



Occupational inequalities in volunteering participation: Using detailed data on jobs to explore the influence of habits and circumstances

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Abstract

In this paper we present empirical results that show that detailed occupations have distinctive patterns of association with voluntary participation. We draw upon data from four secondary survey datasets from the UK (coverage 1972–2012). Occupations are shown to link to volunteering in a wide range of scenarios and in individual, household, and longitudinal contexts. We argue that these linkages provide insight into social inequalities in volunteering, and that they can help us to understand the relative influence of “circumstance” and “habits” in enabling or inhibiting voluntary participation.

KEYWORDS

multilevel models, occupations, social class, social stratification, volunteering

1 | INTRODUCTION

Volunteering is an important component of the social fabric of contemporary wealthy countries. Services supported by volunteers provide contributions to a wide range of welfares, and are proactively encouraged by national and local governments (e.g., Ishkanian & Szreter, 2012). Voluntary organizations are also thought to enhance social cohesion and trust (e.g., Paxton, 2007), and to benefit volunteers, for instance with improved employability (e.g., Ellis Paine, McKay, & Moro, 2013; Kamerade & Ellis Paine, 2014; Wilson, Mantovan, & Sauer, 2019; Wilson & Musick, 2003) and well-being (e.g. Binder & Freytag, 2013; Konrath, 2012; Nichols & Ralston, 2011; Wheeler, Gorey, & Greenblatt, 1998). Nevertheless voluntary participation is socially structured. In general, formal volunteering—“giving unpaid help through groups, clubs or organisations to benefit other people or the environment” (Rochester,

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Paine, & Howlett, 2010, p. 21, referring to the UK Citizenship Survey definition)—is more often undertaken by those with higher levels of education and those in more favorable socio-economic circumstances; by the younger and older rather than mid-aged; by women rather than by men; by host-country nationals rather than immigrants or ethnic minorities; and by those not living with disabilities (e.g., Alesina & La Ferrara, 2000; Dean, 2016; Lindsey & Mohan, 2018; Musick & Wilson, 2008; Rochester et al., 2010, c4; Shandra, 2017; Valentova & Alieva, 2018; Voicu & Serban, 2012; Wilson, 2000; Wilson & Musick, 1997). Some authors have highlighted issues of social inclusion in voluntary participation and explored strategies to reduce social inequalities in engagement (e.g., Rochester et al., 2010, c14).

Amongst other social inequalities, volunteering is associated with occupations. Wilson and Musick (1997) demonstrate that volunteering is more common for people in public sector occupations, for those in relatively more socio-economically advantaged occupations, and for those in occupations that provide skills relevant to the needs of specific volunteering roles (see also Kamerade 2009; Lengfeld & Ordemann, 2016; Paxton, 2007; Rotolo & Wilson, 2006). Based upon occupational indicators, many studies find that more advantaged jobs are associated with greater levels of volunteering, explained through greater flexibility and autonomy (Musick & Wilson, 2008); human capital (Wilson et al., 2019); and social connections (Wiertz, 2015).

Previous studies, however, have used quite simplistic measures of occupational status, most often operationalized as simply three or four categories based on high-level occupational classifications. Relatively more sociological information is captured by occupational data—in particular, recent interest in occupational “microclass” inequalities has shown that quite specific occupational differences are related to an array of social outcomes, grounded in the premise that occupations and their host organizations instil distinctive but consequential cultures and experiences upon their incumbents in a fine-grained manner (e.g., Weeden & Grusky, 2012). In the analysis that follows we show that enhanced insight about social inequalities in volunteering can be gained from using occupational information in more extended depth than has previously been common. In particular, we argue that data on occupations can help us better evaluate the relative roles of “circumstances” and “habits” as influences upon volunteering.

2 | HABITS, CIRCUMSTANCES AND OCCUPATIONS AS INFLUENCES UPON VOLUNTARY PARTICIPATION

Recent longitudinal evidence has suggested that volunteering is often a stable, lifetime orientation, that is relatively robust to the vagaries of other life changes (e.g., Dawson, Baker, & Dowell, 2019; Lancee & Radl, 2014; McCulloch, 2014; Mohan & Bulloch, 2012; Taylor-Collins, Harrison, Thoma, & Moller, 2019). Likewise, sociological theories of volunteering often emphasize the influence of structural circumstances that may support or discourage volunteering and that tend to be largely stable over time—for instance, people’s “human capital,” such as their qualifications and occupational skills, and their “social resources,” such as their networks and contacts (e.g., Wilson, 2000). In spite of this, policy-oriented literatures (and voluntary organizations themselves) often focus on the ways in which more localized and transient factors might encourage or discourage volunteering (e.g., Rochester et al., 2010, c14). As a device to foreground this divergence—and because we will argue that occupational data provide a helpful tool to study it—we suggest a conceptual distinction between “circumstances” and “habits” as influences upon voluntary participation.

“Circumstances” might be thought of as direct, tangible factors that can inhibit or enable an individual’s ability to volunteer, but that are, in principle, readily changed (for individuals), or adapted to (by organizations). Time availability is often cited as an inhibiting “circumstance” in UK research, but many other barriers are also often mentioned (e.g., Low, Butt, Ellis Paine, & Davis Smith, 2007, as discussed in Rochester et al., 2010, pp. 193–200). Some barriers may be easy to recognize and communicate (for instance, childcare responsibilities, a lack of resources for transport, or a lack of knowledge about relevant opportunities). Some circumstances, however, may constitute barriers through a more indirect route (for instance, gender might inhibit participation if an organization uses gender-biased recruitment). Enabling “circumstances” may also facilitate volunteering—for instance, surplus

wealth to purchase relevant equipment; a privileged job that provides autonomy over working hours; a skill or capacity that enables a prospective contribution. Whatever the focus, we conceptualize circumstances as scenarios in which individual volunteering is responsive to specific lifestyle arrangements. Crucially, the relevant arrangements could be changed and/or adapted to: this may be through a personal change, such as young dependent children reaching school age; or through a change in organizational support, such as a transport subsidy.

We conceptualize “habits” by contrast as individuals’ capacities, orientations, or propensities towards or against volunteering, which are maintained more or less irrespective of immediate lifestyle arrangements. Longitudinal evidence of persistent volunteering might suggest the influence of “habits.” For instance, Dawson et al. (2019) decompose empirical persistence in volunteering and suggest that around two-thirds of it might be explained by “... unobserved heterogeneity or underlying behaviours of individuals,” propensities akin to what we label as “habits” (see also Lancee & Radl, 2014). The development of volunteering as a habit is also supported by Taylor-Collins et al. (2019), who show that habits of social action formed by adolescents are predictive of their participation. “Habits” themselves may be substantially shaped by social background—for instance, values ingrained in childhood. Dean (2016) argues that the Bourdieusian concept of “habitus” (often understood as a person’s structurally driven, learned social orientations) influences voluntary participation (although we prefer the term “habits” to avoid implying a specifically Bourdieusian approach). “Habits” could also include quite personalized or psychological factors—for instance, Rochester et al. (2010) argue that some individuals don’t volunteer because they lack the self-confidence and self-esteem to believe that they could make a useful contribution.

If the difference between circumstances and habits as influences upon voluntary participation is worth investigating, our key argument is that detailed occupational data can make a useful contribution to this end. The social sciences in general, and the UK in particular, benefit from access to many larger scale secondary survey and administrative microdata resources that include data on organized voluntary participation (e.g., Li, 2015), and, amongst other information, detailed occupational records (that is, relatively fine-grained information on occupational titles, such as the 400 or so categories of a standardized occupational taxonomy). As far as we are aware, detailed occupational data hasn’t previously been extensively analysed in terms of voluntary participation, but it might shed insight on volunteering in two ways.

First, detailed measures might often be the best available empirical proxy for other important influences. Occupations link to numerous important inequalities of experience that may influence volunteering. These include, but are not necessarily limited to, inequalities in socio-economic advantage; educational and training background; flexibility and autonomy in working activities and time use; circumstances of security or precarity; social networks and social capital; volume of and control over leisure time; demographic circumstances; and even systematic patterns in health and well-being (e.g., Oesch, 2013; Rose & Harrison, 2010). In principle, such factors could be directly measured in a social survey instrument, and their influence disentangled from others. Nevertheless, in practice, many such concepts may not be measured directly at all, or even if they are, they may be measured or analysed imperfectly; accordingly rich occupational data might often capture their indirect influence.

A second way that occupations might link to voluntary participation is if occupations define important social entities characterized by a shared cultural milieu. Previous studies in the microclass tradition have shown that occupational institutions that are otherwise very similar in terms of objective work arrangements still show residual differences in their empirical patterns, a finding that has been attributed to the shared cultural orientations and lifestyles of those in that occupation (e.g., Weeden & Grusky, 2012). For our purposes, therefore, if an occupation has a distinctive pattern of voluntary participation that does not seem to be the proxy function of another factor, it is plausible that the pattern reflects the influence of the shared cultural milieu of the incumbents of that occupation. To give an example, our results suggest that several occupations linked to the finance sector in the UK (bank managers, financial managers, marketing managers, sales representatives) have, net of controls, average or above average voluntary participation, but below average levels of civic participation, and below average patterns in sustaining voluntary participation through time (Table 6). This interesting pattern might suggest the influence in these domains of an individualistic work culture—perhaps people in these occupations will often make voluntary inputs when it suits them, but will steer clear of sustained commitments, memberships, or obligations.

As illustrated in the example above, detailed occupational data may provide enough information to support reasonable “post hoc” interpretations of the sociological mechanisms driving an empirical pattern. That is, given a distinctive association between participation and a detailed occupational code (net of other controls), it might be reasonable to speculate about the underlying mechanism that accounts for this relationship, given other knowledge about the occupation in question. Confident adjudication may require further analysis, perhaps with new controls for other direct measures, and there may be a good case for undertaking supplementary qualitative analysis to investigate further (e.g., Friedman & Laurison, 2019; Harding & Seefeldt, 2013). Critically, however, measures of detailed occupations may provide an efficient tool to identify (perhaps unanticipated) statistical patterns in volunteering.

Whether occupational data is helpful in this domain will hinge upon two empirical questions that frame the research analysis that follows. First is whether detailed occupational data does provide significant improvements in statistical fit in predicting outcomes related to organized voluntary participation, net of other controls. Second is whether differences between specific occupations in their relationships to organized voluntary participation can help us to suggest and adjudicate between plausible mechanisms that influence voluntary participation. As we will illustrate in the analyses below, we believe that there is a compelling argument that occupational data can readily be used to provide new ideas about the relative influence of “habits” and “circumstances” upon voluntary participation.

3 | DATA AND METHODS

Table 1 summarizes the four secondary datasets from which we present results. Each study is designed to support analysis that is nationally representative (subject to adjustments for sample design and response). It is useful to use multiple datasets because they span several different measurements of voluntary participation, as it is recognized that the way in which voluntary participation is recorded can be consequential to results (e.g., Rooney, Steinberg, & Schervish, 2004). In addition, the datasets span several different measures of occupations and by including the Oxford Social Mobility Inquiry (SMI, see University of Oxford and Oxford Social Mobility Group, 1978), the datasets span the UK from 1972 to 2012.¹ Two of the datasets, the British Household Panel Study (BHPS, see University of Essex and Institute for Social and Economic Research, 2010) and the Understanding Society study (also known as UK Household Longitudinal Study, UKHLS, see University of Essex and Institute for Social and Economic Research, 2018) include extensive longitudinal data on many respondents, which we can use to summarize trajectories of voluntary participation over time. Extracts from the BHPS, UKHLS, and Home Office Citizenship Survey (HOCS, see Home Office, 2006) have been used in previous studies of patterns of voluntary participation (e.g. Dawson et al., 2019; Kamerade, 2009; Kitchen, Michaelson, Wood, & John, 2006;

TABLE 1 Summary of datasets

	Data on volunteering	Data on occupations	Years used
British Household Panel Study (BHPS)	Volunteering activity (waves 6, 8, 10, 12, 14, 16, 18); Association memberships (waves 1–5, 7, 9, 11, 13, 15, 17);	SOC90 (3-digit, 363 units in data)	1991–2008
Understanding Society (UKHLS)	Volunteering activity (waves 2, 4); Association membership (w3)	SOC2000 (4-digit, 352 units)	2010–2012
Home Office Citizenship Survey (HOCS)	Volunteering activity and association membership (with detailed data on types of activity/organization (2001, 3, 5, 7, 8, 9, 10)	SOC2000 (4-digit in 2005, 331 units in data (2-digit in other years))	2005
Oxford Social Mobility Inquiry (SMI)	Association memberships	CO-1970 (3-digit, 220 units in data)	1972

Mohan & Bulloch, 2012) and civic association membership (e.g., Li, 2015; Li, Savage, & Pickles, 2003; Li, Savage, Tampubolon, Warde, & Tomlinson, 2002; Sturgis, Patulny, Allum, & Buscha, 2015).

Table 2 and Figures 1–3 summarize measures related to voluntary participation that we use. These are derived from various available indicators in the datasets. Table 2 summarizes a direct question on voluntary participation for the BHPS—responses are analysed as an ordinal outcome in statistical models. As we use multiple waves of the BHPS, we can use more than one answer from the same individual over different years—the first column in Table 2

TABLE 2 Volunteering participation questions in BHPS and HOCS

BHPS (1996, 98, 2000, 02, 04, 06, 08)			HOCS (2005)	% yes
"lactl", "How often....do you do unpaid voluntary work?"				
% of records				
% ever in categ.				
At least once a week	5.2	10.7	Civic participation in last 12 months	35
At least once a month	3.9	9.6	Informal help in last 12 months	65
Several times a year	5.1	12.3	Formal volunteering in last 12 months	41
Once a year or less	6.2	16.8	Employer volunteering in last 12 months	9
Never/almost never	79.6	90.2	Formal, informal or employer vol. in last month	73
N records (people)	55,718 (16,955)		Formal, informal or employer vol. in last month	49
			Categories derived from detailed measures of type and level of activity (e.g., 13 forms of civic activity, 12 types of informal help, etc).	

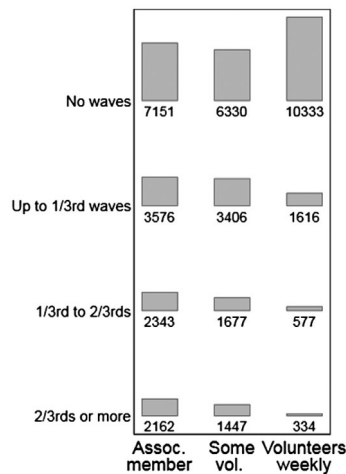


FIGURE 1 Regularity of volunteering for BHPS respondents. Figure shows volume of respondents by the proportion of BHPS waves in which they reported the relevant participation (sample limited to those present for 3 of more waves when relevant questions were asked—approx. 12k respondents on volunteering and 15k on association membership)

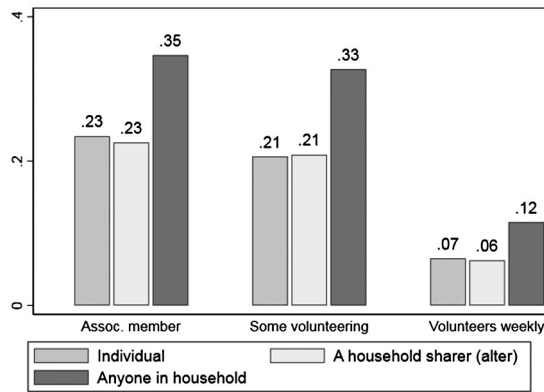


FIGURE 2 Individual, household, and alter volunteering patterns in the BHPS. Figure shows the proportion of respondents personally engaged in voluntary participation, and the proportion of respondents living in households where either any household member is engaged in voluntary participation (including themselves), or where a household sharer ("alter") is engaged in volunteering

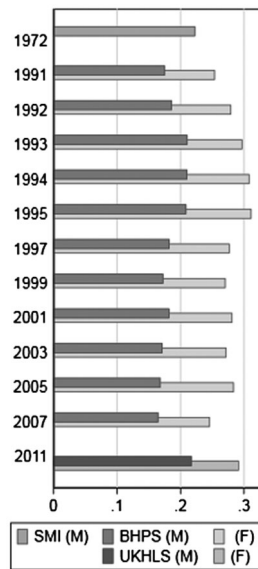


FIGURE 3 Civic association memberships in the UK, 1972–2011

shows the breakdown of responses from all valid records (55,718, from 16,955 different individuals), whilst the second column shows what percentage of the 16,955 people were ever recorded in that category, in any year that they answered the question. The HOCS and UKHLS have similar but not identical questions about participation (the UKHLS measure is sufficiently similar that our analysis used a post-hoc harmonization designed to mimic the BHPS measure²). Table 2 also summarizes derived measures based upon the HOCS questions on voluntary activity. The HOCS has extensive information on civic participation and volunteering (as well as numerous supplementary questions about these activities that we did not exploit). "Civic participation" (for instance, membership of a club or society) is an important category of data on voluntary participation, and the BHPS, UKHLS, and SMI surveys feature similar (but not identical) questions covering civic participation (see, e.g., Figure 3).

Forms of voluntary participation are many and varied, and our measures do not necessarily assess all nuances of volunteering patterns. Like most literature, our analysis is weighted towards evidence on formal volunteering, which is also traditionally the focus of policy makers and volunteer-involving organizations (Williams, 2003). However, while the measures used by HOCS specifically distinguish formal and informal volunteering (Table 2), and the survey questions on civic participation will by definition involve an organization, the questions on active volunteering that we use from the BHPS and UKHLS (e.g., Table 2) do not unambiguously distinguish whether an external organization is involved.

Figures 1 and 2 summarize how variations over time and across households in selected questions across the datasets were analysed. For those who answered the same question in 3 or more years within the BHPS, longitudinal profiles of voluntary participation were summarized according to the proportion of time points in which individuals engaged in voluntary activities. As is evident from Figure 1, the “civic cor” (Mohan & Bulloch, 2012) of people who are regular and persistent over time in their voluntary participation is quite small (14%, 11% and 3% for association membership, “some volunteering” and “weekly volunteering”, respectively), and there are generally as many or more respondents who contribute occasional volunteering that is not as persistent through time. This implies that measures based on longitudinal trajectories of volunteering have the potential to reveal different participation inequalities than those based only upon current behaviors.

Since all adults resident in a responding household are interviewed in the BHPS and UKHLS, for these datasets we were also able to construct measures indicative of responses on volunteering in the household as a whole. Figure 2 illustrates a measure indicating whether or not anyone in the household records the relevant participation, and, for residents of multi-person households, whether or not somebody else in the household participates. Both of these measures are of interest because it is plausible that aspects of an individual's occupation could foster circumstances or habits that influence the voluntary participation not just of themselves, but of their household sharers—an important sociological context that arguably deserves more research attention (e.g., Steele, Clarke, & Kuha, 2019).

Figure 3 summarizes data on civic association membership in the UK as recorded on the SMI, BHPS, and UKHLS. The surveys capture data on membership of different types of organization but most of our analyses use a single derived indicator, of whether or not respondents were members of any of the following types of civic organizations (ranked in order of the most common): religious groups; parents' associations; voluntary service groups; community groups; political parties; tenants' groups; and environmental groups. Data was also available on memberships of trade unions, other labor related organizations, organizations about gender, and sports organizations, but we excluded these from our derived measure (following Sturgis et al., 2015, on the grounds that these organizations represent “isolated” forms of civic participation which differ from other domains of participation). We considered several alternative categorizations of organizations, but variations in the results in terms of which operationalization was used seemed minimal. Although the components of association membership are similar across the surveys, the fluctuations in Figure 3 suggest that there could be artefactual differences between the three surveys in the way association membership patterns are reported.

To analyze the survey data, we fit statistical models where the outcome is a measure of voluntary participation.³ Most models include an array of commonly used “control variables” covering socio-demographic and socio-economic characteristics, as described in the outputs below.⁴ Descriptive statistics on all variables used in each analysis, and “Log files” giving supplementary details, including background information on the operationalization of measures, full details of the occupational codes, and additional details on statistical models, are posted online.⁵

In all models we consider whether parameters that capture occupation-to-occupation variations contribute to an improvement in model fit, compared to comparable models that don't allow for occupational patterns. The occupational influence is usually measured by allowing “random effects” for occupations in the detailed unit groups associated with the dataset (see Table 1, Column 3). Random effects models provide a convenient tool for assessing variations between occupations as well as for retrieving statistics on individual occupations in terms of their model-based residuals.⁶ We are often interested in “random intercepts” associated with occupations: evidence

that, net of other things in the model, a specific occupation stands out as being above or below average on the outcome. In some scenarios it is also of interest to test for "random slopes" with occupational variations: evidence that, net of other controls, specific occupations are linked to an above- or below-average impact of another explanatory variable in its influence on participation.

4 | RESULTS

Figures 4, 5 and Table 3 summarize patterns of association between occupational unit groups and data about voluntary participation. Without taking account of any other measured factors, we see a modest but statistically significant association across a range of datasets and a variety of measures related to voluntary participation. Figures 4 and 5, for instance, shows plots of "Empirical Bayes" residuals for random effects for occupations in models predicting voluntary engagements. If the points are above or below zero, this indicates that incumbents of the occupation show, on average, greater or lesser levels of voluntary activity than the overall population (the vertical lines show plausible margins of error around those point estimates—if the lines do not overlap zero, we conventionally conclude that these are occupations whose incumbents have distinctively different patterns of engagement compared to the population as a whole). In these figures, the size of the points is proportional to the

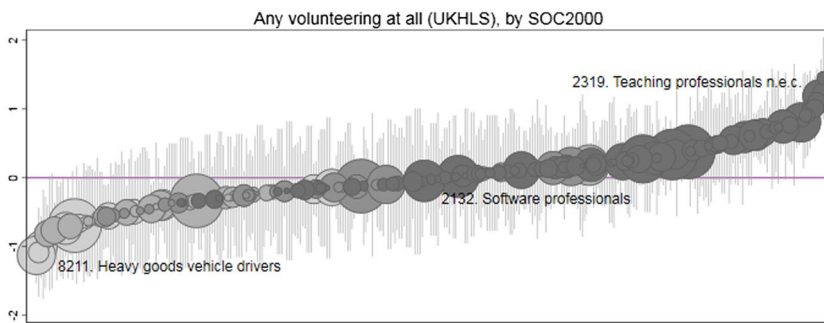


FIGURE 4 Bivariate associations between volunteering and occupations, UK 2009. Graph shows residuals for specific occupations and voluntary engagement using UKHLS from 2009; circles mark the residual value and the vertical lines are 95% error bars for the residual; the size of the points is proportional to the number of respondents in the occupation, and the shading is darker the higher the occupation's CAMSIS score [Colour figure can be viewed at wileyonlinelibrary.com]

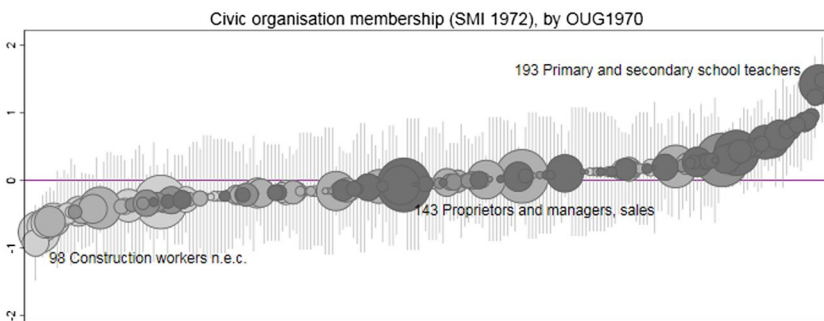


FIGURE 5 Bivariate associations between civic participation and occupations, UK 1972. Graph shows residuals for specific occupations by civic association membership for Oxford Mobility Survey 1972; other features as per Figure 4 [Colour figure can be viewed at wileyonlinelibrary.com]

TABLE 3 Bivariate and conditional relationships between volunteering and occupations

Description	Data	ICC with occupations (*100)	ICC net of CAMSIS (*100)
(1) Any voluntary engagement (binary)	UKHLS, most recent ^a	8.5	3.1
	BHPS, most recent ^a	9.1	4.0
	BHPS, 1991–2008 ^a	5.4	1.9
	ESS 2002	4.2	1.9
	HOCS 2005	5.5	2.6
(2) Level of voluntary engagement (ordered)	UKHLS, most recent ^a	8.6	3.2
	BHPS, most recent ^a	8.7	4.1
(3) (1) regularly over time... (in top quartile)	BHPS, most recent ^a	12.9	7.4
(...in top quartile)	BHPS, 1991–2008 ^a	6.9	1.3
(...ordered scale for regularity)	BHPS, most recent ^a	9.9	4.3
(4) Any volunteering in household (2)	UKHLS, most recent ^a	5.8	2.5
	BHPS, most recent ^a	4.7	2.5
(5) Any vol. by alters in household (2)	UKHLS, most recent ^a	4.8	2.4
	BHPS, most recent ^a	4.1	1.6
(6) Any organizational membership (binary)	UKHLS, most recent ^a	4.5	1.3
	BHPS, most recent ^a	11.5	6.2
	SMI 1972	9.6	8.0
(7) As (6), excluding “isolate” orgs.	UKHLS, most recent ^a	9.1	3.9
	BHPS, most recent ^a	11.2	5.7
	BHPS, 1991–2008 ^a	9.0	4.1
	SMI 1972	7.2	2.8
(8) Numb. of memberships as (7) (count)	UKHLS, most recent ^a	7.8	3.8
	BHPS, most recent ^a	10.8	5.4
	SMI 1972	5.4	1.9

Note: In all models, occupational-level random effects significantly improve model fit.

^aBHPS and UKHLS figures may be shown either for “most recent” (most recent record with valid measure—UKHLS, $N = 31,246$; BHPS, N approx = 15k), or for all valid records in dataset, including multiple records per respondent (approx. 150k records from 20k respondents, using weights to deflate influence of repeated measures).

number of respondents in the occupation, and the shading is a function of the CAMSIS score for the occupation (see Lambert & Griffiths, 2018; darker shading implies a higher CAMSIS score, indicating an occupation whose incumbents enjoy more advantaged circumstances in the structure of social stratification). The patterns shown correspond to 8.5% and 7.2%, respectively, of the estimated proportions of variance in volunteering patterns that is associated with systematic differences between occupations (i.e., intra-cluster correlations of 0.085 and 0.072)—see Table 3. Indeed, the patterns suggested in Figures 4 and 5 seem to extend across a wide range of scenarios in the relationship between occupations and voluntary participation. Across the datasets described above, we have information on many different measures of participation, across a number of time points, and in all the cases that we have explored, comparable levels of association have been revealed—Table 3, Column 1, summarizes bivariate associations from selected permutations.

The description above concerns the bivariate relationship between occupations and volunteering, but some of that association seems to reflect an occupation's social stratification position. Arguably, detailed occupations are only important if some of their associations with volunteering persist net of controls for easily-measured heterogeneities that occupations might proxy. Table 3, Column 2, shows the occupational intra-cluster correlation (ICC) that persists net of a direct control for the CAMSIS score of the occupation. There is a substantial decline in

TABLE 4 Statistical models predicting levels of voluntary participation, with various specifications for occupational controls

	Level of voluntary activity (UKHLS, ordered logit)					Voluntary participation (HOCS, binary logit)	
	1a	1b	1c	1d	1e	2a	2b
<i>Regression coefficient z-statistics</i>							
Female	3.4*	1.5	0.5	1.1	0.7	4.1*	3.8*
Age in years	-13.1*	-5.8*	-5.1*	-4.8*	-6.7*	-2.5*	-2.4*
Age in years squared	13.6*	6.5*	5.3*	5.0*	6.8*	1.1	1.1
Female*Age						3.1*	2.9*
Married or cohabiting	8.8*	7.8*	4.3*	4.2*	4.9*		
Education score	17.9*	15.6*	17.8*	17.8*	19.5*	10.5*	9.1*
Occupational CAMSIS score	12.1*	8.2*	10.1*	10.6*	2.0*	4.0*	3.3*
Female*CAMSIS	-3.1*	-1.5					
Work is in Public Sector	8.4*	6.8*	6.2*	5.8*	6.1*		
Weekly working hours			-12.1*	-9.9*	-13.3*		
Works non-standard hours			3.0*	3.1*	3.6*		
Weekly hours spent caring			2.0*	2.2*	2.3*		
Weekly hours on housework			3.0*	2.3*	2.6*		
Female*housework hours			-3.7*	-3.0*	-3.5*		
Has children in hhld aged 0-4			-11.1*	-10.4*	-10.9*		
Has children in hhld aged 5-18			9.9*	9.0*	9.9*		
Average minutes spent travelling to work			-2.7*	-1.9	-2.6*		
<i>Occupational random or fixed effects parameters</i>							
Occ.-level intercept variance		0.045*	0.030*	0.041*			0.074*
% occ.-level variance (ICC*100)		1.4					
Occ.-level slope variance			0.004*	0.008*			0.003*
Fixed effects partial r^2					0.012		
<i>Other model statistics</i>							
N cases	40,390	40,390	40,390	38,143	40,390	4,116	4,116
N occupations	347	347	347	347	347	324	324
Deviance	35,687	35,647	35,261	n/a	34,804	4,043	4,031

*Parameter is statistically significant at 95% threshold. Models based on analysis of UKHLS data on individuals in paid work in waves 2 or 4 (approx. 2011-2014) (with weights to adjust for multiple records per person); and on HOCS data for 2005 for adults in paid work. "Random slope" in UKHLS is with the "hours of work" variable; in HOCS, it is with the education score variable. Model 1d uses sampling weights, other models do not.

TABLE 5 Statistical models predicting voluntary engagement with various specifications for occupational controls

	Voluntary association membership			Voluntary participation....	
	(UKHLS, binary logit)			...of Alter in BHPS hh.	...for % of BHPS waves
	3a	3b	3c	4a	5a
<i>Regression coefficient z-statistics</i>					
Female	3.2*	1.3	1.3	-6.3*	-0.3
Age in years	3.7*	3.7*	3.9*	-3.0*	4.6*
Age in years squared	-1.6	-1.6	-1.8	3.8*	
Married or cohabiting	5.7*	5.6*	5.5*	-7.4*	
Education score	21.2*	19.0*	19.0*	9.8*	11.8*
Occupational CAMSIS score	7.8*	6.9*	6.6*	4.9*	7.8*
Female*CAMSIS	-1.2	-0.1	-0.1		
Weekly working hours	-11.1*	-11.2*	-10.1	-3.9*	-5.3*
Weekly hours spent caring	3.9*	3.6*	3.6*		
Has children in hhld aged 0-4	3.6*	3.6*	3.5*	-3.3*	0.6
Has children in hhld aged 5-18	15.3*	15.0*	14.8*	9.3*	5.9*
Average minutes spent travelling to work	1.1	1.6	1.7	-1.6	-2.4*
Sense of self-worth	3.6*	3.5*	3.6*		
Occ.-level intercept variance		0.056*	0.045*	0.038*	0.213*
Occupation-level slope variance			0.013*		0.069*
% occ.-level variance(ICC*100)		1.7		1.1	
N cases	23,389	23,389	23,389	10,130	12,915
N occupations		350	350	354	340
Deviance	24,312	24,242	24,220	11,705	

*Parameter is statistically significant at 95% threshold. Models 3a-c use UKHLS, unweighted, most recent valid record. Models 4a and 5a use BHPS, unweighted, most recent valid record. Model 4a predicts if any of household sharers have any level of voluntary participation, only for people living in a household with one or more adult alter. Model 5a models proportion of occasions over BHPS lifetime that reports volunteering (only for respondents to 3 or more BHPS waves). Random slope for Model 3c is with weekly working hours; for Model 5a with education score.

the ICC value (compared to Column 1), which indicates that much of the bivariate association is indeed about the social advantage of the occupation. Moreover, the ICCs in Column 2 remain modest but statistically significant.

Indeed, evidence of the distinctive influence of occupations is reinforced when more elaborate statistical models are specified. Tables 4 and 5 show results from selected models that use controls for several other factors that might be linked to voluntary participation and occupations. Most models use "random effects" parameters to allow for occupation-to-occupation variation in the outcomes.⁷ The key observation at this point is that, even net of a wide range of controls, the random effects parameters for occupational variation are consistently associated with a significant improvement in model fit.⁸ Some of these models also test occupational "random slopes," which evaluate the substantively interesting hypothesis that the impact of another explanatory factor upon voluntary participation varies significantly from occupation to occupation—in Models 1c, 1d, and 3c, this is seen to be the

case for the effect of weekly working hours on participation level; in Models 2b and 5a, for the influence of educational score.

We have shown that detailed occupations have some empirical connection to voluntary participation, but can this relationship be leveraged to gain more useful insights? By adding parameters for detailed occupational variations, one possibility is that the other coefficients in statistical models predicting volunteering might change in a consequential way. Some such examples are evident in Tables 4 and 5,⁹ where we can point to modest changes in parameters that emerge when we control for occupational variations with random effects—for instance, a lessened direct influence of gender and of occupational and educational scores. Such changes mean that the appropriate control for occupations could modify our substantive story: it is plausible that the larger estimated influences of gender, education, and occupational advantage were spurious, but are now more appropriately estimated, once we have controlled for the more nuanced relationships with fine-grained occupations.

Another possibility is that individual occupations may emerge that are associated with a distinctive pattern of above- or below-average voluntarism. Such evidence could be both descriptively and analytically useful in understanding voluntarism: descriptively, such as by identifying pockets of society with unusual patterns of volunteering; analytically, if the occupational pattern could be given a useful theoretical interpretation. In Figure 5, for example, one of the largest occupations with a statistically significant positive residual (the large dark circle in the top right of image) are CODOT category 193 ("Primary and secondary school teachers"). This suggests that among men in 1972 (the sample survey was given only to males), teaching was unusually often associated with civic association memberships. This pattern might be consistent with a few hypotheses about voluntary engagement: perhaps it reflects a "habit" associated with teachers, such as pro-social cultural orientation; or perhaps a "circumstance" such as an enabling factor (say, if male teachers in 1972 had more spare time and flexibility than most other occupations). Figure 5, however, summarizes bivariate patterns, and more compelling evidence might emerge from examining the occupation-level residuals in random effects models that have ample controls for other factors.

Table 6 shows some of the occupations that stand out, in different scenarios, as having distinctively higher or lower levels of voluntarism compared to average and net of controls. A first notable point—already implicit in previous results—is that these occupations exist at all. Even though the overall empirical association between volunteering and occupations is modest rather than strong, we have found that standard secondary survey datasets are sufficiently powerful as to allow us to identify important social groups (occupations) that have distinctively above- or below-average patterns in voluntary engagement, net of a range of standard individual controls (age, gender, marital and family status, and broad characteristics of educational attainment and economic activities). A more powerful result, however, might arise if we believe that some of the occupations that emerge in Table 6 (or indeed, that emerge in other analyses aside from those that we have presented here), lead us to new and meaningful insights about the social determinants of volunteering. We believe this is the case—one example was highlighted in the preceding discussion, in the dual pattern of above-average one-off volunteering, but below average association membership and sustained volunteering, linked to several jobs in finance.

One interesting pattern in the "random slopes" results in Table 6 (i.e., the occupations with heightened or lessened effects of working hours or education) seems apparent in the patterns associated with educational effects. Across a handful of examples, there seems to be some pattern that occupations that tend to be more educationally homogenous (such as traditional professions) are characterized by a less positive individual level educational effect upon volunteering; in some occupations whose incumbents do not necessarily have high levels of education but that can be more heterogeneous in terms of formal education, individual educational background matters more. Further analysis might be necessary to substantiate this pattern, but the apparent suggestion is that in some occupations, only those individuals with higher levels of education will tend to volunteer, and in other occupations, the impact of individual education matters much less. Pragmatically, such findings might provide valuable market intelligence for stakeholders in the third sector.

What seems to us the most interesting pattern, in Table 6 and further results, concerns a post-hoc rationalization related to how "pro-social" occupations are. In Table 6, it is perhaps surprising to notice several examples

TABLE 6 Selected occupations with extreme residuals (net of standard controls) in random effects models of voluntary participation

	Above average voluntary participation...	Below average voluntary participation...
UKHLS (Table 4, Model 1b)	Senior officials in NGOs*; Housing officers; Educational assistants; Waiters; <i>Production managers; Personnel managers; Financial institution managers; Youth workers; Housing officers; Office assistants; Bar staff</i>	Software professionals; Medical practitioners; Secondary teachers; Primary teachers; Nurses; Cleaners
UKHLS (Table 4, Model 1c)	Senior officials in NGOs*; Housing officers; Educational assistants; Waiters; <i>Production managers; Personnel managers; Financial institution managers; Youth workers; Housing officers; Office assistants; Sports assistants*; Bar staff</i>	Medical practitioners; Secondary teachers; Primary teachers; Nurses; Cleaners
HOCS (Table 4, Model 2b)	<i>Production managers*; Metal workers*</i>	<i>Nurses*; Sales assistants; Kitchen assistants*; Cleaners*</i>
	Above average civic association membership...	Below average...
UKHLS (Table 5, Model 3c)	Clergy*; Care assistants; Childminders*; Educational assistants; Waiters; <i>Primary teachers; Housing officers; Civil service administrators; Nursery nurses; Security guards</i>	<i>Marketing managers; Management consultants; Sales reps.; Motor mechanics; Sales assistants; Postal workers; Kitchen assistants</i>
	Above average persistent volunteering over time...	Below average...
BHPS (Table 5, Model 5a)	Local government officers*; Farmers*; Police officers*; Educational assistants; <i>Personnel managers; primary teachers; accountants; social workers; Welfare workers; Secretaries; Catering assistants*</i>	Software engineers; Filing clerks; Sales reps.; sales assistants; Goods vehicle drivers; Bank managers*; <i>Financial managers; Property managers*; Medical practitioners*; Higher education professionals*; Clerks; Receptionists; Electricians; Motor mechanics*</i>
	Less negative effect of working hours on participation...	More negative effect...
UKHLS (Table 4, Model 1c)	Senior officials in NGOs*; Higher education teaching professionals	<i>Accounts clerks; Receptionists; Kitchen assistants; Waiters</i>
	Less negative effect of working hours on assoc. membership...	More negative effect...
UKHLS (Table 5, Model 3c)	Secondary teachers; Primary teachers; cleaners; Marketing managers; <i>Higher education teachers; Civil service administrators; Local govt. clerks; Care assistants; Van drivers; Security guards</i>	<i>Retail managers; Hospital managers*; Counter clerks; chefs/cooks</i>
	More positive effect of education on participation...	Less positive effect...
HOCS (Table 4, Model 2b)	<i>Plumbers*; Painters and decorators*; Taxi drivers*</i>	<i>Accountants*; Accounts clerks*; Skilled work in construction*; Sales assistants*</i>
	More positive effect of education on persistent volunteering...	Less positive effect...

(Continues)

TABLE 6 (Continued)

	Above average voluntary participation...	Below average voluntary participation...
BHPS (Table 5, Model 5a)	<i>Lab technicians*</i> ; <i>Artists*</i> ; <i>Filing clerks</i> ; <i>Metal workers</i> ; <i>Gardeners</i> ; <i>Care assistants</i> ; <i>Cleaners</i>	Buildings managers; Software engineers; Computer programmers; Accounts clerks; <i>Production managers</i> ; <i>Financial managers</i> ; <i>Primary teachers</i> ; <i>Nurses</i> ; <i>Chefs/cooks*</i> ; <i>Bar staff*</i>

Note: Based on analysis of datasets described in Table 1. Occupations are categories of SOC2000 (UKHLS, HOCS) or SOC90 (BHPS). Not all extreme occupations are listed. Occupations shown are represented by at least 100 cases in the dataset (unless indicated *). Standard font: occupational residual exceeds its standard error by at least 2; italic font: occupational residual exceeds its standard error by less than 2 but more than 1.

when “pro-social” occupations seem to have lower rather than higher levels of volunteering, net of controls (for instance, doctors, teachers and nurses). We should reiterate that these are the patterns net of controls—there are generally positive effects of education, and of working in the public sector, on voluntary participation, and the occupational residuals show merely that these occupations do not tend to show quite as high a level of participation as might otherwise be predicted. Nevertheless, there is a plausible post-hoc rationalization that seems to be consistent with these patterns and suggests the force of “habits” rather than “circumstances”: perhaps many people in “pro-social” jobs already feel that they make a sufficient positive social contribution through their occupation, and don’t feel too much duty or pressure to do more through volunteering; by contrast, perhaps the same trade-off influences some people in much less “pro-social” jobs to be a little more inclined than average to volunteer—for instance, the above average volunteering of financial institution managers in Table 6 (Models 1b and 1c).¹⁰ This rationalization is speculative, as other mechanisms might also account for the empirical pattern—but it seems to us to provide a plausible hypothesis about a complex pattern.

Hitherto our results have concerned how occupations are linked to the propensity to engage in voluntary activities, but it is a natural extension to ask if occupations have an impact upon the personal benefits or consequences of volunteering (cf. Wilson et al., 2019). This can be achieved by modelling other outcomes—for instance, personal well-being, or employment attainment—as a function of voluntary engagement (and other controls), and then, allowing for “random slopes” with occupational units on the effect of voluntary participation. These models would estimate a parameter for occupational-level variance in the impact of participation, and would allow us to calculate residuals that might indicate specific occupations that are associated with a more positive (or negative) impact of volunteering (for examples of the use of “random slopes” by occupations, see Lambert & Griffiths, 2018, c9). Using the datasets described above, we have tried out a range of models of this character (results not presented). Hitherto we have not found strong patterns that hold consistently across the different datasets. In the BHPS data, however, a similar pattern to that of Table 6 seemed to emerge in terms of a few occupations that stood out for being associated with a considerably more favorable well-being benefit from volunteering (i.e., more than the average premium, which is positive), and likewise a number of occupations that stand out at the other end of this distribution—occupations where the benefit of volunteering for well-being is more muted, or even negative. In the BHPS, we observed a pattern of lessened benefits from volunteering in occupations that might be seen as more “pro-social” (examples included nurses, restaurateurs, and university teachers), and heightened benefits for those that are rarely portrayed as pro-social (examples include marketing managers, accounts clerks, and bank managers). Nevertheless, although we find this a plausible social pattern, we were not able to replicate similar results when modeling well-being outcomes in a similar way using the UKHLS dataset (where we found no significant occupational-level random slope) nor using the European Social Survey (where we found a small occupational-level random slope, but the outlying occupations did not seem to have a similar pattern). It is not particularly clear, therefore, that the benefits of volunteering vary substantially by detailed occupations net of other controls, but it is possible that future research may find convincing, consistent patterns in such relationships.

5 | CONCLUSIONS

We have argued that the interpretation of detailed occupational patterns can sometimes be used to distinguish “habits” and “circumstances” as influences on voluntary participation. A distinction is worth making as it could inform relevant policies: for example, if habits matter more than circumstances, policies on volunteering might be re-directed to focus upon wider issues of socio-economic inequalities and social origins. Pragmatically, if an organization wanted to expand its voluntary participation and emphasized a model of circumstances, it might prioritize means of accommodating, say, flexible and part-time contributions; if it were persuaded that habits were relatively more important, it might direct its efforts towards managing its reputation.

Our results demonstrated that occupations were indeed associated with distinctive empirical links to volunteering net of controls for other factors, consistently across surveys, time periods, measures of volunteering, and across longitudinal and household contexts as well as at an individual level. That is, the empirical link applies at the individual level (an individual's job is associated with their current voluntary participation), but it also transmits through households and over time (data on an individual's job could help predict volunteering of their household sharers, and their patterns of volunteering through time). These patterns were consistently statistically significant, albeit often of only a modest effect size. Moreover, we stressed that some of the empirical association between occupations and volunteering is likely to reflect other measurable social inequalities that occupations can proxy. Nevertheless we also argued that the net relationships (controlling for many relevant direct measures) revealed specific patterns of participation that, we argued, could usefully be rationalized, drawing upon other knowledge about the occupation, to make plausible claims about the relative influence of “habits” and/or “circumstances.”

A complex aspect of our argument is that the rich empirical insights that can come from analyzing detailed occupational positions in relation to volunteering do not unequivocally identify the underlying mechanism behind the associations that we find. We believe that many of our examples reveal some occupational patterns that reflect what can usefully be interpreted as the effects of “habits,” and others that can helpfully be thought of as reflecting “circumstances.” However, these interpretations are premised on post-hoc rationalizations that might readily be debated; a more conclusive statement about the underlying mechanisms could require further supplementary analysis. The exciting opportunity presented by analyzing detailed occupational data reflects that measured occupations provide rich data about circumstances in an unusually efficient way—knowledge of a specific occupation gives us a lot of insight into a person's circumstances, and so the depth of data that is captured in an occupational title has the capacity to suggest precise, sometimes unexpected, social processes. By contrast, most previous studies of social inequalities in volunteering have used relatively broad-brush occupation-based measures that provide little clue as to the precise mechanisms related to a pattern of association. Wilson et al.'s (2019) compelling evidence of social class differences in the benefits of volunteering, for instance, might reveal patterns that result from any number of social inequalities that are clustered in class categories (such as employment relationships, economic advantages, skills, and social environments). A focus on micro-occupational differences will not eliminate such ambiguities, but we believe it increases the chances of us identifying the most plausible specific mechanism.

Was there, then, anything in our results to adjudicate between the relative influence of “habits” and “circumstances” upon volunteering? Empirical results suggest, first, the coexistence of both mechanisms, as examples could be found that were consistent with either narrative. However, our results also suggest an asymmetry. There were a number of instances when occupational patterns seemed to reveal niche examples of “circumstances” that shape voluntary participation—for instance, outlying patterns for some jobs, such as in higher education, seem to reflect the unusual levels of day-to-day autonomy that might enable them to better accommodate voluntary engagement irrespective of working hours. Nevertheless, the weight of evidence from occupational variations seems to be more often illustrative of the role of “habits.” For instance, there are several occupations with above- or below-average participation patterns, net of other controls, where there is no obvious example of a tangible circumstance that constrains or enables participation, but there is a plausible explanation in terms of “habit.” The

model of habits might indeed be reinforced by our evidence on the influence of the occupations of a person's household sharers upon their own participation patterns (as it is plausible that the "habits" of one person shape those of the household). Much of the practical literature on supporting volunteering has historically concentrated upon identifying "circumstances" (e.g., Rochester et al., 2010), but our evidence suggests an argument for paying relatively more attention to "habits" such as lifestyles and cultural orientations as factors that link to voluntary participation.

Our results also suggest that other studies of influences upon voluntary participation ought to consider controlling for detailed occupational positions (which has rarely been done in previous analyses). In a statistical modeling analysis, failure to do so might risk "omitted variable bias," which can ultimately lead to inappropriate interpretation of statistical patterns and inappropriate statistical estimates. However, the same point also applies to other social research on voluntary participation (such as in the interpretation of qualitative interview data): attention to specific occupations might be important and should not be overlooked.

It is possible that some of our findings could be contingent on our context. Occupations themselves may change over time in their contents or influence. Our analysis showed evidence of occupational influences over quite a lengthy period in the UK (1972–2011), but detailed occupational data is available in the social sciences across wider periods and different countries in a format that might readily suit extending analyses to wider contexts. Likewise, our assessment of voluntary participation has largely been limited to that of "formal" volunteering, based upon available measures in secondary survey data. Our results did not seem to point to many substantial differences between occupational inequalities in voluntary activities, and association memberships, although these two categories have the potential to reflect different patterns, and might usefully be explored further. Likewise there may also be scope for interesting explorations of the links between informal forms of volunteering and occupations (which might have different features from those involving formal volunteering—e.g., Bradford, Hills, & Johnston, 2016).

One of the more interesting post-hoc rationalizations that may reflect "habits" was the evidence, across a few applications, of the influence of how "pro-social" an occupation might be. Freeland and Hoey (2018) argue that occupations are differentiated in an important dimension that is often overlooked but can be measured by patterns of deference—Freeland and Hoey describe this as a structure of "status," but it might equally be labeled one of the "goodness" or "pro-social character" of jobs. Our results from the UKHLS and BHPS might have tapped into that dimension and suggested a plausible post-hoc interpretation: perhaps those in "good" occupations already enjoy the "warm glow" of "doing good" and engaging with others that volunteering can sometimes provide, and tend to avoid taking on further commitments of this nature; by contrast, perhaps efforts to recruit volunteers might be most efficiently targeted at those in other occupations.

There are many other ways that increased understanding of the specificities of how volunteering relates to occupations could be useful. They might support insights that could lead to policy initiatives that facilitate more volunteering, and/or challenge existing social inequalities in volunteering. Ethnic and gender biases in volunteering activities might be confronted, for instance, by introducing policies targeted at occupations that have traditionally skewed gender or ethnic distributions. Evidence might also contribute helpfully to recent narratives that recognize the negative as well as positive aspects of some forms of voluntary participation. Some modes of volunteering might be seen as exploiting insecure workers such as interns, or obliging and pressuring contributors ("voluntold-ing" in the language of Kelemen, Mangan, & Moffat, 2017). Whilst above we have concentrated on evidence for facilitators of volunteering, in further work, the same relationships might also be cross-examined to build evidence and theory on negative aspects of voluntary participation.

One last point worth emphasizing is that voluntary participation remains socially structured. Detailed occupations can account for a moderate proportion of social inequalities in volunteering, but so too can many other measurable social heterogeneities across socio-demographic and socio-economic factors. It is sometimes suggested that traditional structural inequalities (including occupations) are increasingly less influential in shaping

voluntary participation in our more individualized or reflexive times (e.g., Hustinx & Lammertyn, 2003), but our analysis suggests quite substantial structural influences upon voluntary participation that persist to the present.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the UK Data Service. Restrictions apply to the availability of these data, which were used under license for this study.

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NOTES

- ¹ Although not presented here, we have also undertaken similar comparisons across countries by using data from the European Social Survey. Conclusions from these analyses, relating to the influence of occupations, are of a similar nature.
- ² The UKHLS question asks respondents to estimate their volume of engagement with voluntary organizations over the last 12 months, and offers 10 output options (variable *volfreq*), conditional upon if the respondent has indicated they engage in any volunteering (variable *volun*). Our harmonization created a new variable (*lactl*) of similar format to the corresponding BHPs measure, based on the following code using Stata: `gen lactl = volfreq; recode lactl -9/-1=.m 1/3 = 1 4/5 = 2 6 7 9 = 3 8 = 4; replace lactl = 5 if volun==2.`
- ³ All analyses used Stata software (v14.1). Unless otherwise indicated, our statistical results apply to unweighted data from the surveys. All of the datasets have complex features that can potentially be built into the analysis using indicators of sampling design and/or sampling weights. We ran most of our analyses both with and without statistical controls for these features, but we did not observe any instances when the impact led to consequential changes in results (for one example, compare Models 1d and 1c from Table 4).
- ⁴ Data on religion is not included among our control variables. We spent some time exploring the impact of including data on religious affiliation or participation in analyses, but we concluded that it did not make an important difference to results on other aspects of social inequalities in volunteering.
- ⁵ Materials may be downloaded from github.com/paul-lambert.
- ⁶ A particular attraction of the random effects formulation is that it exploits the relatively fine-grained differences between occupations but produces relatively robust estimates of occupational parameters and their standard errors, even for those occupations that are sparsely represented. This quality derives from the statistical property of “shrinkage.” Importantly, this makes it more compelling to use relevant substantive information about different occupations in the analysis; by contrast, in other analytical strategies it is common practice to merge together sparsely represented occupational units into much smaller numbers of aggregated categories, with the undesirable consequence of ignoring relevant differences. Lambert and Griffiths (2018, chapter 9) discuss the use of random effects models to analyze occupations in this way.
- ⁷ We also tested “fixed effects” models for occupational units (e.g., Model 1e in Table 4). A convenient feature of the random effects formulation is that it allows us to fit additional parameters for specific occupation-level effects (such as an occupation-level stratification scale score), in combination with random effects.
- ⁸ We have marked the random effects parameters as statistically significant at the 95% level if they are associated with an appropriate reduction in deviance compared to the nested model without the parameter.
- ⁹ For convenience we have shown the “z-statistics” for each coefficient in the relevant models—these statistics occlude the exact numerical impact of a change in the explanatory variable upon the outcome, but their magnitude can be read as broadly proportional to the relative influence of the variable upon the outcome. Outputs should be treated with caution because changes in coefficients between nested non-linear outcomes models are not necessarily consistent with changes in the relative influence of the variables (due to the fixed variance of the non-linear transformation function). For all models, we repeated analysis with linear probability models, and found the same patterns of change in coefficients.
- ¹⁰ We thank our colleague Dave Griffiths for first highlighting empirical examples when people in jobs that are “good” for society volunteer less.

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SUPPORTING INFORMATION

Additional Supporting Information may be found online in the Supporting Information section.

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