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CORRELATES OF CO-PRODUCTION: EVIDENCE FROM A FIVE-NATION SURVEY OF CITIZENS

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ABSTRACT: *We employ data from an original survey of citizens in the UK, France, Germany, Denmark, and the Czech Republic to examine correlates of citizen co-production of public services in three key policy areas: public safety, the environment, and health. The correlates of co-production we consider include demographic factors (age, gender, education, and employment status), community characteristics (urban, non-urban), performance perceptions (how good a job government is doing), government outreach (providing information and seeking consultation), and self-efficacy (how much of a difference citizens believe they can make). We also report on results from a series of focus groups on the topic of co-production held in each country.*

Our results suggest that women and elderly citizens generally engage more often in co-production and that self-efficacy—the belief that citizens can make a difference—is an especially important determinant across sectors. Interestingly, good outcome performance (in the sense of a safe neighborhood, a clean environment, and good health) seems to discourage co-production somewhat. Thus citizens' co-production appears to depend in part on awareness of a shortfall in public performance on outcomes. Our results also provide some evidence that co-production is enhanced when governments provide information or engage citizens in consultation. The specific determinants vary, however, not only by sector but across national contexts.

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INTRODUCTION

Citizen co-production of public services has become an important topic in the field of public administration, especially in light of the fiscal pressures currently facing many governments around the world. Although the topic has received theoretical attention (E. Ostrom 1996; Alford 2002; 2009; Bovaird and Loeffler 2012) and has been the subject of several case studies (E. Ostrom 1996; Bovaird 2007; Alford 2009; Bifulco and Ladd 2006; Whelan and Dupont 1986), little prior research has examined citizen co-production behaviors for large samples representing broad national populations. In this article, we use data from a unique, large-sample survey to examine various correlates of citizen co-production in five countries: the UK, France, Germany, Denmark, and the Czech Republic. The survey asked about co-production behaviors and attitudes in three policy areas in which such behaviors are especially important: public safety, the local environment, and health. Building on individual and contextual factors identified in previous theory and research, as well as hypotheses grounded in a series of exploratory focus groups, we have tried to account for variation in co-production in different sectors and in different countries. Alongside this micro-explanation based on individual predictors, focus groups with service providers and stakeholders were also used to explore the role that macro explanations could play in accounting for differences across countries and policy sectors.

The article begins with a discussion of co-production theory and research in public administration and related fields. It then describes the data from the five-nation survey and the resulting measures of co-production. Next, we present our statistical analysis and findings, including a summary of qualitative findings from the focus groups. The article concludes with interpretations, methodological limitations, and potential policy implications of our research.

BACKGROUND

Some Explanations of Co-production in the Literature

Most definitions of co-production stem from the seminal work by V. Ostrom and E. Ostrom (1977). They typically refer to the contribution of resources by service users and providers for the provision of a good or service, or for raising the level and/or quality of their provision (Brudney 1983). For some authors (E. Ostrom 1996; Ramírez 1999), co-production is seen in terms primarily of individual action; for others (Joshi and Moore 2004), it implies long-term relationships (institutionalized arrangements) between state agencies and organized groups of citizens. And for still others (Bovaird 2007) the concept of co-production includes professional service providers and (organized) service users or other members of the community.

But as Alford (2002) usefully points out, individuals may play different roles in the public sphere as users-clients, volunteers, and members of a community. Alford (2002, 33) considers clients as “those who deal with the agency at its ‘business end.’ ... As clients, they receive private value from the service provided by the agency (i.e., goods, services or other benefits that are individually consumed), rather than

public value, which is ‘consumed’ jointly, as occurs with public goods.” Volunteers differ from clients because they are actively engaged in the provision of public goods or services for others, while at the same time they may also benefit. Clearly, the concept of volunteering, particularly as it relates to community and the public sphere, is an important component of co-production. However, this article focuses quite generally on the role of citizens and their contributions to making services more successful in producing outcomes and the potential reasons for them to be more or less active in co-production.

Despite recent theoretical interest in the topic of co-production, relatively few empirical studies have been done over the years on citizens’ actual co-production behaviors and attitudes as captured in surveys. Although individual experiences of co-production (e.g., self-service in petrol stations, health checks to prevent diseases, electronic billing whereby procurers do the clerical work of state agencies, or long-distance regular monitoring of a health conditions) have been given as examples, systematic empirical work on the individual experience of co-production has been scarce. Most research has focused on case studies (like, for example, E. Ostrom 1996, Joshi and Moore 2004; Bovaird 2007; Alford 1998; 2009) in which the organization and experiences of co-production are explored.

Other studies, using public choice theory, have focused, for example, on questions such as how choice of a school helps parents to be active co-producers (Hoxby 1999; Brandl 1998; Hill, Pierce, and Guthrie 1997; Schneider et al. 1997). A study by Bifulco and Ladd (2006) examines how different institutional arrangements (charter schools vs. public schools) might explain distinct patterns of parents’ involvement. In their account, institutional arrangements are not enough to account for higher co-production and contextual factors are more useful in explanation. Contextual factors are also used by Marschall (2004) in order to explain why residents who perceive substantial problems in neighborhood schools and crime are more likely to co-produce.

This suggests that co-production may arise in part as a response to shortcomings in government performance or public service provision. Performance of government has been studied in connection with issues like trust in government or satisfaction with public services (Van Ryzin 2007; 2011). In some empirical research, evidence suggests that administrative performance may lead to trust in government, meaning that the criticism that the New Public Management, focusing on users, would undermine democracy is not sustained (Vigoda and Yuval 2004). A major longitudinal study of local government reform in the UK (Cowell et al. 2009) also found that service quality was seen as a driver of public trust by local councils and a vital cue influencing the public’s views about their council—this was especially true of those services which are very visible to citizens (e.g., street cleaning) or which make everyday life more comfortable or convenient (e.g., refuse collection and street lighting). In this line of argument, then, underperformance might be seen as a driver of distrust in government and fosters the need for citizens to be active in co-producing a particular service that they want. However, the casual link between trust in government and better performance of public administrations was not substantiated in the study of Vigoda and Yuval (2004).

Claims on Active Co-production from Citizens

In many instances, studies have focused on the institutional arrangements that foster co-production on the side of state agencies and users (V. Ostrom and Ostrom 1977; Parks et al. 1981). Unlike other studies, this article does not examine how a public agency may create (or not) a co-productive environment (see, for instance, Alford 2009 and E. Ostrom 1996). It rather seeks to understand under what conditions user co-production is more likely to occur. We propose several claims regarding the dominant administrative tradition of a particular country, the specificities of particular policy sectors, the engagement of government in consulting users when providing services, and the role of intrinsic rewards, especially the expected self-efficacy of users. Along with these claims, we also explore the role of socio-demographic characteristics as potential determinants of co-production.

Firstly, co-production is likely to depend on the cultural and administrative context of a society. Peters (2008, 118) defines an administrative tradition as “a historically based set of values, structures and relationships with other institutions that defines the nature of appropriate public administration within society.” The administrative tradition encompasses the relations between state and society. There are several types of relations: pluralistic (where government is just one stakeholder, alongside those from civil society and business, and the “state” as such has no separate legal basis—often labelled the “Anglo-Saxon” model), organicist (where there is strong decentralization of power and groups from civil society are often embedded within the decision-making process—exemplified by “Prussian” and “Scandinavian” models), and antagonistic (where there is strong centralist decision making, which expects to dominate other stakeholders or interests in a unified system, often labelled the “French” or “Napoleonic” model) (see Loughlin and Peters 1997, 46). These relations refer to the role of state agencies in society. E. Ostrom (1996, 107) identifies monocentric systems (or highly centralized) and polycentric systems (with more opportunities for citizens to organize more than one governing authority). The present study includes five different countries from distinct administrative traditions: Anglo-Saxon (United Kingdom), Prussian (Germany), Scandinavian (Denmark), Napoleonic (France), as well as a former communist regime (Czech Republic). More specifically, we expect that in some administrative traditions, the state plays a more central role, lessening the room for autonomy on the part of individuals or groups in society, for example in France and Germany. Therefore, it could be expected that co-production would be less fully practiced in these countries. In other administrative traditions, the state plays a less direct role and there is more room for citizen autonomy and self-organization, such as in the United Kingdom. Further, in those countries in which citizens are more autonomous, such as Denmark, government policies and services are likely to provide more information to citizens and use consultation to shape service delivery. The intensive use of consultation is likely to elicit greater willingness to co-produce from service users as they see that the government cares about their opinion on policy and service matters.

Secondly, different policy sectors are also likely to have a differentiated impact on co-production. The study of the impact of policy sectors upon decision making and

implementation has taken two different routes. One strand, headed by Lowi (1964) and Wilson (1980), argues that particular types of policies (distributive, redistributive, and regulatory in Lowi's terminology, for instance) determine the way in which decision making and implementation of those policies are made. Another strand, based on networks of knowledge-based experts (or epistemic communities), highlights the role of professionals in policymaking (Haas 1992; 2004). Haas (1992) claims that epistemic communities constitute a source of power in framing the collective debate on issues related to their profession. In some cases, this knowledge base is able to cut across state boundaries and achieve policy coordination through professional means and not diplomacy. Translated to service delivery, it implies that policy areas in which service providers are highly professionalized, with very specialized knowledge on the service (such as doctors), are likely to be less conducive to co-production.

The services that are the focus of this study correspond more to Lowi's category of distributive policies that involve non-zero-sum distribution of concrete benefits: community safety, local environment, and public health. A common feature of the first two policy areas is that benefits can be experienced by citizens individually and also collectively. While in public health the benefits are mainly individually "consumed," policies such as immunization result in both private and social benefits. However, both community safety and local environmental policy also have a regulatory role, in Lowi's categorization, since they partly seek to control those behaviors which some citizens enjoy but which impose negative externalities on others.

Further, the types of professionals to be encountered in each policy area differ in their degree of specialization. Health requires specialists with a university degree and considerable knowledge of human anatomy and cure strategies. However, the other two services involve fieldworkers with less specialized education (generally college level in the case of European police agents, but few formal qualifications in the case of staff devoted to street-cleaning services, for instance). No doubt the knowledge of service providers is of relevance for service design. However, it is expected that highly professionalized services (health) are likely to be less conducive to co-production than other services in which the level of professionalization is lower (according to Dunston et al. [2009] and Porter et al. [2010], the challenges arising from transition of a traditional expert-based health system to a co-produced health system are considerable).

Thirdly, individual attitudes, values, and motivations are also likely to explain variation in co-production behaviors. Sharp (1978), quoted by Alford (2002), for instance, distinguished among material incentives (money, goods, or services), solidarity incentives (the sense of belonging to a group), or expressive incentives (intangible rewards or satisfaction with morally good actions). Alford (2002; 2009) expanded this list to five possible sets of motivators including sanctions (punishment of deviating actions) and intrinsic motivation, which refers to the clients' sense of self-determination and competence. Alford (2002; 2009) concluded that material rewards and sanctions would work, if at all, only in the simplest of tasks. Instead, clients are more likely to be motivated by more complex rewards that include expressive incentives, solidarity, and intrinsic rewards.

Essential to such intrinsic rewards is the notion of self-efficacy, which refers to the sense acquired by an individual that they can carry out actions which entail some expected results. The term has been used in order to assess political self-efficacy. For example, political self-efficacy is “the feeling that individual political action does have, or can have, an impact upon the political process . . . the feeling that political and social change is possible, and that the individual citizen can play a part in bringing about this change” (Campbell, Gurin, and Miller 1954, 187, quoted in Madsen 1987, 572). Research on self-efficacy, the belief in one’s ability to perform a given task (Bandura 1986; 1997), has generally supported positive relationships between self-efficacy and a range of performance measures and outcomes (see Gist and Mitchell 1992 and Bandura 2001 for a summary). Subsequently, self-efficacy has been expected to affect task effort, persistence, expressed interest, and the level of goal difficulty selected for performance (Bandura 1997). According to Bandura (1986; 1997; 2001), one’s self-efficacy beliefs significantly determine performance outcomes, and are not necessarily determined by the underlying skills that one possesses with regard to the task. Self-efficacy of citizens, therefore, might be an important factor in co-production. Previous laboratory research and field study by Bandura (1977; 1982) showed that self-efficacy judgments mediate between knowledge and action. Individuals undertake judgment of self and also of the environment.

Finally, we expect co-production behavior to vary by demographic and socio-economic factors, including age, gender, education, employment status, and urban context. In particular, there is evidence from studies of civic engagement and volunteering that women tend to engage and volunteer more than men (Einolf 2010) and that older cohorts generally engage in civic activities more than younger cohorts (Putnam 2001). Studies also suggest that education level is positively related to various forms of civic participation (Egerton 2002; Hayghe 1991). Although it imposes constraints on free time, regular employment also facilitates networks and other resources that increase capacity for volunteering and civic engagement (Wilson and Musick 1997). Thus, we expect that the effects of these demographic and socio-economic factors may be similar in the context of predicting co-production behaviors.

METHOD

The study employs mixed methods to examine determinants of and influences on citizen co-production in five countries: the UK, France, Germany, Denmark, and the Czech Republic. It focused on three key policy areas in which co-production plays an important role: public safety, the environment, and health. The quantitative data came from an original survey designed by three of the authors and conducted by TNS Sofres from April 16 to May 5, 2008, among a representative random sample of 4,951 adults (18 years of age or older), with the following numbers of interviews per country: 988 in the United Kingdom, 1,000 in Germany, 1,011 in Denmark, 988 in France, and 1,000 in the Czech Republic. These random samples were enhanced through quotas by gender, age, and region. The five countries were

selected because they represented different administrative traditions, namely Anglo-Saxon, Prussian, Scandinavian, Napoleonic, and ex-communist, because it was expected that different administrative traditions would influence co-production.

In order to provide a more qualitative perspective on the issue of co-production and on the differences among sectors and societies, 15 focus groups (with 98 participants) were conducted by three of the authors with key officials and stakeholders who are involved in the three policy areas in each of the five countries. The focus groups were convened in the capitals of the respective countries and invitations were sent to representatives (in each of the three policy areas) of central government, local public services, national professional associations, national service user organizations, and third sector organizations (see Table 5). All invited participants had long-standing experience in the sector concerned and all the managers invited had senior or middle (supervisory) management positions. They were identified from contacts which the research team had in each sector and at least one of the co-authors was present in these sessions (all held in the local language, except for Denmark, where English was used). All sessions lasted around an hour and a half.

The study was commissioned by the French Ministry of the Treasury, Public Accounts and Civil Service (Ministère du Budget, des Comptes Publics et de la Fonction Publique). The Ministry sought a scientific study of co-production levels in Europe to be presented at the plenary of the 5th Quality Conference of the European Union in 2008. While the report for the conference (Loeffler et al. 2008) presented descriptive findings and addressed practical issues around co-production, the aim of this article is to provide a more analytical focus on the correlates and predictors of co-production.

Survey Data and Measures

Table 1 shows the analytical variables and descriptive statistics from the survey data. In each of the three policy areas, the survey asked about five representative co-production behaviors and whether respondents undertook these behaviors *often*, *sometimes*, or *never*.

- For *public safety*, the five behaviors are: (1) asking advice from the police on how to best protect your property, (2) taking care to lock all doors and windows when you go out, (3) asking your neighbor to keep an eye on your home when you are away, (4) keeping an eye on your neighbor's home when they are away, and (5) participating in a group or organization that works to improve safety in your neighborhood.
- For the *environment*, the behaviors are: (1) telling other people not to drop rubbish or let their dogs foul the street; (2) trying to recycle your household rubbish; (3) trying to save water and electricity in your home; (4) walking, cycling, or using public transportation; and (5) participating in a group or organization that works to improve the quality of the environment.
- For *health*, the behaviors are: (1) changing to a more healthy diet, (2) trying to exercise, (3) seeing a doctor for a health check and blood tests, (4) taking care

TABLE 1
Descriptive Statistics

<i>Variables</i>	<i>Min</i>	<i>Max</i>	<i>Czech Republic</i> n = 1,000		<i>Denmark</i> n = 1,011		<i>Germany</i> n = 1,000		<i>France</i> n = 952		<i>United Kingdom</i> n = 988	
			M	SD	M	SD	M	SD	M	SD	M	SD
Co-production behaviors (index of 5 behaviors)												
Public safety	0 = never does any	10 = does all 5 always	3.10	1.84	4.39	1.72	4.56	1.99	3.91	1.92	5.39	2.06
Environment	0 = never does any	10 = does all 5 always	6.66	1.59	5.63	1.73	6.15	1.67	6.22	1.71	6.08	1.72
Health	0 = never does any	10 = does all 5 always	5.71	1.85	4.60	1.78	5.30	1.92	5.10	1.91	5.37	1.92
Willingness to co-produce (volunteer)												
Public safety	1 = no time at all	4 = few hrs/wk	2.38	0.98	2.63	1.07	2.30	1.00	2.23	1.05	2.32	1.11
Environment	1 = no time at all	4 = few hrs/wk	2.70	0.85	2.75	0.96	2.45	0.90	2.55	0.98	2.40	1.06
Health	1 = no time at all	4 = few hrs/wk	2.56	0.96	2.68	1.08	2.59	1.01	2.32	1.04	2.37	1.12
Efficacy of citizens (making a difference)												
Public safety	1 = no difference	4 = big difference	2.75	0.90	3.12	0.89	2.99	0.98	2.97	0.91	3.16	0.90
Environment	1 = no difference	4 = big difference	3.25	0.76	3.54	0.72	3.08	0.94	3.35	0.78	3.41	0.80
Health	1 = no difference	4 = big difference	3.27	0.76	3.52	0.77	2.92	0.97	3.09	0.85	3.41	0.80
Government performance												
Public safety	1 = very dissatisfied	4 = very satisfied	2.69	0.85	3.13	0.85	3.04	0.74	2.94	0.76	3.01	0.85
Environment	1 = very dissatisfied	4 = very satisfied	2.87	0.79	3.05	0.79	2.71	0.79	2.97	0.73	2.84	0.79
Health	1 = very dissatisfied	4 = very satisfied	2.89	0.83	3.07	0.86	2.90	0.78	2.87	0.80	3.24	0.77

Government information												
Public safety	1 = very dissatisfied	4 = very satisfied	2.56	0.89	3.08	0.79	2.78	0.79	2.75	0.81	2.95	0.85
Environment	1 = very dissatisfied	4 = very satisfied	2.60	0.84	3.03	0.78	2.74	0.78	2.77	0.74	2.91	0.79
Health	1 = very dissatisfied	4 = very satisfied	2.71	0.85	3.06	0.82	2.69	0.81	2.94	0.70	3.21	0.80
Government consultation												
Public safety	1 = very dissatisfied	4 = very satisfied	2.41	0.90	2.84	0.89	2.56	0.82	2.51	0.92	2.70	0.89
Environment	1 = very dissatisfied	4 = very satisfied	2.38	0.86	2.69	0.86	2.39	0.80	2.39	0.84	2.57	0.86
Health	1 = very dissatisfied	4 = very satisfied	2.83	0.89	2.71	0.90	2.40	0.82	2.64	0.82	2.94	0.86
Conditions												
Public safety	1 = not at all safe	4 = very safe	2.87	0.78	3.57	0.73	3.33	0.76	3.27	0.84	3.35	0.84
Environment	1 = not at all good	4 = very good	2.84	0.74	3.68	0.58	3.29	0.71	3.36	0.69	3.46	0.69
Health	1 = not at all good	4 = very good	3.03	0.77	3.46	0.74	3.10	0.78	3.20	0.73	3.34	0.81
Demographic controls												
Gender	0 = male	1 = female	0.52	0.50	0.53	0.50	0.52	0.50	0.54	0.50	0.54	0.50
Age (in years)	18	96	44.85	16.10	48.03	16.41	48.09	17.08	48.00	17.71	48.77	17.07
University educated	0 = not univ. educated	1 = univ. educated	0.83	0.37	0.52	0.50	0.75	0.43	0.72	0.45	0.68	0.47
Urban resident	0 = not urban	1 = urban	0.16	0.37	0.34	0.47	0.23	0.42	0.41	0.49	0.45	0.50
Active in labor force	0 = not active	1 = active	0.66	0.48	0.67	0.47	0.59	0.49	0.53	0.50	0.59	0.49

of a sick family member or friend, and (5) participating in a group or organization that deals with health issues.

The five behaviors in each policy area were summed to form an index, with each behavior coded 0 = never, 1 = sometimes, and 2 = often. Thus each index has a possible range of 0 to 10. These indices of co-production behavior in each sector become dependent variables in our regression analysis.

It is important to note several caveats about our measures of co-production. To begin with, they are just a sampling of many relevant co-production behaviors in each policy area. And the behaviors are diverse, reflecting a range of interests and sometimes complex motivations (for example, walking or cycling for transportation could be motivated by health as well as environmental concerns). They were chosen from a wider set of potential measures after a series of focus group discussions (discussed below) that were held in each country before running the survey. The indicators focus in particular on preventative and service delivery behaviors, rather than the consultative behaviors which have more often been studied in the past, as the focus group in each of the five countries emphasized how important such behaviors are now seen to be from a policy perspective. The survey aimed to include a mix of co-production behaviors that were likely to be motivated more by self-interest (such as locking one's own house) as well as behaviors that tend to be more cooperative or altruistic in nature (keeping an eye on your neighbor's house while they are away). Certainly, the measurement of co-production is complex and multi-dimensional and our operationalization of this construct is imperfect. Still, we would suggest that our three indices, as the first ever attempt to build an activity-based co-production index, do provide a reasonable proxy measurement, at least, of policy-relevant co-production behaviors in these three key policy areas.

In addition to these selected behaviors, the survey also asked respondents directly about how much time they would be willing to volunteer to make improvements in each policy area. This self-reported willingness to co-produce is more general, in the sense of not being tied to specific behaviors, and also taps into respondents' overall behavioral intentions with respect to a policy area. Responses categories were: *a few hours a week (or more)*, *a few hours a month*, *a few hours a year*, or *no time at all* (coded from 1 = *no time at all* to 4 = *a few hours a week or more*). In our regression analysis, we use these self-reported measures of citizens' willingness to co-produce as alternative dependent variables.

As can be seen in Table 1, the countries differ from each other in the level of reported co-production behaviors. With respect to public safety, co-production is highest in the UK, followed by Germany and Denmark, and lowest in the Czech Republic. In the area of the environment, however, the Czech Republic has the highest co-production level, followed by France and Germany. And in the area of health, again the Czech Republic is highest in co-production, followed by the UK and Germany. With respect to reported willingness to volunteer in each of these sectors, the countries appear much more similar to each other.

The remaining variables in Table 1 are our independent variables or, in other words, hypothesized predictors or determinants of co-production behavior. To

assess citizens' sense of self-efficacy with respect to each policy domain, the survey asked: "How much of a difference do you think ordinary citizens can make to (the safety of the neighborhood/the quality of the environment/the quality of their own health and health care)?" Response categories were: *a big difference, some difference, little difference, or no difference* (coded from 1 = *no difference* to 4 = *big difference*). This variable therefore explores "political self-efficacy," as discussed above.

The survey asked respondents' about their satisfaction with *government performance* in each policy area, their satisfaction with *information* they get from government, and their satisfaction with the extent to which government asks their opinion on issues (*consultation*). Response categories were: *very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied* (coded from 1 = *very dissatisfied* to 4 = *very satisfied*).

As noted earlier, co-production is likely to be motivated to some extent by the conditions experienced by citizens in a policy area. Thus, for public safety, the survey asked: "How safe do you feel walking alone at night in the neighborhood where you live—very safe, somewhat safe, not that safe, or not safe at all?" For the environment, the survey asked: "Overall, how good is the environment where you live—very good, somewhat good, not that good, or not good at all?" And for health, the survey asked: "How good would you say your health is in general these days—very good, somewhat good, not that good, or not good at all?" Responses were coded from 1 = *not good (safe) at all* to 4 = *very good (safe)*.

Finally, the survey measured various demographic factors that, as discussed earlier, might be related to co-production behaviors, including gender, age, education, location of community (urban vs. non-urban), and participation in the labor force.

RESULTS

In this section, we present our quantitative (regression) results first, followed by a summary of our qualitative (focus group) results.

Regression Results: Behavior and Attitudes on the Part of Citizens Towards Co-production

Our multiple regression analyses examined the correlates or predictors of co-production in each of three policy areas, using two alternative measures of co-production. Table 2 shows the regression analysis of co-production behaviors (the index of five behaviors in each of the three policy area), and Table 3 shows the regression analysis of the willingness to volunteer to co-produce. The significant coefficients ($p < .05$) are shown in bold and shaded. In both tables, the predictors include efficacy of citizens, government performance, information and consultation, conditions, and demographic factors (age, education, urban, and active in the labor force) (see Table 1 for details on these independent variables, which are also described in the section above). Because the survey includes relatively large samples (approximately $n = 1,000$) for each of the five countries, we are able to conduct the regression analyses separately by country and thus compare correlates of

TABLE 2
Regression Analysis of Co-production Behaviors (Index of Five Behaviors)

Ind. Var.	Czech Republic			Denmark			Germany			France			United Kingdom		
	Safety	Environ	Health	Safety	Environ	Health	Safety	Environ	Health	Safety	Environ	Health	Safety	Environ	Health
Efficacy of citizens	0.09	0.09	0.07	0.16	0.18	0.15	0.08	0.14	0.19	0.20	0.19	0.17	0.12	0.21	0.18
Government performance	0.05	0.01	-0.03	0.00	-0.08	-0.06	-0.02	-0.01	0.08	0.01	-0.09	0.00	-0.02	-0.04	-0.06
Government information	0.01	0.04	0.03	0.00	0.06	0.09	0.06	0.05	0.01	-0.03	0.09	0.04	0.08	0.03	0.06
Government consultation	0.05	0.05	0.09	-0.05	-0.09	-0.09	0.05	0.01	-0.05	-0.01	-0.01	0.02	0.01	0.08	0.12
Conditions	-0.23	0.00	-0.03	-0.01	-0.02	0.03	-0.13	-0.01	-0.02	-0.07	-0.02	0.00	-0.07	-0.01	-0.05
Gender (female)	-0.03	0.11	0.15	0.07	0.07	0.18	-0.02	0.07	0.13	0.04	0.04	0.11	0.05	0.05	0.18
Age (in years)	0.13	0.09	0.01	0.28	0.01	0.14	0.32	0.18	0.14	0.20	0.15	0.24	0.28	-0.04	-0.01
University educated	0.04	0.05	0.08	-0.04	0.07	0.05	0.01	0.00	-0.03	-0.09	0.02	0.05	0.02	-0.06	0.04
Urban resident	-0.02	0.10	0.07	-0.04	0.03	0.03	-0.01	-0.02	0.01	0.02	0.02	0.01	-0.07	0.01	-0.01
Active in labor force	0.00	0.03	-0.05	0.06	-0.08	-0.04	0.09	-0.03	0.02	0.02	-0.03	-0.06	0.09	-0.06	-0.06
R^2	0.08	0.05	0.06	0.09	0.06	0.09	0.13	0.05	0.07	0.10	0.07	0.12	0.10	0.07	0.09
Listwise n	811	905	905	947	947	947	711	858	779	701	849	770	850	901	877

Note: Standardized coefficients shown; significant coefficients ($p < .05$) are shaded and in bold.

TABLE 3
Regression Analysis of Willingness to Co-produce (Volunteering)

<i>Ind. Var.</i>	<i>Czech Republic</i>			<i>Denmark</i>			<i>Germany</i>			<i>France</i>			<i>United Kingdom</i>		
	<i>Safety</i>	<i>Environ</i>	<i>Health</i>	<i>Safety</i>	<i>Environ</i>	<i>Health</i>	<i>Safety</i>	<i>Environ</i>	<i>Health</i>	<i>Safety</i>	<i>Environ</i>	<i>Health</i>	<i>Safety</i>	<i>Environ</i>	<i>Health</i>
Efficacy of citizens	0.18	0.17	0.11	0.28	0.25	0.21	0.09	0.18	0.25	0.26	0.20	0.17	0.26	0.28	0.18
Government performance	0.04	-0.07	-0.01	0.01	-0.06	-0.04	0.05	0.04	0.03	0.09	0.01	-0.07	0.02	-0.06	0.01
Government information	-0.03	0.05	0.03	0.03	0.00	0.02	0.06	0.02	-0.09	-0.09	0.07	-0.03	-0.03	-0.01	0.04
Government consultation	0.06	0.05	0.02	-0.09	-0.05	-0.05	-0.09	-0.07	0.03	0.04	-0.12	0.09	-0.01	-0.01	-0.01
Conditions	-0.05	-0.03	0.04	0.05	-0.02	-0.06	-0.03	-0.02	0.00	-0.03	0.05	0.00	-0.10	-0.03	-0.07
Gender (female)	0.02	0.04	0.13	0.02	-0.05	0.06	0.02	0.03	0.05	-0.05	-0.01	0.08	-0.03	-0.01	0.05
Age (in years)	-0.09	-0.09	-0.16	-0.08	-0.05	-0.06	-0.02	-0.10	-0.06	-0.01	0.00	0.00	-0.12	-0.14	-0.15
University educated	-0.04	-0.10	-0.04	-0.03	0.03	0.01	-0.15	0.01	-0.04	-0.07	0.00	-0.07	0.01	0.01	0.02
Urban resident	-0.04	-0.03	-0.01	-0.05	-0.11	-0.06	0.00	-0.09	-0.03	0.00	-0.05	0.00	-0.02	-0.01	0.02
Active in labor force	-0.01	-0.05	-0.08	-0.05	-0.06	-0.07	-0.01	-0.05	-0.06	-0.05	-0.02	-0.05	0.04	-0.03	-0.07
R^2	0.05	0.06	0.07	0.10	0.08	0.06	0.04	0.06	0.07	0.08	0.06	0.05	0.09	0.09	0.06
Listwise n	808	911	918	947	947	947	717	865	802	697	848	771	856	901	906

Note: Standardized coefficients shown; significant coefficients ($p < .05$) are shaded and in bold.

co-production across national contexts. Most of the predictors proved to be statistically significant in multiple instances (far more than would be expected, given that at the 0.05 confidence level 1 in 20 coefficients will show as significant simply by chance). However, caution should be used when interpreting statistical significance in these tables, given the number of hypotheses being tested simultaneously. Clearly, the relationships which are most likely to be robust are those which are significant across policy areas within countries, or significant within a single policy area across countries.

To begin with, it is evident that citizens' sense of personal efficacy is the most consistent and often the strongest predictor, both of co-production behaviors (Table 2) and willingness to co-produce (Table 3), across all three policy areas and all five countries. Thus, those who believe that ordinary citizens can make a difference in a policy area are more likely to be engaged in co-production behaviors themselves and more willing to volunteer to co-produce. This citizen efficacy effect is by far the most consistent finding across sectors and countries.

In contrast, satisfaction with government performance, although largely negative (or near zero), is only statistically significant in a selective number of contexts (with respect to the local environment in France and Denmark). Satisfaction with government information was largely positively correlated with co-production, although only statistically significant in two of the 15 contexts (health in Denmark and environment in France). Satisfaction with government consultation has rather inconsistent relationships with co-production across countries—although the relationship was statistically significant in four of the 15 contexts, this was twice positive and twice negative. In general, therefore, the pattern of the correlation between citizens who co-produce and those who are satisfied with government performance, information, and consultation is weak and inconsistent.

A key driver of co-production in a policy area is the perceived conditions of that area. And according to the data analysis, the perceived conditions generally seem to have a negative association with co-production behaviors (Table 2). All the statistically significant coefficients are negative in relation to conditions and almost all other coefficients are zero or negative. This is strongly the case with respect to safety—that is, better safety appears to lead very strongly to less co-production, suggesting that citizen involvement in safety co-production behaviors are in part a response to low levels of perceived safety in their community. Moreover, a negative association between conditions and co-production is also noticeable with respect to the willingness to volunteer to co-produce (Table 3), although the relationships here are weak and mostly insignificant statistically. This is particularly interesting from a policy perspective, suggesting that those who have been most goaded into co-production activities by dissatisfaction with local conditions may be already undertaking as much as they are prepared to do.

We have explored the socio-demographic factors (gender, age, and education level) in eliciting co-production from users. Women generally engage more often in co-production behaviors, particularly in the health sector (in all five countries) and in other sectors in the Czech Republic, Denmark, and Germany (see Table 2). Women appear only somewhat more willing to volunteer to co-produce (see

Table 3), again in the health sector, but the pattern is not as consistent across countries. Again, this is consistent with the hypothesis that the willingness of women to co-produce more than men has already been realized in their actual behavior, so that they are no more likely than men to be seeking further opportunities.

Older citizens are more likely to engage in co-production behaviors related to safety in all five countries, and age is more broadly related to co-production behaviors in Germany and France. However, older people generally report less willingness to volunteer to co-produce more, especially in the Czech Republic and in the UK. This is plausible, given that a sizable proportion of this group is likely to be reaching physical limits on the time and energy which they have to devote to co-production. The rather higher willingness of younger people to co-produce more may also be a reflection of the relative lack of practical opportunities for young people to volunteer in ways which fit their lifestyle—this is consistent with comments made in the focus groups.

Education has a weak and inconsistent relationship with co-production behaviors across sectors and countries (Table 2), and university-educated people appear somewhat less likely to volunteer to co-produce (Table 3), although again the pattern is inconsistent. This is highly at variance with international evidence that participation in general is strongly correlated with level of education. It may indicate that the participation literature is highly focused on more consultative “participation,” rather than the preventative and service delivery behaviors on which we focused.

There seems to be little relationship between living in an urban area and co-production behavior (Table 2), although urban residence is occasionally inversely related to the willingness to volunteer (specifically in environmental matters in Denmark and Germany). Being active in the labor forces also has a generally weak and inconsistent relationship with co-production behavior, having a positive relationship with safety co-production in Germany and the UK but a negative relationship with environmental co-production in Denmark.

In sum, the most consistent and largest predictor of both co-production behavior and willingness to volunteer across sectors and countries turned out to be citizens’ sense of efficacy (which, given the question we asked in the survey, should be interpreted as “political efficacy” in the sense discussed above). Because of this, we ran an additional set of regression models to look at the extent to which the other independent variables might predict or explain efficacy. In other words, we wanted to examine the extent to which these other variables might have effects on co-production through efficacy—by considering efficacy as a possible mediator of the influence of these other variables.

The results are shown in Table 4. Again the pattern of predictors is complex across sectors and countries, but there are some discernable patterns. Satisfaction with government performance is positively related to efficacy, as is satisfaction with government information (especially in Germany). The perceived conditions in a policy area also relate positively to efficacy, indicating that more safety, a cleaner environment, and better health may enhance citizens’ sense of efficacy. Thus, while good conditions may directly dissuade citizens from co-production (as was evident

TABLE 4
Regression Analysis of Efficacy of Citizens

<i>Ind. Var.</i>	<i>Czech Republic</i>			<i>Denmark</i>			<i>Germany</i>			<i>France</i>			<i>United Kingdom</i>		
	<i>Safety</i>	<i>Environ</i>	<i>Health</i>	<i>Safety</i>	<i>Environ</i>	<i>Health</i>	<i>Safety</i>	<i>Environ</i>	<i>Health</i>	<i>Safety</i>	<i>Environ</i>	<i>Health</i>	<i>Safety</i>	<i>Environ</i>	<i>Health</i>
Government performance	0.04	0.09	0.02	0.06	0.08	0.12	0.11	0.20	0.05	0.10	0.06	-0.01	0.12	0.12	0.08
Government information	0.07	0.01	0.01	-0.01	0.02	0.06	0.18	0.11	0.04	0.00	0.00	0.02	-0.06	0.05	0.01
Government consultation	0.01	0.06	0.09	0.01	-0.04	0.02	0.03	-0.09	0.02	-0.04	-0.03	0.03	0.07	0.03	0.04
Conditions	0.00	-0.02	0.14	0.07	0.07	0.06	0.14	0.09	0.11	-0.01	0.03	0.07	0.20	0.15	0.10
Gender (female)	-0.03	0.04	-0.01	0.02	0.08	0.06	-0.03	-0.01	0.04	0.03	0.07	0.04	0.02	0.11	0.05
Age (in years)	-0.20	-0.20	-0.08	-0.05	-0.17	-0.19	-0.17	-0.24	-0.15	0.02	-0.02	0.04	0.00	-0.01	-0.04
University educated	0.05	0.03	0.12	0.05	0.02	0.09	0.05	0.06	0.10	0.07	0.18	0.08	0.04	0.07	0.09
Urban resident	0.04	-0.01	-0.03	0.04	0.03	-0.01	-0.06	-0.03	0.10	-0.04	-0.02	-0.04	0.03	0.03	-0.03
Active in labor force	0.01	-0.02	-0.01	0.11	0.05	-0.03	0.10	0.02	0.08	0.00	0.00	0.00	0.06	0.02	0.06
R^2	0.06	0.06	0.06	0.04	0.05	0.08	0.17	0.14	0.09	0.02	0.04	0.01	0.08	0.08	0.05
Listwise n	816	916	920	947	947	947	730	874	815	704	853	777	860	908	911

Note: Standardized coefficients shown; significant coefficients ($p < .05$) are shaded and in bold.

with respect to safety in Table 2), good conditions may indirectly encourage co-production through enhancing citizens' sense of efficacy. Women seem to have a somewhat heightened sense of efficacy, particularly with respect to the environment. Older citizens generally have a lower sense of efficacy (particularly in the Czech Republic, Denmark, and Germany). University-educated citizens sense more efficacy in health matters. Efficacy does not seem to depend much on urban residence, and being active in the labor force appears positively related to efficacy in a few sectors in some countries (Denmark and Germany).

Focus Group Results: The View from Service Providers and Organized Stakeholders

As mentioned above, 15 focus groups were conducted with key officials and stakeholders (including representatives of user groups) in the three policy areas in each of the five countries. Table 5 shows the location and general profiles of the participants in of each of the focus groups. A common issue in many of these focus groups (across sectors and countries) was that citizens, by and large, were expected to be unwilling co-producers because they expect the state to provide the services. It was often suggested that citizens would be less willing to co-produce in services like safety and local environmental improvement, which are seen to be “collectively” provided, while they were seen as more likely to co-produce in health, where they saw a role for their own action. Nevertheless, in each of the countries examples were given of co-production initiatives in all three fields engaging citizens either collectively or individually.

A second issue in some focus groups was the role of professionals—e.g., the confrontation in some policy areas (i.e., health) between ever better informed patients and professionals or the dismissal of co-production by professionals on the grounds that users were not knowledgeable about the services provided (especially in health but also in local environmental improvement). Doctors in focus groups could clearly see the need for patients to co-produce their recovery by following their prescriptions—an important if rather passive co-production role on the part of patients. However, they were much less likely to welcome more active roles of patients (i.e., seeking information in the internet and suggesting particular treatments). Moreover, even in a country like the UK, where at least annual consultation between general practitioners (GPs) and patients is mandatory, most GPs satisfy this requirement by just meeting a group of their patients to discuss the results of the annual patient satisfaction survey—a relatively thin form of engagement. The focus groups suggested that GPs generally do not view it as useful to engage, even to this extent, with patients. Further, it was suggested that local politicians in charge of health issues in some of the surveyed countries were less supportive of user involvement than was advocated by official government initiatives. There was a feeling in the focus group sessions in the UK that elected politicians were disengaged from the public, whose “voice gets lost in the sausage machine of the democratic process.” Several participants suggested that even local authorities were far down Arnstein's ladder of participation, although health agencies were seen as even lower (e.g., professionals from

TABLE 5
Profiles of the Focus Groups

<i>Country</i>	<i>Policy Field</i>	<i>Total Participants</i>	<i>Background of Participants</i>
Czech Republic	Community safety	7	Representatives from state police (two), city police (two), Supreme Court, a local Probation and Mediation Service, Union of Public Sector Employers
	Health	6	Representatives from Ministry of Health, Association of General Practitioners, Association of Czech Consumers, Czech Association of Social Workers, plus a doctor working in an elderly person's home and a doctor researching in a university
	Local environment	8	Representatives from the Ministry of Environment, Ministry of Finance, the National Network of Clean Cities, a town council, the national Institute for Structural Policy, plus two university professors working on local environmental policy and one representative from an environmental services provider
Denmark	Community safety	6	Representatives from the Prisons Directorate (two), a regional government, the corporate center of a municipal council, a municipal Social Services Department, a municipal Youth Service
	Health	8	Representatives from Ministry of Health Care and Pensions (two), health service agencies (three), hospital management (two), and health department of a municipal council
	Local environment	7	Seven officials working on environmental policy in municipal councils, including officers responsible for

(Continued)

TABLE 5

Continued

<i>Country</i>	<i>Policy Field</i>	<i>Total Participants</i>	<i>Background of Participants</i>
France	Community safety	6	environmental planning, refuse service, recycling, and Agenda 21 issues Representatives from Ministry for Youth and Sports, a municipal police service, municipal Community Safety and Crime Prevention Partnership, municipal Department of Neighborhood Management, a Department of Neighbourhood Management in a Paris District, a Neighborhood Council in a Paris District
	Health	5	Two hospital doctors, one doctor in PREPSY Network, one member of Onco 94, one member of ARCAT Association
	Local environment	6	Representatives from municipal council departments (including Department of Parks and Open Spaces and Department of Neighborhood Management), local water agencies, a Neighborhood Council, plus a college lecturer
Germany	Community safety	6	Representatives from Department for Interior and Sports, Berlin police service (two), a nongovernmental organization (NGO) in probation, and an NGO for youth offenders (two)
	Health	5	Representatives from a public hospital, Berlin patients' advocacy service, the health visitor service, a care home for the elderly, and a local social care provider
	Local environment	8	Representatives from Federal Ministry of the Interior, Department for Environment

(Continued)

TABLE 5
Continued

<i>Country</i>	<i>Policy Field</i>	<i>Total Participants</i>	<i>Background of Participants</i>
			and Nature in two Berlin districts, German Society for Waste Management, Independent Institute for Environmental Issues, Federal Agency for Consumer Protection and Food Safety, plus two private sector landscape architects providing environmental consultancy services
United Kingdom	Community safety	6	Representatives from Association of London Councils, Courts Service, IDeA (Local Government Improvement and Development Agency), Community Safety service in a London Borough Council, UK Neighbourhood Watch Trust (two)
	Health	8	Representatives from a Local Health Partnership, a Mental Health Trust (one official, one consumer representative), a council social services departments (three, including one customer relations manager), Picker Institute Europe (representing patients), National Consumer Council
	Local environment	6	Representatives of IDeA (Local Government Improvement and Development Agency), a London Borough Waste and Recycling Service, an Energy Adviser from a municipal council, ENCAMS (the Keep Britain Tidy national NGO) (two), Chartered Institution of Waste Management

the Primary Care Trusts (PCT) are mandated to consult and involve service users, but are often perceived to do it “only because they have to”). One focus group participant stressed that “PCT strategies are now more about health and illness prevention, rather than illness treatment, which should increase the emphasis on user involvement.” However, other participants perceived the British government’s agenda at the time to be about saving money in acute and primary care, where users typically have a lesser role.

A third issue that arose often in the focus groups across countries was the lack of skills on the part of civil servants on how to foster co-production. As one participant in the UK health sector put it, “[i]t’s not a lack of willingness; clinicians want to involve users but don’t know how. But being required to do it actually frightens people and makes them less confident.” Another agreed that the issue now is not whether to involve patients but how to do it.

A fourth issue was that little is known about the impact of co-production initiatives. This was a theme in many different focus groups across sectors and countries. Participants normally agreed that there has been no evaluation of the long-term effects of co-production in the fields in which they were engaged. For instance, while they were aware of a lot of discussion about “prevention” in relation to health issues, it was unclear how much citizens actually did to take care of their health and what effects might be produced by increased responsibility and pro-health activities on the part of citizens. As one participant remarked, “[w]e have no data and information on whether we now eat and drink better than before.”

A fifth issue that focus groups suggested was very common in the environmental sector of all countries was recycling. Many participants felt very strongly that a change towards more co-production (i.e., more involvement in recycling, less littering, and the like) can only be brought about by market forces, not by the public sector. In the words of one participant, “[w]hen people can save money by protecting the environment, they will go for it.” One example is how supermarkets are moving to “green” and “organic” brands, as they realize that the days of “cheapest is best” are numbered. However, this was disputed in one of the focus groups in the UK, as it was reported that ENCAMS (an environmental nongovernmental organization) was wary of purely monetary incentives as a means to improve the local environment—some of its experiments have indicated that teenagers would need to be given £20 to pick up any litter at all! Another participant put a different gloss on this: “Give people a relevant incentive and they will co-produce a better environment.” The challenge then is to find the relevant incentives for different groups.

The overall perspective of focus groups varied significantly between the five countries. For different reasons, many Czech and French officials and stakeholders gave the impression that co-production was not appropriate for their fellow citizens. Indeed, many confessed it was the first time they had heard of the concept of “co-production” in connection with public services. In some cases, there were felt to be specifically local factors behind this—e.g., the Czech focus group suggested strongly that citizens still distrusted the police because they were associated with the former repressive communist regime, so citizens were reluctant to co-produce with them. The police had also been distrusted in Germany in the past and only

recently have citizens become more willing to pass on important information to the police. As one participant pointed out, this is a remarkable change of attitudes in Germany where “citizens used to be afraid of people in positions of power but now have become much more self-confident.”

The presence of the state in French society is also considerable. For instance, the participants of one focus group in France expressed the view that the mayor is seen to be—and to some extent is legally—responsible for every problem, even when it concerns environmental issues which are actually beyond the responsibility of the local council. However, the mayor is the most visible and direct interface between the public sector and citizens, which is why he/she has an important role in citizen participation. Also, the French tradition since the revolution is to define the mayor as the “premier magistrat,” the local representative of the “indivisible republican state.” This naturally reduces the pressure on citizens to consider it their duty to co-produce outcomes.

The United Kingdom, at the time of the survey in 2008, had the highest level of governmental effort to foster collective and individual co-production levels in different policy areas. For instance, the Local Government and Public Involvement in Health Act 2007 introduced a general “duty to consult” service users on any planning or operational decisions which would have a significant impact upon the range of services available and how they are delivered. As a result of such initiatives, the language around local authority services changed, giving a greater emphasis to user involvement, particularly in adult care services. The successful introduction of individual budgets for people with disabilities has gradually led to the wider spread of self-directed services, along with individual budgets, to many users of social care services.

Moreover, the underlying philosophy of co-production was deeply embedded in community safety, where the UK had 160,000 Neighbourhood Watch groups in 2008, with about 10 million individual members (from about 6 million households). However, in spite of this nationwide network of Neighbourhood Watch schemes, the UK focus groups suggested that people generally feel uneasy about getting involved in specific issues around community safety. For example, a participant in one focus group drew attention to the difficulty of attracting volunteers to act as mentors to offenders—in spite of interesting experiments in some parts of England, the coverage is still sporadic and the major effort involved often produces only small numbers of qualified mentors (partly because of the rigor and bureaucracy involved in the police checks involved). However, the UK community safety group believed that the general reluctance of people to get involved in community safety issues changes once citizens have been personally affected by crime. Population churn and community instability were also seen as undermining the potential for higher co-production in community safety. Finally, the paradox of “problem-driven” co-production was revealed by one official: “If we are successful in crime prevention there will be fewer volunteers because everybody feels safe.”

In the Danish focus groups it was often mentioned that citizens are likely not to be willing co-producers in the service areas studied, because they consider their civic duty finished when they have paid their taxes, with the state being responsible for

provision of those services. Nevertheless, many Danes are members of associations (especially sport clubs) (Schofer and Fourcade-Gourinchas 2001), in which they undertake activities which in other countries would be state-provided—this suggests real scope for co-production. On the other hand, focus group members suggested that young people from deprived areas often perceive government to be the problem and not the solution, because they have been excluded from schools, the social welfare system, and other institutions and public officials have problems in reaching them. As a result, disadvantaged communities have become self-organized and have tried to cope without the state—this is not co-production with the public sector but rather a substitute for it.

Finally, the discussions in the German focus groups highlighted many examples of co-production, although participants often confessed that the label was also new to them. There were some indications on how to better elicit co-production (by trying to engage those who are personally affected by a problem) and not looking for the generic involvement of users (this point was also made in focus groups in Denmark and UK). In many of the focus groups, practitioners suggested that “people only get engaged when they are concerned personally” (participant in community safety group in Germany). Further, discussions suggested that successful collective co-production is more likely around dealing with specific problems, rather than around generic participatory activities. As one participant suggested, “[i]f prevention includes specific actions in order to tackle a given problem, citizens are more interested in participating than in abstract round tables.”

DISCUSSION AND POLICY IMPLICATIONS

Using data from an original survey of citizens in the UK, France, Germany, Denmark, and the Czech Republic—combined with qualitative evidence from focus groups with service providers and stakeholders—we have analyzed correlates of citizen co-production of public services in three key policy areas: public safety, the environment, and health. We found that women and older citizens generally engage more often in co-production. The finding that women are more likely to be co-producers than men is consistent with research that has identified a higher support for the public sector among women than among men, partly because public sector organizations employ more women and the public sector has taken over some care responsibilities of women (Christensen and Laegreid 2005).

Likewise, the high engagement of elderly people in co-production compared to younger people is also consistent with findings that older people trust more in government, due to their more collective orientation and their firsthand experience of building up the welfare state (Christensen and Laegreid 2005). Although the link between trust in government and co-production has not been explored in this article, these findings highlight the fact that elderly people show higher willingness to cooperate with the public sector and to participate in voluntary work (see Erlinghagen and Hank 2006).

Besides exploring the association of several socio-demographic factors with co-production, we have made three claims. Firstly, it was expected that pluralistic

administrative traditions (like the UK) or traditions with more autonomous citizens like Denmark would have higher levels of co-production. The results show that the highest level of co-production is in the United Kingdom, providing at least some preliminary evidence in support of this hypothesis. However, it turned out to be lowest in Denmark—this may be connected with the finding that those most satisfied with public services are least likely to get involved in co-production, since Danes were the most satisfied of all five populations with conditions in all three services (Table 1).

Of course, with just five countries in the sample, it is difficult to ascertain whether these differences are truly related to institutional variations in the administrative context or tradition, rather than any of the many other factors that differ across national contexts. What has been established here is both that the levels of self-reported co-production vary greatly between countries and that the drivers of co-production also vary greatly. This gives a signal to researchers that there may well indeed be important differences, worth researching, in co-production behavior across countries and, perhaps, across administrative traditions.

Secondly, it was also expected that highly professionalized services like health would trigger less co-production because health professionals are likely to be more reluctant to let users take part in the co-production of services. Focus group discussions showed that many professionals were not willing to give up power, particularly those who continue to believe that they know best what is good for their users and that it is their job to provide services for people who are dependent on them. In practice, the survey results showed less co-production activity in health in all five countries than local environmental improvement—but health actually scored better than community safety in four of the five countries, a result which we hope to probe more fully in further work.

Thirdly, we claimed that the role of intrinsic rewards, especially the expected self-efficacy of users, would have an impact on service co-production. We found that political self-efficacy—the belief that citizens can make a difference—is an especially important determinant across sectors. Further, self-efficacy seems to be linked also to (good) performance of governments in service delivery. However, it is important to caution that self-efficacy could be endogenous, in the sense that existing coproduction levels in society could influence citizens' sense of self-efficacy, or an unmeasured variable (such as community or personal values) could be influencing both the sense of self-efficacy and the willingness to engage in co-production behavior. Nevertheless, our findings at least suggest that more attention should be paid to the role of intrinsic rewards and self-efficacy in future co-production research.

Interestingly, we also found that good performance (in the sense of a safe neighborhood, a clean environment, and good health) seems to have a negative direct effect on co-production, suggesting that co-production may depend in part on awareness of a shortfall in public performance, in line with the results reported by Marschall (2004). However, good performance may have a positive indirect effect on co-production, in turn, by enhancing citizens' self-efficacy. Our results also provide some evidence that co-production is enhanced when governments provide information or engage citizens in consultation. The specific determinants vary, however, not only by sector but across national contexts.

In our survey, we did not ask specific questions on trust in government. From other surveys and secondary studies, we know that the trust in government may vary across time and, especially, across countries. A study by Van de Walle, Van Roosbroek, and Bouckaert (2008), reviewing different survey data, reveals that the level of trust in government has not declined over the years, in spite of commonly made assertions. While the level of trust in the 1980s and 1990s increased in Denmark and in Germany, it remained stable in the United Kingdom and declined in France and in the Czech Republic. From the data (Table 1), one can see that co-production levels are relatively high in Germany and the UK, while low in France and Czech Republic. Therefore, higher co-production levels cannot be associated with relative distrust in government, although they are indeed associated with lower levels of satisfaction with services—this is consistent with the findings of Cowell et al. (2009) that there is no consistent relationship between citizen trust in government and citizen satisfaction with public services.

Finally, this research has thrown up a major challenge to the public sector—citizens report a level of engagement in activities relevant to improving the outcomes of public services that is considerably in excess of that expected by local public officials and members of stakeholder groups. While we did not specifically collect survey evidence from these organizational respondents, the contrast between the evidence from the focus groups and the survey responses suggests that public sector officials have only a very limited understanding of the co-production activities that are going on in their field and in their geographical area. This further suggests that user and community co-production of public services is not properly understood, never mind systematically managed, so that its potential benefits are not currently being maximized. This suggests the need for further research on why this is and what might be done to bring the perceptions of public sector officials better into line with reality.

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