sources may increase the legitimacy of nonprofit organizations, thus making the public put more trust on nonprofit organizations for them to participate in the planning and design of public services.

Hypothesis 8: The likelihood of a nonprofit's involvement in public service planning and design is positively correlated with its proportion of donative income.

In summary, by reviewing the literature about community philanthropy and co-production, this article develops a framework and generates eight testable hypotheses about nonprofits' involvement in the co-governance of public services, both at the community and the organizational level. These complex relationships are tested in the case of nonprofit support for

parks and recreation services in large U.S. cities. In the following sections, we discuss the context of this research, data, methodology, and the findings of this study in order.

Context: Nonprofit Support for Parks and Recreation Services

This article is situated in the context of local parks and recreation services where nonprofits are documented to actively collaborate with local governments to provide these important public services (Pincetl 2003). Because of the trend of rapid urbanization (United Nations 2014), urban parks and open green spaces are of great strategic importance for the quality of life for citizens who live in urban areas. They provide multiple environmental and social benefits to the community such as protecting drinking water, managing stormwater, cleaning the air, facilitating healthy lifestyles, reducing stress, and community regeneration (Crompton, 2008). Despite all these benefits city parks provide to citizens, parks and recreation services are still viewed by elected officials or city managers as non-essential or relatively discretionary, therefore prone to budget cuts (Skidmore and Scrsone 2011). Because of such constraints facing the parks departments, nonprofits or citizen groups are documented to play a very important role in financing and supporting parks and recreation services (Harnik and Martin 2015; Walls 2014).

Nonprofits can and are documented to be involved in different phases of parks and recreation services. They can help parks departments raise money, organize volunteers, conserve natural resources, run facilities, or provide educational or recreational programs (Gazley, Cheng, and LaFontant 2015). To guide all these efforts, a master plan is needed to serve as a blueprint and visionary document for the park development. With a master plan, park managers can make

conscientious decisions about the construction and improvement of parks, especially when certain opportunities or conflicts arise. Coupled with multiple benefits of park master plans, the development of such plans is a very time-assuming and costly process, with one master plan easily costing more than \$ 200,000 (Harnik and Martin 2015). It also requires extensive inputs from citizens and experts. Although far less prevalent compared other park-supporting activities, scholars have documented a rise in the involvement of nonprofit organizations in park planning and provision (Pincetl 2003). It is an important question to ask why some nonprofits step further to get involved park planning activities, and its potential consequences for the quality of parks and recreation services.

Data and Method

We explore the determinants of nonprofits' participation in the co-governance of public services through a multilevel logistic regression analysis of multiple data sources. Data for this study come from the U.S. Census, the National Center for Charitable Statistics, the Fiscally Standardized Cities (FiSC) database, and content analysis of selected organizations' websites and 990 forms. Park-supporting charities are identified through a joint procedure of keyword search of the 2013 National Center for Charitable Statistics (NCCS) Core PC Files and following the National Taxonomy of Exempt Entities (NTEE) codes. One limitation of using the NCCS dataset is that it is more likely to capture charities that are more formalized and larger (more than \$50,000 in annual revenues). Due to the constraints of government finance data, the search was limited to the 150 largest U.S. cities. Organizations in the final sample for statistical analysis meet two criteria: 1) the nonprofit is set up with the main purpose of supporting local public

park(s); 2) the nonprofit should at least have an active website to provide information for activity coding. After implementing a sequence of such strategies, the final analysis includes 204 park-supporting nonprofits in 75 large U.S. cities.

Variables and Data

The dependent variable of this study, *Park Planning*, is a dummy variable that measures whether a park-supporting nonprofit organization has been involved in developing the master plan for a public park. This variable is constructed by content analysis of the websites and 990 forms of selected organizations. The variable was coded as 1 if their websites specifically mentioned their involvement in developing the master plan for a park. To draw comparisons with other supporting activities these nonprofits are engaged in, other types of park supporting activities were also included in the coding protocol. These additional supporting categories include park management, advocacy, fundraising, natural resource conservation and maintenance, volunteer recruitment, education and outreach, offering recreational programs, construction of facilities, and member-serving activities².

Several independent variables are constructed by following the major components of the proposed theoretical framework. Data about community characteristics, including race, income, homeownership, median household income, and median housing value come from the 2013 American Community Survey (ACS) 1-Year Estimate. Data about public finance come from the 2013 Fiscally Standardized Cities (FiSC) database. One advantage of the FiSC database is that it captures public spending on parks and recreation services from overlapping jurisdictions, such as

city governments, county governments, and special park districts, thus making the data comparable to large U.S. cities (Lincoln Institute of Land Policy 2017). We draw All information at the organizational level comes from the 2013 NCCS Core PC Files. For social capital and the presidential election voting data, since there is no available data for 2013, 2013 data are estimated through the extrapolation of the historical social capital data (1997, 2005, 2009) from the Northeast Regional Center for Ural Development at Pennsylvania State University (Rupasingha, Goetz, and Freshwater 2006), and presidential election voting data (1992, 1996, 2000, 2004, 2008) from the CQ Press Voting and Elections Collection.

Modifying the racial homogeneity measurement proposed by Paarlberg and Gen (2009), community's social diversity is measured by the following formula, using the proportion of different racial groups in the community:

$$\text{Social Diversity} = 1 - \sum (n_i/N)^2$$

n_i is the population of racial group i in the community. N is the total population of the community. Seven racial groups are captured in the dataset, which includes white, black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, some other race alone, and two or more races. The social diversity index ranges from 0 to 1, where 0 represent perfect racial homogeneity (only one race in the community).

Community's financial and human resources are measured as the median household income, the median housing value, and the percentage of residents with a college degree or above in the selected county. Since these three variables are highly correlated, a community resource index is

created using factor analysis with these three variables ($\alpha = 0.912$). The retained principal factor has an eigenvalue of 2.551, capturing more than 85% of the variations of these three variables. Community stability is measured as the homeownership rate in the community. County-level measure of social capital is an index created by the Northeast Regional Center for Rural Development, which measures the density of associations, voter turnout, census response rate, and the number of nonprofits in a community (Rupasingha, Goetz, and Freshwater 2006). The percentage of residents voted for the Democratic candidate in the most recent presidential election is included as a control variable for the political ideology of the community.

In terms of the government capacity in producing parks and recreation services in a community, we measure it using both the proportions of public spending on parks and per capita local government spending on parks. These two measures capture two slightly different dimensions of local governments' capacity of public service provision, with the proportion of public spending on parks measuring the relative importance of parks and recreation services compared with other public service functions, and per capita public spending on parks measuring the scale and size of parks and recreation services. A local government capacity index is created using these two variables ($\alpha = 0.901$). The retained principal factor has an eigenvalue of 1.820, capturing more than 91% of the variations of these two variables³.

At the organizational level, organizational size is measured as the log of total expenditures of the organization. The age of the organization is operationalized by subtracting its reported ruling year (the year an organization's 501(c) (3) status was granted by the IRS) from the baseline year

(2013). Although organizations can operate as unregistered charities prior to IRS recognition, the effect should not add more bias. Finally, the proportion of donative income is calculated by dividing the organization's total annual income by its total public contributions.

Multicollinearity among above independent variables was tested by calculating the variance inflation factor (VIF) for a linear regression model. Results suggest that multicollinearity is of limited concern for independent variables included in the final model (mean VIF = 1.66). Table 1 presents the descriptive statistics of all the dependent and independent variables. From the descriptive statistics, we can see that most park-supporting nonprofits heavily rely on donative income, with a mean of 80% of the total revenue. These organizations, on average, have been set up for more than 16 years. Before running the multivariate analysis, all independent variables are standardized, subtracting the average and dividing by the standard deviation, to facilitate comparability of the relative importance of predictor variables.

[Tables 1 Here]

Statistical Analysis

Exploratory factor analysis is conducted for all supporting activities of park-supporting nonprofits to see whether there are certain patterns in the data that suggest co-governance, or park planning and design, is a distinct type of nonprofit support for public services. Since all types of park supporting activities are binary variables, normal exploratory factor analysis procedures for continuous variables are not applicable. For binary variables, the estimates of the

tetrachoric correlation coefficients need to be first calculated. Tetrachoric correlations assume a bivariate normal distribution of latent continuous variables, with a threshold model for the binary variables (Muthén 1978). The matrix of tetrachoric correlations of all pairs of the binary variables is then used to perform a principal component analysis of binary variables. We calculated tetrachoric correlations with STATA/MP 14.1⁴.

A multilevel logistic regression is conducted to test the theoretical framework of the determinants of nonprofit co-governance of public services. This statistical method is used to take care of the nested structure of the data and the nature of the dependent variable: park-supporting nonprofits are nested in cities and the dependent variable for the model is binary. When the dependent variable is binary, therefore not following a normal distribution, the regular ordinary least squares regression may generate biased estimates. Because the data is nested in hierarchical structures, observations in the dataset are no longer independent from each other. Multilevel logistic regression is in place to take care of the above limitations and generate unbiased estimates. Robust standard errors are used in the model to deal with the heteroscedasticity of residuals.

Empirical Findings and Results

Table 2 presents the count of different types of supporting activities conducted by those park-supporting nonprofits. According to Table 2, most park-supporting nonprofits get involved in providing financial or volunteer assistance to the maintenance and operation of parks. However, relatively few have engaged in park planning and advocacy activities. This finding corresponds

to previous empirical evidence that co-governance is yet to become a major type of nonprofit support for public services (Tsukamoto and Nishimura, 2006). Out of these supporting activities that do show some prevalence (at least 10%), nonprofits serving as the manager of parks generate the lowest frequency (12.74%). In other words, although park-supporting nonprofits are actively involved in different aspects of park management and maintenance, it is still very unlikely for local governments to delegate full park management responsibilities to nonprofits. This may be an emerging phenomenon worthy of further exploration.

[Table 2 Here]

The result of the exploratory factor analysis is presented in table 3. Activities that are bolded in a column indicates that the underlying factor captures most of the variance of the activity.

According to table 4, park-supporting activities conducted by these nonprofits can be explained by three underlying factors (eigenvalues larger than 1). Park planning loads predominantly on a distinct factor of its own. Park management and recreational programming have a strong correlation: when nonprofits take the role of managing a park, they are more likely to offer recreational programs at the same time. Advocacy, fundraising, natural resource maintenance, volunteer recruitment, education & outreach, facility construction, and membership organizations load on another distinct underlying factor. There is a distinct pattern of co-governance - park planning - presented in those park-supporting activities.

[Table 3 Here]

Most other activities concentrate on the implementation of public services, which could fall under either the co-management or the co-production model. According to Brandsen and Pestoff's (2006) conceptualization, co-management mainly focuses on interactions at the organizational level while co-production on the voluntary efforts of citizens (497). The results of the factor analysis seem to point out something beyond this citizen vs. organization distinction, since these can be organizational level and citizen level activities for both underlying factors. For example, both offering educational programs and offering recreation programs can be organizational level activities. The key difference between the two seems to be the nature of the benefits. When nonprofits manage a public park, they are more likely to offer recreational programs, which mainly offer individual level benefits. Recreational programs are also an important source of revenue for running the parks. For other supporting activities that load on another factor, such as natural resource maintenance and fundraising, the corresponding benefits are diffused to other park users and the community, thus falling under the category of collective co-production (Brudney and England 1983).

The results of the multilevel analysis are presented in table 4. The model fit indexes indicate that utilizing the multilevel logistic regression presents a statistically significant model improvement compared with a normal logistic regression model. The intraclass correlation coefficient (ICC) is 0.122, suggesting that 12.2% variations of the data can be solely explained by the correlations caused by the hierarchical structure of the data (Snijders and Bosker 2012). Both the raw coefficients and factor change in odds are reported for each independent variable to facilitate interpretations. The dependent variable is whether a nonprofit is involved in developing the master plan for the park(s). In the following paragraphs, each hypothesis will be discussed to examine whether it is supported or not supported by the results of this multilevel analysis.

[Table 4 Here]

Consistent with hypotheses 1 and 2, community's financial and human resources and community stability have a positive effect on the likelihood of park-supporting nonprofits getting involved in the planning and design of public services. Compared with other coefficients, community stability, which is measured as homeownership rate, presents the strongest influence on nonprofits' involvement in co-governance. A standard deviation increase in the homeownership of the community increases the odds of nonprofits' involvement in co-governance by a factor of 2.098, while community's financial and human resources a factor of 1.632. Above results indicate that nonprofits are more likely to be involved in co-governance when the community is stable and resourceful. Hypothesis 3 about social diversity is not supported by the analysis. There

is no statistically significant relationship between nonprofits' involvement in co-governance and social diversity of the community.

Contrary to hypothesis 4, social capital stock in a community is negatively associated with the likelihood of park-supporting nonprofits getting involved in the planning and design of public services. A standard deviation increase in the level of social capital a community possesses decreases the odds of nonprofits' involvement in co-governance by a factor of 0.608. Hypothesis 5 predicts that nonprofits are more likely to be involved in co-governance when local governments have a relatively weak capacity in providing corresponding public services. The regression results support this hypothesis. A standard deviation increase in the government capacity index decreases the odds of nonprofits' involvement in co-governance by a factor of 0.651.

Next, we examine how organizational characteristics are associated with the likelihood of nonprofits getting involved in co-governance. Consistent with hypothesis 6, the size of the organization is positively correlated with the likelihood of nonprofits' involvement in co-governance. A standard deviation increase in the size of the organization increases the odds of nonprofits' involvement in co-governance by a factor of 1.527. Contrary to hypothesis 7, older organizations are less likely to get involved in co-governance. A standard deviation increase in the age of the organization decreases the odds of nonprofits' involvement in co-governance by a factor of 0.624. Hypothesis 8 is not supported as there is no statistically significant relationship between nonprofits' involvement in co-governance and their reliance on donative income.

Discussion

As governments at all levels suffer from extensive budget cuts and financial losses, nonprofits and local communities are expected to go beyond coproducing public services and take on important roles of creating and financing public services. However, the determinant, processes, and consequences of nonprofits playing such roles remain a knowledge gap in public management literature. Our findings suggest that co-governance, the planning and design of public services, is both conceptually and empirically distinct from co-production. Nonprofits' involvement in co-governance is jointly influenced by organizational and community characteristics, which often have different implications for the demand for public services and the supply of resources to foster such collective actions (Paarlber and Gen 2009; Bovaird 2007). In this section, we offer discussions about the implications of these findings and how they contribute to existing literature.

First, consistent with existing literature on co-production and government-nonprofit relationships, the findings provide support to existing empirical evidence that organizational resources, community resources, and community stability have a positive effect on nonprofits' involvement in coproducing public services (Paarlber and Yoshioka 2016). Nonprofits are more likely to get involved in co-governance when the organization is large and operates in more stable and resourceful communities. Supply-side characteristics do matter for co-governance to take place. Social diversity of the community and the revenue structure of the nonprofits seem not be a key determinant of nonprofits' involvement in co-governance. One possible reason for

the insignificant effect of social diversity is that although higher level social diversity would increase the demand for nonprofits' involvement in public service provision, it may also create higher transaction costs to form such collective actions. These two effects may cancel each other out in the empirical analysis. In terms of the proportion donative revenue, since these park-supporting nonprofits mostly rely on donative revenue (Walls 2014), there may not be enough variations to drive the correlation. Cross-sectoral research can be conducted to further understand whether donative nonprofits are more likely to get involved in co-governance compared with for-profit businesses and commercial nonprofits.

Second, contrary to the interdependence patterns consistently found in the literature of government-nonprofit relationships (Lecy and Van Slyke, 2013; Paarlberg and Yoshioka 2016; Salamon, 1987), our findings suggest that nonprofits are more likely to get involved in co-governance when local governments suffer from resource constraints in public service provision. The relationships between governments and nonprofits are different when nonprofits get involved in different phases of public service provision. Involving nonprofits in co-governance provide an alternative solution to complement the capacity constraints of local governments. Using a case study of participatory budgeting in a city in Brazil, Bovaird (2007) also found that declining governance capacity locally resulted in communities playing a role in service design, planning, and management. As local governments suffer from increasing fiscal pressure, nonprofits' involvement in co-governance will become more prevalent. Both local governments and nonprofits need to be strategic and proactive about it. The negative correlation between social capital and co-governance may be attributable to similar reasons as local government capacity. Although a lower level of social capital may cause a lower level of citizen participation

in public service provision, it also presents opportunities for these nonprofits to get involved in these processes. Nonprofits' involvement in co-governance may be a response to the decline of social capital and civic engagement in the community (Fernandez and Alexander 2017).

Third, we find that younger organizations are more likely to get involved in co-governance, which is contrary to the hypothesis that legitimacy and long-term preexisting relationships with local governments may facilitate the evolution from co-production to co-governance. This result suggests a level of structural inertia of nonprofit support for public services in the sense that when nonprofits are stable in the co-productive relationships with local governments, it seems difficult for them to move beyond existing patterns of interactions to get involved in co-governance. It also indicates a new role of nonprofits in public service provision: pushing the boundaries of the status quo and moving the support for public services beyond co-production to co-governance. These nonprofits may serve as civic entrepreneurs in the community to facilitate social innovation and transform the way of how public services are provided (Goldsmith 2010). For example, Friends of the High Line, a nonprofit founded by residents in the neighborhood in 1999, play a transformative role in creating, designing, and managing the High Line public park in the city of New York. From the start of the organization, the founders are not satisfied with just serving volunteers for existing parks. Instead, they are searching creative solution to transform and provide additional public spaces. The emergence of civic entrepreneurs is pushing the boundaries between nonprofits and governments (Henton, Melville and Walesh 1997).

Finally, as for-profit service providers become more and more popular in public service provision, the distinctiveness of nonprofits in co-governance deserves some discussion. Because of the nondistribution constraint and the charitable purposes nonprofits have, it may give more legitimacy for nonprofits to get involved in the planning and design of public services. Governments may also be more assured to involve nonprofits in these processes. In addition, because of the mediating roles nonprofits play in the community, they may facilitate citizen participation and help create reliable voting constituencies for local public officials, therefore influencing the allocation and provision of public services (Marwell 2004). For-profit service providers, on the other hand, may play a much smaller role in co-governance, compared with their prominent role in direct service provision. Moving beyond co-production to co-governance may well be a direction where nonprofits have a comparative advantage over the for-profit sector.

Conclusion

This study seeks to build an understanding of nonprofit support for public services through the lens of co-production and co-governance. Drawing on a unique dataset of park-supporting nonprofits in large U.S. cities, our study offers a rather comprehensive examination of the determinants of nonprofits' involvement in co-governance, or the planning and design of public services. The findings of the exploratory factor analysis for binary variables validate the conceptual distinction between co-production and co-governance. A further multilevel logistic regression analysis suggests that nonprofits are more likely to get involved in co-governance when they are larger, younger, and operate in communities which are resourceful, stable, and

have a lower level of social capital and weaker government capacity in providing corresponding public services. The process of nonprofits moving from the co-production phase to the co-governance phase seems not to be automatic. It requires the demand of local governments and citizens, and extensive resource inputs from both the community and nonprofit organizations themselves.

Our findings show that the relationships between governments and nonprofits seem to follow different patterns when nonprofits are involved in different stages of public service provision. Resource constraints of local governments open the window of opportunity for the involvement of nonprofits in the planning and design of public services, which is contrary to the findings in the context where nonprofits receive public funding and mainly get involved in the delivery of public services. From a theoretical perspective, nonprofits' involvement in co-governance further complicates the principal-agent relationships found in a range of contractual relationships between governments and nonprofits. In the co-governance regime, nonprofits and governments get involved in joint decision-making of some of the key aspects of public service provision. Solving public problems in such a shared-power world requires a different set of leadership skills and institutional arrangement (Bryson et al. 2006).

Our study has limitations. Although a rigorous coding protocol was followed to identify the supporting activities of these park-supporting nonprofits, we fully recognize the possibility and potential bias of missing organizations that get involved in the planning of parks but have failed in reporting it on their websites. However, since the master plan of a public park not only plays a

significant role in park development, but is instrumental for park-supporting nonprofits to raise money for parks (Harnik and Martin 2015), it is unlikely that park-supporting nonprofits engage in but do not report this important activity on their websites. Another limitation is that this study only focuses on larger nonprofit organizations that operate in large U.S. cities. Data constraints mainly cause this limitation: the NCCS dataset only tracks nonprofits that reach a certain annual revenue threshold, and FiSC database only provides government finance data for the largest 150 U.S. cities. Cautions need to be taken when generalizing the findings of this study to park-supporting groups that are small, informal, or operate in less populous communities.

Future research should be conducted to further understand the distributional, performance, and democratic consequences of co-governance. What are the consequences of nonprofits' involvement in co-governance? Does co-governance result in better public service outcomes? Are these nonprofits mobilizing genuine citizen participation or just inviting another special interest group to the table? Are disadvantaged groups in the community better or worse off as a result of co-governance? How do these nonprofits play mediating roles between citizens and local governments through co-governance? These questions have huge implications about how public services should be planned, designed, and implemented. Despite the mediating roles these nonprofits play between local governments and services users, they may or may not represent the voices of service users or local communities (Bovaird 2007, 855). Both quantitative and qualitative approaches will be needed to answer these important questions.

Another extension of this research is to examine whether this theoretical framework holds in other public service subsectors. Even for parks and recreation services, which has witnessed an emerging trend of local governments relying on nonprofits for funding and programs, nonprofits' involvement in co-governance is not as prevalent compared with other types of public service supporting activities. Scholars should pay close attention to this trend of nonprofits moving upward in the phases of public service provision as governments at all levels suffer from extensive fiscal stress. Nonprofits' involvement in the co-governance of public services is also likely to have different meanings for different public service subsectors, such as public education, public libraries, museums and art centers. For example, in human and social services, nonprofits are heavily reliant on governments for funding, which put them in a less powerful position compared with their government counterparts (Malatesta and Smith 2014). What strategies can these human service nonprofits use to get involved in those key public service provision decisions? What motivates public managers to go beyond outsourcing and truly engage nonprofit service providers in these decision-making processes? This research provides a starting point and offers a theoretical framework for carrying out such inquiries. Key insights about government capacity and community resources are likely to be applicable to other public service subsectors. In addition, as evidence of citizen participation and nonprofits' involvement in co-governance accumulated in other geographical contexts or subfields such as nonprofit studies and urban planning, there are ample opportunities for advancing public management scholarship through this type of cross-subfield dialogue and learning.

In conclusion, this article suggests that co-governance is a distinct type of nonprofit support for public services and we need to develop a better understanding of its processes and outcomes. Our

study contributes to the public administration literature by bridging such a distinction between the production and the planning of public services, and exploring the conditions under which government-nonprofit collaboration moves from co-production to co-governance. The theoretical and policy implications of this study is huge as public management scholarship moves from new public management to new public governance, and public managers are facing extensive challenges in sustaining the desired level of public services and solving complex social problems on their own.

Notes

1. Although co-creation and co-governance can be used interchangeably in the context of this study, co-governance is used in this article mainly because it is a concept developed more centered on third-sector organizations while co-creation focuses more on individual level involvement in public services (Brandsen and Pestoff 2006; Voorberg et al. 2014).
2. The supporting categories/activities were coded based on the websites of the nonprofits, their 990 forms, occasional informational telephone calls, web searches and related governmental documents. A grounded theory-based open protocol was used for activity coding: the coding starts with a set of known activities these nonprofits are engaged in. The supporting categories continued to be expanded as more supporting activities are discovered in the coding process until no additional categories of supporting activities are found in the process. These supporting categories are then dummy code to indicate whether nonprofits are engaged in each type of these supporting activities.
3. The procedures for calculating tetrachoric correlations and conducting factor analysis for binary variables are listed in the users' manual of STATA:
<https://www.stata.com/manuals13/rtetrachoric.pdf>
4. Because of the space constraint, tables of the factor analysis to construct community resource index and government capacity index are not presented in this article. They will be available upon request.

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Figure 1 Theoretical Model for Nonprofits' involvement in Co-governance

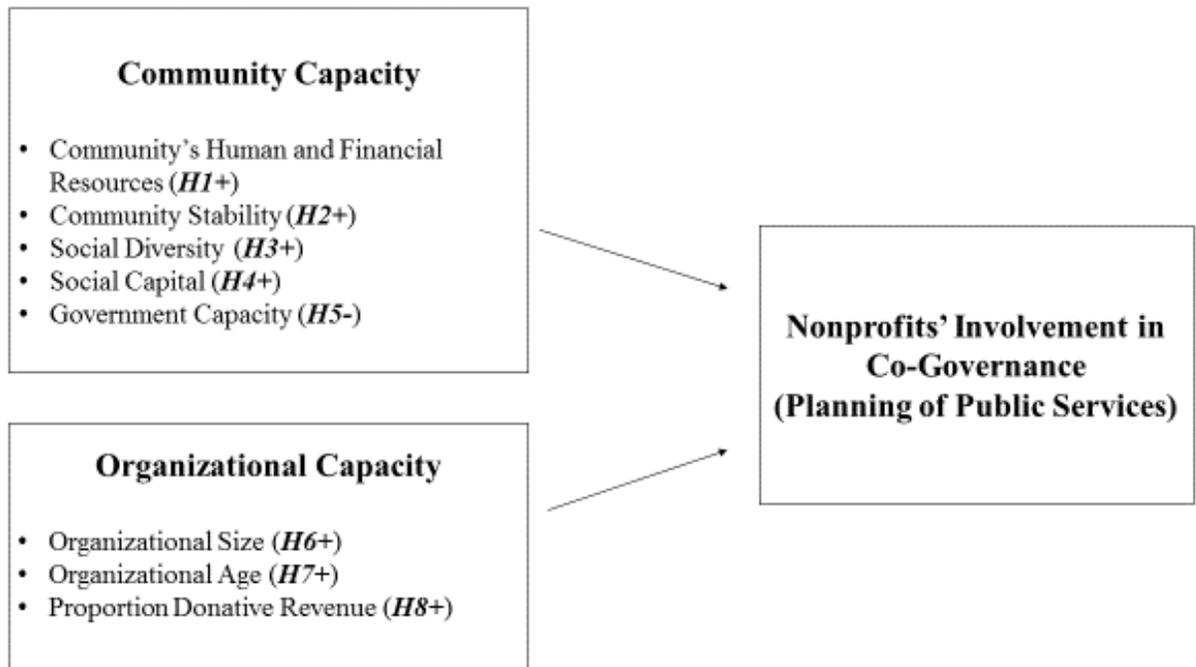


Table 1 Descriptive Statistics

Dependent Variable	Percentage of Total	Mean	SD	Min.	Max.
Nonprofits involved in developing park's master plan	26.961			0	1
Independent Variables	Number of Observations	Mean	SD	Min.	Max.
<i>Organizational Level</i>					
Log total expenditure	204	12.247	2.460	0	17.628
Organizational age	204	16.431	11.174	0	60
Percentage donative revenue	204	80.061	28.269	0	100
<i>City/County Level</i>					
Social diversity index	204	0.503	0.127	0.137	0.700
Homeownership rate	204	0.524	0.125	0.231	0.740
Median household income (in thousands of dollars)	204	54.126	11.197	34.488	92.014
Median housing value (in thousands of dollars)	204	276.135	221.251	78.100	848.600
Percentage residents with a college degree	204	37.222	10.361	20.869	60.402
Community resource index	204	0	1	-1.295	2.334
Per capita government spending on parks	204	148.487	70.237	12.170	332.220
Percentage government spending on parks	204	2.752	1.455	0.171	7.764
Government capacity index	204	0	1	-1.947	2.976
Social capital index	204	-0.547	0.834	-3.167	1.824
Percentage votes to democratic candidate	204	70.539	14.182	0	90.225

Table 2 Supporting Activities of City Park-supporting Nonprofits

Category	Number of Supporting Activities (Frequency) N = 204
1. Participating in developing the master plan for the park	56 (26.96%)
2. Managing the daily operation of the park	26 (12.74%)
3. Advocating for park funding and park policy	44 (21.57%)
4. Fundraising – e.g., raising philanthropic funds for the benefit of a public park.	198 (97.05%)
5. Natural resource maintenance and construction – e.g., volunteer day for trail construction	145 (71.08%)
6. Volunteer recruitment and management – e.g., NPO provides an internet portal for volunteer recruitment	152 (74.51%)
7. Public education and outreach—e.g., volunteer led nature education.	121 (59.31%)
8. Offers recreation programs – e.g., organizing a sports league, concerts or other cultural events.	99 (48.53%)
9. Erection or Construction of Facilities	118 (57.84%)
10. Membership organization	83 (40.69%)

Note: 1) Park-supporting nonprofits can conduct activities listed in the table simultaneously. Therefore, the total frequency adds up to be much large 100%.

2) 10% of the organizations have been randomly checked by another coder to ensure intercoder reliability.

Table 3 Exploratory Factor Analysis of Park-supporting Activities

	Factor 1	Factor 2	Factor 3
Park Planning	1.9652	0.0373	0.0384
Park Management	0.2797	-0.0067	0.8486
Advocacy	0.0516	0.3480	-0.2680
Natural Resource Maintenance	0.1681	0.8164	0.0828
Volunteer Recruitment	0.1649	0.7531	0.0439
Education & Outreach	0.0718	0.5875	0.1829
Recreational Programming	0.0629	0.2272	0.7151
Facility Construction	0.1472	0.3652	0.1483
Member Serving	0.0230	0.4030	-0.1109

Note: 1) Some coefficients are bolded for ease of interpretation.

2) Fundraising is not included in the factor analysis for two reasons. First, almost all organizations are involved in fundraising and there are few variations in the data to contribute to the factor analysis. Second, it is hard to tell whether the fundraising activity is for the support of nonprofit organizations themselves or projects in parks.

Table 4 Multilevel Logistic Regression Results

DV: Park Planning	Raw Coefficients	Factor Change in Odds
<i>Organizational Capacity</i>		
Organizational Size	0.423* (0.234)	1.527
Organizational Age	-0.472*** (0.163)	0.624
Proportion Donative Revenue	0.300 (0.263)	1.350
<i>Community Capacity</i>		
Social Diversity Index	0.0282 (0.196)	1.029
Community Stability	0.741*** (0.245)	2.098
Community Resource Index	0.490** (0.212)	1.632
Government Capacity Index	-0.429** (0.202)	0.651
Social Capital Index	-0.498*** (0.158)	0.608
Percentage Votes to Democratic Candidate	0.227 (0.269)	1.255
Constant	-1.228*** (0.171)	
Number of Observations	204	
Number of Cities	75	
Intraclass Correlation	12.20%	

Note: DV = dependent variable. Likelihood-ratio test vs. logistic model: $\chi^2(0) = 0.00$. Robust standard errors in parentheses. Significance Level: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$