ORIGINAL RESEARCH

(Home-)Schools of Democracy? On the Intergenerational Transmission of Civic Engagement

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Abstract
Where do individuals learn civic engagement? While voluntary associations are often seen as the breeding grounds for democratic skills and virtues, many preferences are learned by children in their family and thus passed on between generations. The present paper uses data from the British Household Panel Survey (1991–2008) for the UK to analyze the intergenerational transmission of civic engagement and political participation preferences. It finds that both voluntary associational count variables as well as frequency and strength measures of doing volunteer work and political party support are correlated between parents and their grown up children (i.e. after leaving the parental household), even when controlling for resources like socio-economic background. The intergenerational transmission is more pronounced with regard to triggering filial civic engagement, but frequency of parental engagement is less strongly transmitted. A robustness analysis suggests that peer influences (as measured by regional levels of civic engagement) do not drive the intergenerational transmission of civic engagement.

1 Introduction

Civic engagement and civic virtues, such as volunteering, political interest and party support, are an integral part of democracy (e.g. Putnam 1995; Gutmann 1998; Freise and Hallmann 2014). As already Tocqueville notes, such practices need to be cultivated and in order to "remain civilized or to become so, the art of associating" must be developed and perfected (Tocqueville 1840, p. 903). While not implausible (Fung 2003), evidence for the hypothesis that voluntary associations are "schools of democracy" is rather mixed

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and other channels for the the cultivation of civic virtues have been suggested (Kamerāde et al. 2015; Binder 2017). But if voluntary associations are not schools of democracy but rather "pools of democracy" (Van Der Meer and Van Ingen 2009), into which the civically like-minded self-select, one has to ask where civic engagement is learned and how it is transmitted in society.

In order to understand the learning of preferences for civic engagement, the present paper turns to the locus where many preferences are learned, viz. the family, in which parents transmit predispositions and behaviors to their children, in part through their genes but also through through providing resources to enable their children's behaviors and through modeling behaviors that children pick up through social learning (Bandura 1977). A growing stream of literature has developed an interest in the intergenerational transmission and persistence of resources such as income, health, education and social status (Bowles et al. 2005; Black and Devereux 2011; Wilhelm et al. 2008), but also of preferences (for example for consumption or volunteering) and attitudes more general (Waldkirch et al. 2004; Bekkers 2007; Dohmen et al. 2012; Necker and Voskort 2014a). Apart from genetic heritability, the intergenerational transmission of such factors via (social) learning is an important driver and stabilizing factor of culture (Boyd and Richerson 1985). Understanding the channels how economically relevant behaviors are transmitted between generations is of high policy-relevance as these policies (for example regarding smoking, alcohol consumption or donations) might have spill-over effects into the next generations.

The present paper thus wants to ask to what extent civic engagement (measured in various ways through doing volunteer work, membership in voluntary associations as well as political interest and political party support) are transmitted from parents to their children. It connects to a small number of research efforts in that direction, most prominently that of Wilhelm et al. (2008), Bekkers (2007), Volland (2013) and Necker and Voskort (2014b). I contribute to the literature by using a large UK panel data set, containing parents' information on civic engagement as well as that of their offspring, looking into how various forms of civic engagement are transmitted from parents to their children. These forms include doing volunteer work, being member or active in different associations (e.g. political or community or sports associations) but also political interest and political party support. Using information on parental socio-economic status, religiosity and personality traits allows to further test to what extent transmission is indirect via these "resources" or more direct from parental volunteering activities themselves. Having a panel data set, where both parents and children respond to questions about their civic engagement also addresses concerns of imperfect recall or social desirability, when children would not recall their parents' civic activities or align them with their interests (Mustillo et al. 2004). Using panel data further helps to account for measurement in variables bias by allowing to average imperfectly measured variables such as income or frequency of civic engagement.

The paper is structured in the following way. I present literature relevant to the paper's research hypotheses and develop its research questions in Sect. 2. I then describe data and analysis in Sect. 3. I discuss the paper's limitations and conclude in Sect. 4.

2 Literature Background

In (Neo-)Tocquevillian tradition, civic engagement in voluntary organizations is seen as a breeding ground for democratic virtues and skills (Tocqueville 1840, p. 900), where voluntary associations and civic engagement function as "schools of democracy" (see also

Putnam 2000, esp. Chs. 3 and 8). How civic engagement potentially impacts on democracy has been well researched, and Fung (2003), reviewing the field, identifies six channels, amongst which are the improvement of quality and equality of representation of citizens, public deliberation, the bundling of voice and provision of checks to government, but also a fostering of civic virtues (e.g., attention to the public good, cooperation, tolerance, respect for others and the law, generalized trust and reciprocity), and teaching of civic skills (e.g., argumentation, participation in political life), hence the label of "schools of democracy". Van Der Meer and Van Ingen (2009 p. 288) characterize this skill-building and virtue-enhancing potential of voluntary associations with respect to political action as something believed as "almost axiomatic" in the literature, even despite a dearth of empirical corroboration, let alone experimental evidence (Kamerāde et al. 2015).

Empirical evidence on the relationship between voluntary associational membership/activity and political involvement has thus been summarized as "fragile" (Dekker 2014, p. 45). While many studies find positive associations (e.g., Ayala 2000; Almond and Verba 1963; Brady et al. 1995; Van Der Meer and Van Ingen 2009; Quintelier 2008; Dekker 2014), coefficients vary by type and intensity of membership/activity, are often small, based on cross-sections and hence questions about causal pathways and omitted variables remain (see also Binder 2017). Considering that political activity is not only driven by civic skills and virtues, but also by other resources, such as socioeconomic status, free time or even inherited personality traits (Brady et al. 1995; Bekkers 2005), a broader view of the schools of democracy argument seems unavoidable.

This latter observation about resources already points to an individual's family as important place providing some of these resources (from what falls under the label of socioeconomic status to other resources more broadly, including for instance cognitive abilities and personality traits). But the family is also the locus where important skills, virtues and preferences can be learned even before becoming part of voluntary organizations. In that way, familial influences have been used to explain variation in economic behaviors of children (Bisin and Verdier 2011; Black and Devereux 2011; Waldkirch et al. 2004; Doepke and Zilibotti 2008) and to explain intergenerational persistence in economic outcomes (mostly: income, wealth and education, see Bowles et al. 2005; Black and Devereux 2011; Dohmen et al. 2012). Better understanding the different channels of transmission (i.e. genes, society, family) is not only interesting per se but of policy relevance, as these policies (for example regarding smoking, alcohol consumption or donations) might have spill-over effects into the next generations. This also better helps understanding the limits or possibilities of policy intervention (Sacerdote 2002; Wilhelm et al. 2008, p. 2155).

The literature on volunteering so far has also established the importance of the parental transmission channel for learning civic engagement and prosocial behavior (see Bekkers 2007): parents can teach their children good citizenship through the same channels identified above, i.e. role modeling, the provision of skills and the provision of resources such as education, integration into respective communities and so on (see more extensively Yates and Youniss 1998). The importance of good parenting on children's prosocial engagement is uncontested in the literature (Zaff and Michelsen 2001; Mustillo et al. 2004; Bekkers 2007), with one study mentioning that "legacy volunteers" are twice as likely to volunteer as those without parents volunteering (Mustillo et al. 2004). Thus, instilling these skills and attitudes is characterized as vital, since being pro-socially active as an adolescent was found to be an important predictor for civic engagement in later life (Zaff and Michelsen 2001). Parental charitable donations also have been shown correlated strongly with their offsprings' charitable donations (Wilhelm et al. 2008), and Necker and Voskort (2014b) show a weak but statistically significant relation between parental prosocial values

(regarding voluntary work and political engagement) and children's prosocial values and behavior for a German sample.

It seems likely that the transmission of civic virtues and skills happens through both direct and indirect channels, and the recent literature has become more aware of the need to disentangle which forms of volunteering are predominantly transmitted through which channels (e.g., Bekkers 2007): direct transmission through parental role-modeling finds its basis in social learning theory (i.e., imitation of successful others, mostly likely parents but other role models in school or associations will work, too, see Bandura 1977) or value internalization, i.e. the acquisition of self-set goals once intrinsic value in these activities is perceived. Both can happen concurrently with more direct parental approval (i.e. positive reinforcement, another psychologically well-established learning mechanism). Evidence of this kind here comes from the US and is mostly focussed on concurrent volunteering (i.e., we do not know what happened to these adolescents after leaving home, see Fletcher et al. 2000; Beutel and Johnson 2004). There is less evidence for a transmission of political interest that way (but see Quintelier 2008, p. 364), and other studies find such transmission channels to work only for secular but not religious volunteering (Bekkers 2007),[1] or for community-oriented volunteering opposed to self-interested volunteering (as in professional voluntary associations, see Janoski and Wilson 1995). That direct and indirect channels may work in tandem was found by Mustillo et al. (2004), where mothers' volunteering did increase the likelihood of daughters' volunteering yet socio-economic status then predicted the actual level of volunteering.

Regarding the indirect transmission, socio-economic status has been identified as an important transmission channel for volunteering. To the extent that education is an important antecedent of civic engagement (Wilson 2012; Putnam 2000, ch. 7), the intergenerational persistence of educational outcomes (Black and Devereux 2011, p. 1503), driven in part also by inherited cognitive abilities (e.g., Anger and Heineck 2010), leads to an indirect transmission of civic engagement, when highly educated parents produce highly educated offspring, who exhibit higher propensities to volunteer and be civically engaged (Janoski and Wilson 1995; Mustillo et al. 2004). Similar indirect channels are conceivable for other factors such as religion and personality traits (the latter of which refer especially to extraversion and agreeableness, Bekkers 2005). Empirically, it is possible to account for those by sufficiently controlling for parents' status, religiosity, personality traits, cognitive abilities and so on. Any reduced effect size for the preference component (as direct transmission channel) can then be attributed to indirect transmission (Bekkers 2007). Empirical evidence suggests that prosocial values are correlated between parents and offspring (Kasser et al. 1995) and that religious volunteering is a byproduct of the transmission of religiosity in a sample of the populace of the Netherlands (controlling for religion, Bekkers 2007, p. 111, no longer finds a significant association between parents' volunteering and that of their children). In the same sample, personality traits, however, had no predictive role for different types of volunteering.

In sum, there is good theoretical and empirical reason to think that civic mindedness is transmitted between generations. Yet there remain open questions and methodological shortcomings in the literature surveyed so far. Most of the evidence mentioned comes from smaller specialized cross-sectional data sets that can only shed light on concurrent volunteering between parents and their (usually) adolescent children, remaining silent

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[1] This is mirrored in research on charitable giving, where intergenerational elasticities vary between secular and religious giving (Wilhelm et al. 2008).

on whether the transmission will remain effective in later stages of the offsprings' lives. Cross-sections, where children are asked to state their parents' civic engagement frequencies may also suffer from biased recall (Mustillo et al. 2004) and issues of reverse causality.

In general, evidence drawn from cross-sectional data have also been shown to be susceptible to measurement error in variables, for example regarding the parental income proxy (Black and Devereux 2011, pp. 1490–1491). Using high quality panel data here helps in alleviating all concerns mentioned, as proxy variables can be averaged over many years (reducing measurement error) and also reducing life cycle bias (Black and Devereux 2011, pp. 1492–1493). They can also provide somewhat clearer evidence of causal directions (by using techniques that exploit the temporal order in which variables change, for instance regressing children's volunteering on parents' characteristics from a time before the children's birth), hence accounting better for issues of reverse causality. Such data sets also often provide a large range of relevant control variables in order to avoid issues of spurious correlation (Bekkers 2007, p. 101).[2]

In addition, high quality panel data sets such as the British Household Panel Data Set (BHPS) allow us to study transmission and spillover effects between different measures of civic engagement, thus allowing to go beyond narrow volunteering and including measures of participation and membership in (political) organizations, voting and party support behavior, thus painting a broader picture of such transmission processes within one consistent data set.[3]

I will thus explore the following hypotheses based on the literature surveyed so far: An individual's civic engagement will be predicted by parental civic engagement (Hypothesis 1: positive relationship between parental engagement and filial engagement) as well as by that individual's personal resources (Hypothesis 2: positive relationship between individual's education, time budget, health, religiosity and pro-social personality traits and their civic engagement). Given that some of these resources (education, income) are transmitted through one's parents as well, I also explore the extent to which parental resources are related to filial civic engagement (Hypothesis 3: positive relationship between parental income and education and filial civic engagement). I will further explore the robustness of the parental civic engagement transmission channel with regard to its role in fostering the taking up of civic engagement as opposed to also influencing the frequency of filial engagement; I will also offer some exploration of the extent to which such a transmission relationship may be confounded by regional influences (such as social networks).

3 Analysis

3.1 Estimation Strategy

To identify the intergenerational transmission of civic engagement attitudes and behaviors (ρ), I follow the literature discussed above and estimate a simple empirical model, where

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[2] While one of the studies closest related to this one uses panel data (Volland 2013), it is interested in time use transmission in general and hence estimates the transmission of volunteering model omitting important controls such as religion and personality traits, potentially confounding transmission channels.

[3] While initially at the forefront, the question of nature vs. nurture has recently become less important in analyses on such transmission, with researchers focussing more directly on specific parental attributes and their transmission to the offspring generation (Black and Devereux 2011, p. 1507).

filial civic engagement after leaving the parents' household ($c_{child,post}$) is seen as a function of previous parental civic engagement during the time both parents and children lived together ($c_{parent,pre}$) plus a vector of the child's observable characteristics ($X_{child,post}$) and a vector of relevant parents' observable characteristics ($Z_{parents,pre}$) and the usual error term ($\epsilon_{child,post}$):

$$c_{child,post} = \alpha + \rho c_{parent,pre} + \boldsymbol{\beta}_{child} \mathbf{X}_{child,post} + \boldsymbol{\gamma}_{parents,pre} \mathbf{Z}_{parents,pre} + \epsilon_{child,post}. \quad (1)$$

Relevant characteristics for children, so-called "split-offs", include socio-demographic (gender, income, education, ethnicity, immigration status) but also health-, social life- and job-related factors. Personality traits and religiousness have also been shown relevant in determining civic engagement such as volunteering and hence are relevant controls. For parents, the most relevant observable characteristics in line with the literature review presented above are income, education and parental religiousness. Due to the way split-offs are tracked in the BHPS, life cycle bias will be a concern and age control variables for both parents and split-offs are used to minimize this bias.

While the literature on the intergenerational transmission of income often splits transmission channels by parental gender (i.e. the effect of father's income on son's income etc.), for convenience, lack of theoretical predictions on gender effects, and to avoid potential issues of multicollinearity resulting from assortative mating (Volland 2013, p. 226), I do consider parental averages wherever possible, i.e. $c_{parent,pre}$ is the average of a father's and mother's civic engagement $c_{parent,pre} = (c_{father,pre} + c_{mother,pre})/2$. If only a mother's or a father's civic engagement is observable, then the estimation is based on this. In essence, I thus consider the transmission of civic engagement from the parental household to the filial generation. Further research should then disentangle whether some specific attitudes are only transmitted from mothers or fathers alone to their children.

It is important to note from the outset that the parameter ρ could pick up not only parental preferences and attitudes that are transmitted to the filial generation but also genetic predispositions. It could pick up other unobservable influences on both parents and children, for example from extended family members or exogenous contemporaneous shocks. While comprehensive vectors of potential confounders on the parental and filial level can somewhat alleviate resulting concerns about omitted variable bias, the data at hand in this and comparable studies does not allow to disentangle genetic and behavioral transmissions (cf. Black and Devereux 2011; Wilhelm et al. 2008, p. 2148).

An additional complication arises from classical measurement error in variables, which would produce biased estimates (Black and Devereux 2011, pp. 1490–1491). If parents and split-offs incorrectly assess their level of civic engagement due to mistakes or social desirability considerations, the model will yield biased estimates. While a systematic misrepresentation of the variables at hand seems unlikely due to the large-scale multipurpose survey that makes outguessing the purpose of the survey impossible, other sources of bias cannot be completely excluded. In order to decrease the potential measurement error due to idiosyncratic error, the panel data at hand allows to average variables of interest over a number of years, thus at least decreasing the amount of bias as both measurement error and transitory fluctuations are averaged away (see also Ermisch and Francesconi 2004, p. 156). For filial civic engagement and control variables, I average over all years spent outside the parents' household (i.e. from split-off at time S), e.g. $c_{child,post} = 1/(T - S + 1) \sum_{t=S}^{T} c_{child,t}$, and for parents, I average their civic engagement over the years before the split-off occurs $c_{parent,pre} = 1/(S - 1) \sum_{t=1}^{S-1} c_{parent,pre}$.

As the dependent variables of civic engagement (see below) are either count variables (counting the number of organizational memberships) or ordinal constructs, I estimate (1) using poisson[4] and ordered probit models on the rounded averages for split-offs after leaving the household. The results are qualitatively similar when estimating ordinary least squares estimators on the averages without rounding. Standard errors are clustered on the level of the parental household to allow for correlation of the error terms on the family level.

3.2 Data and Descriptive Statistics

To estimate the model of intergenerational transmission of civic engagement, I use data from the British Household Panel Survey (BHPS). It is a well-known longitudinal household panel survey of British households, comprising about 10,000 individual interviews at the start and growing over time. It contains a wealth of information on respondents' lives.[5] For the purpose at hand, the BHPS contains information about membership and activity in voluntary associations as well as respondents' attitudes towards politics and political involvement. It also contains rich information on socio-demographic characteristics, personality traits and community involvement.

The BHPS also allows to track children-parent relations because children in the household of an initially selected respondent become part of the survey (children enter the survey when turning 16 and are followed once they leave their parents' household). While this means that not for every respondent, the BHPS contains information on their parents' characteristics, the converse holds: if a respondent is a parent, there is a good chance of observing both parent and children as respondents in the data set. This, however, considerably narrows down the sample size. In order to be considered for the analysis below, any individual who has lived at least one year with either one or both their parents in the same household is considered (pre-leave), if the same individual also has lived at least one year outside the household (post-leave). There exist cases where split-offs move back into their parents' households, as well as cases where elder parents move into their children's household and then move out again, creating similar patterns in the data as an initial split of households. I exclude these cases by focussing arbitrarily on split-offs aged 40 or lower (but results are not sensitive to a stricter age limit). Most split-offs leave the parental household in their late teens (see Fig. 1, legal school-leaving age was 16 during the sample period). Focussing on individuals who started out as children in a respondent's household yields a total of 1728 distinct individuals over the 18 years of the survey, most of which have been observed for a number of years so that the number of person-year-observations is 17,507. Of these 1728 children, 1134 (12,198 obs.) have both information on mother and father in the sample, whereas 94 (790 obs.) have only information on their fathers and 500 (4519 obs.) only have information on their mothers in the sample. Of those split-offs with two parents in the sample, 61% have no siblings, 30% one sibling and the rest two or

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[4] While the count variables exhibit a large number of zeros, the absence of overdispersion suggests that poisson models are the appropriate modeling choice.

[5] The survey is undertaken by the ESRC UK Longitudinal Studies Centre with the Institute for Social and Economic Research at the University of Essex, UK (BHPS 2010). Its aim is to track social and economic change in a representative sample of the British population (see Taylor 2010). Starting in 1991, up to now, there have been 18 waves of data collected with the aim of tracking the individuals of the first wave over time (in general, attrition is quite low, see Taylor 2010).

Fig. 1 Age of filial generation leaving parental households. Legal school leaving age during the sample horizon is age 16. *Source*: BHPS, waves 1–18 (1991–2008)
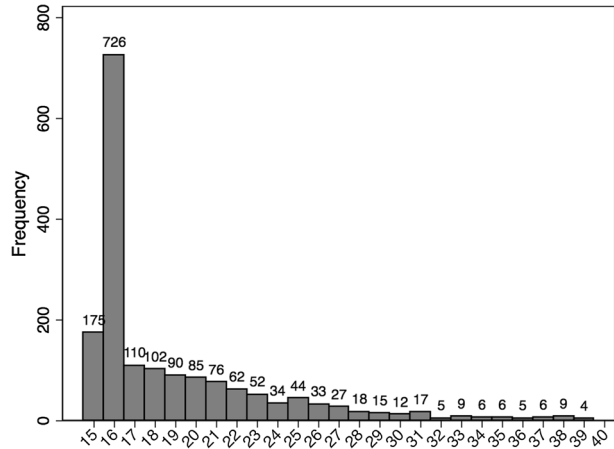
three siblings. Of those children initially living only with their father, 83% have no siblings, whereas single mothers live mostly with one (68%) or two (28%) children, in rare cases up to four (4%).

Out of the 1728 individual parent(s)-offspring dyads, sample size is further reduced because not all of these respondents (both parents and split-offs) report information on all the questions relevant to the analysis. Descriptive statistics over this full sample of children and parents are presented in Table 1. Observation count for the variables of interest is significantly lower than the numbers mentioned in this paragraph, due to non-response or variable coding frames where responses were not elicited on a yearly basis.

In line with the research hypotheses developed above, I am interested in analyzing the intergenerational associations of civic engagement that are not contemporaneous, i.e. the correlations between parents' preferences and behaviors with their children's preferences and behaviors after the latter have left their parents' household. This means that I further narrow down the sample by focussing on the subset of years for split-offs after they have left their parents' household when it comes to variables related to the filial generation, whereas for the parental variables of interest, I focus on the years before their children leave the household. For instance, looking at the correlation between parental and filial volunteering, I correlate parental pre-leave volunteering with filial post-leave volunteering. While this cannot completely rule out reverse causality, i.e. children's civic engagement (e.g. in school) prompting parents' civic engagement, it reduces the influence of this simultaneity bias. Contemporaneous correlations between parental and filial generation's civic engagement (i.e. correlation before leaving) are higher, showing that attenuation sets in after split-offs left the parental household and any parental influence on filial preferences declines (correlations available on request).

Turning to the measures of civic engagement in more detail, and focussing on the filial generation (see left column Table 1), I measure respondents' civic engagement via the frequencies of doing unpaid voluntary work and being active in local groups, but also via a count of memberships and active involvement in different types of associations (count variables). I further measure civic engagement via the strength of political interest and support (or not) for a political party. An individual's voluntary work frequency has been elicited from wave 6 onwards every second year by asking: "We are interested in the things people do in their leisure time, ...tell me how frequently you do each one...Do unpaid voluntary

Table 1 Descriptive statistics. *Source*: BHPS

	Splitoffs			Mothers			Fathers		
	Mean (%)	SD	Count	Mean (%)	SD	Count	Mean (%)	SD	Count
Frequency: does volunteer work	1.39	0.71	1668	1.62	0.96	1504	1.61	0.98	1023
Frequency: local groups	1.50	0.76	1668	1.77	0.99	1507	1.69	0.95	1023
Count: active	0.53	0.53	1713	0.73	0.77	1574	0.86	0.80	1078
Count: member	0.62	0.62	1712	0.93	0.95	1573	1.27	1.04	1078
Interest in politics	2.00	0.75	1709	2.16	0.72	1555	2.57	0.73	1062
Strength of pol. support	0.56	0.57	1724	0.86	0.63	1578	1.06	0.69	1082
Lives in London (y/n)	0.06		1728	0.05		1581	0.05		1097
Registered disabled (y/n)	0.02		1728	0.07		1581	0.08		1098
No health problems (y/n)	0.60		1725	0.36		1581	0.39		1098
Married (y/n)	0.17		1728	0.76		1581	0.92		1098
Unemployed (y/n)	0.06		1728	0.02		1581	0.04		1097
Equiv. net income	22,578.23	9961.31	1686	23,016.35	11,178.68	1498	24,993.23	12,073.49	1062
Hours worked	22.73	13.17	1728	15.71	13.49	1581	23.72	16.77	1098
Age	23.84	5.66	1728	49.23	8.60	1581	52.21	8.43	1098
Religious (attendance)	0.49	0.77	1706	0.88	1.04	1571	0.69	0.99	1076
Level of education	1.04	0.60	1689	0.82	0.82	1573	0.90	0.84	1082
No. of kids	0.59	0.64	1728	0.68	0.84	1581	0.60	0.76	1098
Female (y/n)	0.52		1721	1.00		1581	0.00		1098
Ethnicity: nonwhite (y/n)	0.03		1358	0.03		1304	0.03		882
Immigrant (POB outside UK, y/n)	0.03		1723	0.05		1579	0.05		1085
Openness	13.97	3.29	1220	12.76	3.63	1223	13.19	3.57	822
Extraversion	14.20	3.32	1218	13.38	3.62	1224	12.95	3.45	823
Agreeableness	16.14	2.86	1219	17.01	2.88	1223	15.74	3.13	823
Neuroticism	11.33	3.74	1217	11.92	4.03	1223	9.35	3.47	823
Conscientiousness	15.33	3.10	1218	16.34	3.38	1222	16.09	3.11	822

Full sample: all children with identified parents in the BHPS (column 1), and the mothers and fathers belonging to these children (columns 2 and 3). Observation count differs due to non-response and different variables being asked in different frequencies in the survey. Averages are over full survey time for each respondent

work". Individuals can respond to this question in five categories, ranging from "Never/ almost never" (1) with middle categories being "Once a year or less" (2), "Several times a year" (3), and "At least once a month" (4) to "At least once a week" (5). On the same scale, the frequency of attending local group meetings is elicited in answer to the question "tell me how frequently you do each one…Attend meetings for local groups/ voluntary organisations". The BHPS also contains information on 12 types of organizations (political party, trade union, environmental group, parents' associations, tenants' group, religious group, voluntary group, other community group, social group, sports club, women's institute, women's group, other organization) in which individuals can either be members and/ or be active in. There are count variables for membership ("Are you currently a member of any of the kinds of organisations …", with a mean of 0.62 group memberships, s.d. 0.62 for split-offs) and active participation ("Whether you are a member or not, do you join in the activities of any of these organisations on a regular basis?", mean 0.53, SD 0.53 for split-offs). Both variables are right-skewed with most individuals being member/active in few of them.

Regarding respondents' political support and political interest, I make use of the following variables: the strength of support in case respondents do support a political party ("Would you call yourself a very strong supporter of [named political party,] fairly strong or not very strong?", measured ordinally from 0 to 3 mean 0.56, SD 0.57 for split-offs: very strong: 1%, fairly strong: 10%, not very strong: 36%, not at all 53%) and their level of interest in politics ("How interested would you say you are in politics?", measured ordinally from 1 to 4; mean 2.00, SD 0.75 for split-offs: not at all interested: 29%, not very interested: 39%, fairly interested: 27%, very interested: 5%, asked with break in waves 7–10). Figure 2 on the other hand shows the distributions for volunteering frequency, activity count and political interest and strength of party support for the full BHPS data set. Narrowing down the data set to split-offs (without their parents) thus produces a somewhat similar distributional picture, however, with higher frequencies of civic non-engagement for split-offs (78% of split-offs do not volunteer at all, 29% show no interest in politics and 53% do not support a political party). Parental civic engagement as measured per these variables is generally higher than that of the filial generation (with the respective categories at 64%, 13% and 25%) but whether this captures a declining trend in civic engagement in the UK (see Binder 2017) or shows that the filial generation is civically less engaged cannot be settled on the basis of these descriptive findings (as parental values are computed from earlier years than filial values due to the pre-leave post-leave distinction).

A range of control variables is applied to avoid confounding. These variables have been selected with respect to theory (Bekkers 2007; Black and Devereux 2011; Binder 2017) and are similar to typical analyses in the literature on voluntary associations and political involvement (e.g. Li et al. 2005; Bekkers 2005; Van Der Meer and Van Ingen 2009). I use information on gender (52% of the sample's split-offs are female), age (split-offs' mean age is 24 years with a standard deviation of six years; mothers' age is 49 years on average and fathers' age is around 52 years), age squared (divided by 100), information on whether respondents live in the London area,[6] information on individuals' marital status (with a dummy for being married), on number of children (coded as continuous variable), on educational status (collapsing a CASMIN score into primary, secondary and tertiary dummies, with baseline being "no education"). I include some objective health indicators, viz. the response to the question whether the individual has any health problems (yes/no) and information whether the individual is registered as disabled. I also use respondents'

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[6] Running the models with dummies for greater UK regions yields similar results.
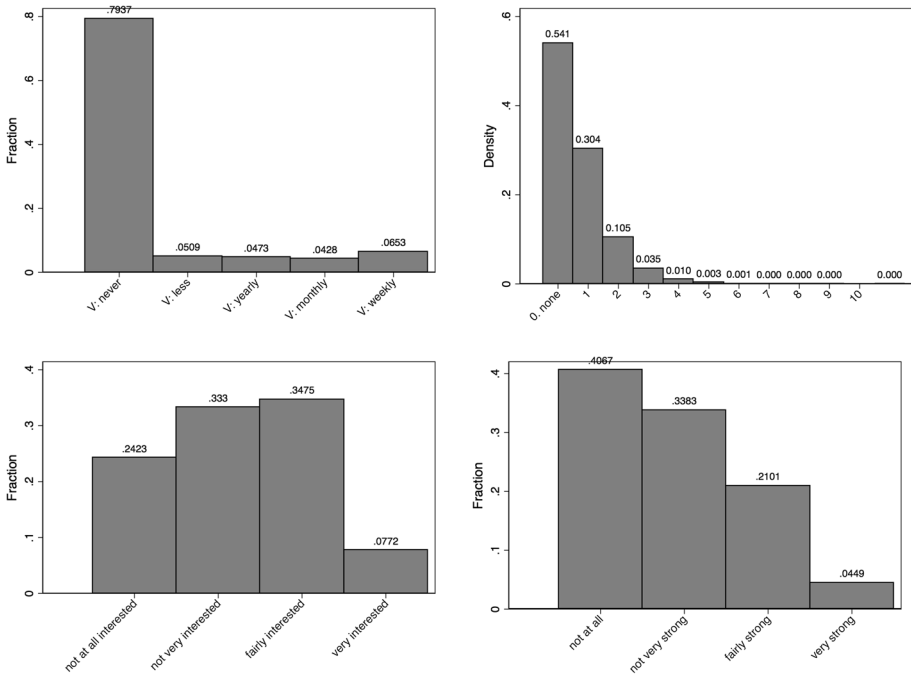
Fig. 2 Percentage of volunteering (top left), count of being active in voluntary associations (top right), of political interest (bottom left) and of strength of political party support (bottom right). These are pooled over all waves in which these variables have been elicited and for the full sample (split-offs, parents and individuals not used in the analysis). *Source*: BHPS, waves 1–18 (1991–2008)

employment status (with a dummy for being unemployed), hours worked per week and information on respondents' overall net household income (equivalized and deflated to 2008 prices, from Levy and Jenkins 2008). Equivalizing household income also serves to account for household composition differences. As there are a comparatively high number of cases of (especially) parental incomes missing, I have used a dummy variable for missing income and set those missing incomes to zero in order not to lose these observations in regression analysis (Dohmen et al. 2012). Both income and hours worked are inverse-hyperbolic sine-transformed (IHS), an alternative to log transformations with very similar properties but having the advantage of being defined for zero values (Burbidge et al. 1988). To account for potential ethnic differences, a dummy variable for ethnicity (with white as base category) and for immigration status (with base category being born in the UK) are used.

Lastly, as previous literature has shown the potential influence of personality traits and religiosity on civic engagement, I control for both by using the self-assessed frequency of attending religious services and by using short measures of the "Big Five" personality traits. Religious service attendance is elicited on a scale similar to the volunteering scale. To control for personality trait confounds, I make use of respondents' self-ratings along the "Big Five" personality dimensions of "Extraversion", "Agreeableness", "Conscientiousness", "Neuroticism" and "Openness" (McCrae and Costa 2003). The Big Five are widely recognized as an empirically driven and useful characterization of personality.

While it seems reasonable to assume that personality evolves over time, especially when young (Boyce et al. 2013), there is also evidence that personality traits are rather stable and genetically inheritable (Costa and McCrae 1994; Hampson and Goldberg 2006). Since the Big Five were only asked in the BHPS once in the 2005 wave, I am forced to use the 2005 values as approximation of any underlying true personality trait. The short Big Five inventory used in the BHPS has worse psychometric properties than longer inventories used in psychology but has been established to nevertheless provide a useful approximation (Gosling et al. 2003; Donnellan and Lucas 2008).

As stated above, descriptive statistics for all variables can be found in Table 1 separate for split-offs and their parents. As I average pre-leave and post-leave values, I also list the descriptive statistics for these averages separately in Table 2. For split-offs, post-leave average time in the sample is 9.36 years (SD 4.39 years), while pre-leave average time in the sample is 6.98 years (SD 4.79) for mothers and 6.74 years (SD 4.74) for fathers. These numbers overstate the information available for averaging, as not all years contain all variables of interest, so that for instance for doing volunteer work, averages are based on 4.42 (SD 1.92) years for split-offs and 2.05 years (SD 1.93) and 1.88 years (SD 1.92) for mothers and fathers respectively.[7] Looking at these averages, we can see that parental civic engagement is higher (pre-leave) than split-offs' average engagement (post-leave), independent of whether this is measured by volunteering, group participation frequency or membership and activity count. Political interest and party support are also higher for parents than for their children. We can also note that split-offs on average have higher education levels than their parents with less variance in education levels as well. This can be seen as reflection of generally increasing education levels in the UK over time. Average religiosity is lower as well, whereas incomes are comparable in absolute terms. Bearing in mind that split-offs are much younger than their parents, their incomes have reached their parents' levels at much earlier times, not surprising given the better education levels. Filial health, both measured by absence of health problems and registered disability, are lower than parental health, likely a function of age difference.

Looking at bivariate correlations in Table 3, no issues of severe multicollinearity in variables stand out, with the exception of membership and activity count ($r = .70, p < 0.001$).[8] The second highest correlations are between political interest and political party support ($r = .55, p < 0.001$) and between frequency of doing unpaid volunteer work and frequency of being active in voluntary associations ($r = .46, p < 0.001$), as well as between those two variables and membership and activity counts for such voluntary associations. Education level is positively related to all civic engagement variables, the strongest for political interest ($r = .31, p < 0.001$) and associational membership ($r = .28, p < 0.001$). Hours worked is negatively associated with frequency of group activity ($r = -0.07, p < 0.01$), suggesting a crowding out of activities through job time

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[7] Averaging is unproblematic for continuous variables such as hours worked or income and is bound to reduce measurement error in variables and improve statistical inference. For originally ordinal-scaled dependent variables such as volunteering frequency, I round the averages to be able to use the original measurement scale. For education level, I do not use averages but the highest value, i.e. children eventually having tertiary education will be listed under that category. Averages of dummy variables essentially are percentages, where the variable is 1 if all time observed is spent in the respective condition, or less if only some years are spent in that condition (if a respondent is observed over five years, four out of which in unemployment, the average unemployment variable will be 0.8 = 4/5).

[8] Variance inflation factors computed for all (OLS versions of the) main models to be presented later also confirm this, with the highest VIFs in the area of below 7 and mean VIFs for all models slightly below a value of 2. The highest individual VIFs are between the income variable and the income not reported dummy variable.

Table 2 Descriptive statistics for split-offs and parents, averaged over pre- (parents) and post-leave (split-offs) years. *Source*: BHPS

	Mean	SD	Count
Frequency: does volunteer work (avg)	1.33	0.74	1521
Frequency: local groups (avg)	1.59	0.99	1521
Count: active (avg)	0.51	0.60	1478
Count: member (avg)	0.65	0.73	1478
Interest in politics (avg)	2.02	0.80	1638
Strength of pol. support (avg)	0.56	0.62	1681
Education (max)	1.15	0.69	1689
Income, equiv. (avg)	19,559.00	13,647.94	1728
No health problems (avg)	0.58	0.42	1669
Disabled (avg)	0.02	0.10	1700
Married (avg)	0.23	0.36	1700
Unemployed (avg)	0.06	0.18	1700
Hrs worked (incl.0, avg)	25.00	15.58	1694
Lives in London (avg)	0.07	0.24	1693
Female	0.52	0.50	1721
Ethnicity: nonwhite	0.03	0.18	1358
Openness	13.97	3.29	1220
Extraversion	14.20	3.32	1218
Agreeableness	16.14	2.86	1219
Neuroticism	11.33	3.74	1217
Conscientiousness	15.33	3.10	1218
Immigrant (POB outside UK)	0.03	0.17	1723
Religious (attendance)	0.55	0.96	887
Parents: frequency: does volunteer work (avg)	1.59	0.94	896
Parents: frequency: local groups (avg)	1.69	0.98	897
Parents: count: active (avg)	0.78	0.78	1330
Parents: count: member (avg)	1.01	0.91	1328
Parents: interest in politics (avg)	2.34	0.72	1194
Parents: strength of pol. support (avg)	0.97	0.68	1333
Parents: education (max)	0.95	0.81	1335
Parents: income, equiv. (avg)	18,911.75	14,009.95	1394
Parents: no. of kids (avg)	0.91	1.02	1340
Parents: religious (attn., avg)	0.85	1.00	1325
Parents: no health prob. (avg)	0.41	0.35	1340
Parents: disabled (avg)	0.06	0.20	1340
Parents: unemployed (avg)	0.04	0.12	1340

Averages rounded for dependent variables; maximal values for education taken

demands. Age is positively related to membership ($r = .18, p < 0.001$) and activity counts ($r = .09, p < 0.001$), potentially reflecting the accumulation of interests with age and also positively related with political interest ($r = .11, p < 0.001$) and strength of party support ($r = .18, p < 0.001$; we have seen this picture in the parent-split-off differences in these variables above as well). Lastly, being female is negatively associated with all civic engagement activities, suggesting gender differences in UK civic engagement ($r = -0.08$

Table 3 Bivariate (Pearson) correlation coefficients. *Source*: BHPS

	Volunteer	Groups	Active	Member	Polinterest	Str. support	Educ. (max)	Hours worked	Income	Age	Female
Frequency: does volunteer work (avg)	1.00										
Frequency: local groups (avg)	0.46***	1.00									
	(0.00)										
Count: active (avg)	0.36***	0.34***	1.00								
	(0.00)	(0.00)									
Count: member (avg)	0.30***	0.32***	0.70***	1.00							
	(0.00)	(0.00)	(0.00)								
Interest in politics (avg)	0.15***	0.12***	0.23***	0.28***	1.00						
	(0.00)	(0.00)	(0.00)	(0.00)							
Strength of pol. support (avg)	0.09***	0.06*	0.20***	0.25***	0.55***	1.00					
	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)						
Education (max)	0.13***	0.14***	0.20***	0.28***	0.31***	0.19***	1.00				
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)					
Hrs worked (incl.0, avg)	− 0.07**	− 0.04	0.08**	0.16***	0.07**	0.08**	0.16***	1.00			
	(0.01)	(0.12)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)				
Income (ihs)	0.04	− 0.04	0.05*	0.09***	0.00	0.09***	0.12***	0.14***	1.00		
	(0.17)	(0.10)	(0.05)	(0.00)	(0.94)	(0.00)	(0.00)	(0.00)			
Age (avg)	0.00	− 0.05	0.09***	0.18***	0.11***	0.18***	0.11***	0.30***	0.26***	1.00	
	(0.88)	(0.06)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		
Female	− 0.00	− 0.01	− 0.14***	− 0.12***	− 0.20***	− 0.08***	0.03	− 0.23***	− 0.01	− 0.13***	1.00
	(0.88)	(0.77)	(0.00)	(0.00)	(0.00)	(0.00)	(0.17)	(0.00)	(0.80)	(0.00)	
Observations	1728										

Observations restricted to sample of split-offs and values averaged over post-leave years

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Volunteers (Freq.)				Active (Count)		
	Splitoff: No	Splitoff: Yes	Total		Splitoff: No	Splitoff: Yes	Total
Parents: No	494	647	1141	Parents: No	922	453	1375
	43.30	56.70	100.00		67.05	32.95	100.00
Parents: Yes	195	392	587	Parents: Yes	207	146	353
	33.22	66.78	100.00		58.64	41.36	100.00
Total	689	1039	1728	Total	1129	599	1728
	39.87	60.13	100.00		65.34	34.66	100.00
χ^2	16.4125			χ^2	8.7809		
p	0.0001			p	0.0030		

Political Interest				Strength of Political Party Support		
	Splitoff: None	Splitoff: Yes	Total		Splitoff: None	Splitoff: Yes	Total
Parents: None	1379	272	1651	Parents: None	1022	515	1537
	83.53	16.47	100.00		66.49	33.51	100.00
Parents: Yes	53	24	77	Parents: Yes	96	95	191
	68.83	31.17	100.00		50.26	49.74	100.00
Total	1432	296	1728	Total	1118	610	1728
	82.87	17.13	100.00		64.70	35.30	100.00
χ^2	11.1899			χ^2	19.5970		
p	0.0008			p	0.0000		

Fig. 3 Transition matrices for doing volunteer work frequency (upper left), activity count (upper right), political interest (lower left) and political party support (lower right) between parental and filial generation (values dichotomized). Absolute numbers and percentages of those split-offs who exhibit behavior/attitude depending on whether parents exhibited behavior/attitude. χ^2 statistics show differences in distributions for all variables significant at $p < 0.01$ or better. *Source*: BHPS

to $r = -0.20, p < 0.001$). Other bivariate correlations largely go in directions that would be expected (e.g. positive associations between higher age, education and income). In Table 11 in the "Appendix", I also provide Pearson correlation coefficients between all civic engagement variables between generations, which are generally positive and statistically significant and range from $r = .35, p < 0.001$ (for political interest between generations) to $r = .11, p < 0.001$ (for voluntary group attendance frequency). Correlations within generations are higher than between (within parents: up to $r = .79, p < 0.001$ between membership and activity counts), which suggests unsurprisingly that the within-person spill-over of civic engagement is stronger than the intergenerational transmission.

In order to get a further feeling for how civic engagement is transmitted between the generations, I have also created a transition matrix for doing volunteer work frequency, activity count, as well as strength of political interest and party support between generations, dichotomizing parental and filial generation into those who do not at all exhibit interest or activity and those who do. Figure 3 presents absolute numbers and percentages of these dichotomous categories, for example of 57% (647 obs.) of the split-offs of non-volunteering parents volunteered versus 67% (392 obs.) of volunteering parents' split-offs (upper left). χ^2 tests in all four cases reject the hypothesis of equal distributions, providing evidence that there exists a systematic positively reinforcing association between parental and filial civic engagement.

All this can be but a first glimpse at how civic engagement is transmitted between generations in the UK, as it does not account for any intervening factors that might drive this relationship. In order to better understand those intervening factors, I now turn to multivariate regression analysis.

3.3 Results

The baseline specification for the intergenerational transmission of civic engagement regresses filial (average) activities on parental (average) activities, estimating equation (1) without any parental or filial control variables. This measurement exercise provides the upper bound estimate of the intergenerational correlation between said activities, not trying to explain how this association comes about. As depicted in Table 4, for all dependent

Table 4 Base model

	(1) Vol. (freq.)	(2) Groups (freq.)	(3) Active (count)	(4) Member (count)	(5) Pol. Int.	(6) Pol. Sup. Str.
Parents: frequency: does volunteer work (avg)	0.15** (3.25)					
Parents: frequency: local groups (avg)		0.13*** (3.63)				
Parents: count: active (avg)			0.26*** (7.33)			
Parents: count: member (avg)				0.27*** (9.64)		
Parents: Interest in politics (avg)					0.55*** (11.86)	
Parents: strength of pol. support (avg)						0.50*** (10.60)
Constant / cut1			−0.85*** (−17.38)	−0.70*** (−14.45)		
Constant / cut2	1.16*** (12.70)	0.65*** (8.49)			0.68*** (6.10)	0.55*** (9.61)
Constant / cut3	1.71*** (17.07)	1.21*** (14.99)			1.80*** (15.27)	1.77*** (25.22)
Constant / cut4	2.16*** (20.23)	1.62*** (18.11)			3.05*** (22.90)	3.02*** (23.36)
Constant	2.35*** (19.41)	1.89*** (19.29)				
Observations	1015	1016	1428	1426	1435	1619
Pseudo R^2	0.009	0.006			0.049	0.041
Log lik.	− 666.82	− 1056.68	− 1322.69	− 1492.51	− 1675.51	− 1517.33
Log lik. 0	− 672.66	− 1062.89			− 1762.15	− 1581.67
Chi-squared	10.55	13.21	53.67	92.86	140.65	112.32
Model df.	1.00	1.00	1.00	1.00	1.00	1.00

Association between parental and filial civic engagement variables. Ordered probit (volunteer work (1) and group frequency (2), political interest (5) and party support (6)) and poisson count (associational membership (4) and activity (3) count) models estimated without any control variables. Standard errors clustered on the parental household level to account for household influences not modeled directly

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

variables, there are statistically significant and positive intergenerational associations. Due to the estimation of ordered probit and poisson count models, effect size assessment is less straightforward than in the case of OLS. For the poisson count models, a coefficient of .26 (activity count) and .27 (membership count) means that a one unit increase in parents' membership/activity is associated with a 26% increase in children's activity count and a 27% increase in children's membership count. In the case of the ordered probit models, coefficients are less easy to interpret and marginal effects have to be computed separately: here, marginal effects (at the means) for children of falling into the highest or lowest engagement category are in the order of $b = 0.01, p < 0.01$ and $b = -0.04, p < 0.01$ (volunteer work frequency), $b = 0.01, p < 0.001$ and $b = -0.05, p < 0.001$ (group frequency), $b = 0.05, p < 0.001$ and $b = -0.18, p < 0.001$ (political interest) and $b = 0.01, p < 0.01$ and $b = -0.20, p < 0.001$ (political party support) respectively, for a one-unit increase in parents' engagement levels. This shows an asymmetry, where parental engagement makes filial lack of engagement much less likely, yet has smaller influence at the upper extreme of civic engagement. Reestimating the equations as simple OLS yields coefficients of $b = 0.09, p < 0.01$ (volunteering), $b = 0.12, p < 0.01$ (groups), $b = 0.41, p < 0.001$ (political interest), $b = 0.29, p < 0.001$ (political party support), $b = 0.17, p < 0.001$ (activity count) and $b = 0.21, p < .001$ (membership count), or if computed as log-log models yield intergenerational elasticities of $\eta = 0.11$ (volunteering), $\eta = 0.12$ (groups), $\eta = 0.46$ (political interest), $\eta = 0.48$ (political party support), $\eta = 0.25$ (activity count) and $\eta = 0.33$ (membership count), respectively (computed at the variables' mean).[9]

Such a basic model conflates genetic, preferential as well as resource-related influences on children's civic engagement, and controlling for relevant filial and parental characteristics is likely to attenuate these coefficients. For this reason, I reestimate the intergenerational associations controlling at the same time for filial confounds (education, income, religiosity etc.) as well as for the most relevant parental confounds (estimating a model without any parental controls yields a virtually similar result, however, which is good news in the sense that these variables do not pick up variance for omitted child characteristics). Table 5 contains this full model and compared to the base model without any control variables, we can see an attenuation of all parental engagement variables: while all variables, with the exception of group participation frequency, retain their statistical significance, coefficient sizes decrease somewhat. Coefficients for volunteering frequency ($b = 0.12, p < 0.05$), political interest ($b = 0.44, p < 0.001$) and political support ($b = 0.43, p < 0.001$) are rather similar to the base model, whereas attenuation is more visible for membership count ($b = 0.15, p < 0.001$) and activity count ($b = 0.17, p < 0.01$). The coefficient for group membership frequency is more than halved and no longer statistically significant ($b = 0.06, p > 0.10$). Corresponding intergenerational elasticities are $\eta = 0.08$ (volunteering; not significant), $\eta = 0.04$ (groups; not significant), $\eta = 0.32$ (political interest), $\eta = 0.38$ (political party support), $\eta = 0.17$ (activity count) and $\eta = 0.20$ (membership count), respectively (computed at the variables' mean). These are somewhat lower for all variables, and arguably more strongly so for political interest, activity and membership count.[10]

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[9] These elasticities are not constant over the range of the respective parental variables and are increasing in the independent variables but at a decreasing rate. The strongest non-linearity is present for activity, membership and political support, something left to explore in future work.

[10] I have also run models including parental personality traits, but these have decreased sample size by a further 100 observations. Results are largely similar in those models, and parental personality traits did not predict filial preferences in a systematic way.

Table 5 Full model

	(1) Vol. (freq.)	(2) Groups (freq.)	(3) Active (count)	(4) Member (count)	(5) Pol. Int.	(6) Pol. Sup. Str.
Parents: frequency: volunteers (avg)	0.12* (2.06)					
Parents: frequency: local groups (avg)		0.06 (1.26)				
Parents: count: active (avg)			0.17*** (3.73)			
Parents: count: member (avg)				0.15*** (4.34)		
Parents: interest in politics (avg)					0.44*** (7.35)	
Parents: strength of pol. support (avg)						0.43*** (6.59)
Parents: educ.: secondary	0.13 (0.85)	0.07 (0.58)	0.03 (0.30)	0.08 (0.90)	− 0.04 (− 0.44)	− 0.14 (− 1.36)
Parents: educ.: tertiary	0.30 (1.82)	0.17 (1.19)	0.01 (0.08)	0.03 (0.25)	0.04 (0.32)	− 0.05 (− 0.43)
Parents: income (ihs)	0.08 (0.54)	0.12 (0.95)	0.06 (0.64)	− 0.06 (− 0.75)	0.20 (1.68)	0.09 (0.70)
Parents: religious (attn., avg)	− 0.08 (− 1.16)	0.04 (0.70)	− 0.03 (− 0.69)	− 0.00 (− 0.05)	0.01 (0.15)	0.05 (1.09)
Parents: age (avg)	0.00 (0.33)	0.01 (0.75)	− 0.00 (− 0.10)	− 0.01 (− 1.78)	− 0.01 (− 0.74)	− 0.01 (− 0.84)
Parents: no. of kids (avg)	0.14* (2.01)	0.11 (1.78)	0.05 (1.06)	0.00 (0.01)	− 0.04 (− 0.69)	− 0.07 (− 1.20)
Dummy (flag): parental income missing	0.76 (0.47)	0.74 (0.56)	0.68 (0.70)	− 0.68 (− 0.75)	2.26 (1.77)	1.21 (0.91)
Education: secondary	0.34 (1.85)	0.28 (1.88)	0.42** (3.00)	0.26* (2.24)	0.23* (2.02)	0.28* (2.26)
Education: tertiary	0.51** (2.58)	0.43** (2.75)	0.63*** (4.39)	0.59*** (4.93)	0.60*** (4.70)	0.52*** (3.77)
Income (ihs)	0.03 (0.96)	− 0.01 (− 0.31)	− 0.01 (− 0.42)	− 0.02 (− 0.88)	− 0.03 (− 0.87)	− 0.03 (− 0.80)
No health problems (avg)	− 0.29* (− 2.17)	− 0.11 (− 0.98)	− 0.28** (− 3.02)	− 0.23** (− 2.88)	− 0.18* (− 1.97)	− 0.17 (− 1.77)
Disabled (avg)	− 1.82** (− 2.69)	0.22 (0.56)	0.02 (0.07)	− 0.10 (− 0.31)	0.43 (1.12)	− 0.46 (− 1.27)
Married (avg)	0.39 (1.93)	0.22 (1.44)	0.19 (1.73)	0.14 (1.51)	− 0.11 (− 0.95)	0.02 (0.17)
Unemployed (avg)	− 1.65* (− 2.41)	− 0.93* (− 2.26)	− 0.73 (− 1.42)	− 2.19*** (− 3.89)	− 0.98** (− 2.89)	0.03 (0.09)
avg_ihs_hrsworked	− 0.06 (− 1.31)	− 0.05 (− 1.18)	0.01 (0.41)	0.09** (2.76)	0.01 (0.17)	− 0.02 (− 0.67)
Lives in London (avg)	0.04 (0.15)	− 0.07 (− 0.27)	− 0.05 (− 0.34)	0.08 (0.48)	0.48** (2.84)	− 0.21 (− 1.08)
Age (avg)	− 0.02 (− 0.97)	− 0.01 (− 0.66)	0.01 (0.90)	0.04*** (3.55)	0.00 (0.04)	0.03* (2.35)
No. of kids (avg)	− 0.02 (− 0.20)	− 0.22* (− 2.37)	0.00 (0.07)	− 0.05 (− 0.88)	− 0.06 (− 0.91)	− 0.18** (− 2.64)
Religious (attn., avg)	0.35*** (4.20)	0.17* (2.38)	0.31*** (6.43)	0.24*** (5.45)	0.13* (2.22)	0.16** (2.74)

Table 5 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	Vol. (freq.)	Groups (freq.)	Active (count)	Member (count)	Pol. Int.	Pol. Sup. Str.
Dummy (flag): Income missing	− 0.03 (− 0.08)	− 0.03 (− 0.07)	− 0.38 (− 1.08)	− 0.43 (− 1.33)	− 0.33 (− 0.82)	− 0.57 (− 1.33)
Female	0.05 (0.35)	− 0.06 (− 0.61)	− 0.37*** (− 4.58)	− 0.29*** (− 4.01)	− 0.53*** (− 6.29)	− 0.29*** (− 3.37)
Ethnicity: Nonwhite	− 0.30 (− 0.93)	− 0.61 (− 1.69)	− 0.27 (− 1.03)	− 0.57* (− 2.00)	− 0.21 (− 1.01)	− 0.36 (− 1.35)
Immigrant (POB outside UK)	0.46 (1.59)	0.36 (1.10)	0.28 (1.60)	0.33 (1.81)	− 0.15 (− 0.56)	0.35 (1.10)
Openness	0.03 (1.47)	0.01 (0.41)	0.03* (1.99)	0.02 (1.71)	0.05*** (4.09)	0.00 (0.36)
Extraversion	− 0.02 (− 0.94)	0.03* (2.01)	0.02* (2.12)	0.02* (2.38)	− 0.02* (− 2.14)	0.03* (2.28)
Agreeableness	0.05* (2.35)	0.01 (0.58)	0.00 (0.16)	− 0.00 (− 0.09)	− 0.02 (− 1.58)	− 0.04* (− 2.55)
Neuroticism	− 0.02 (− 1.09)	− 0.01 (− 0.47)	− 0.02 (− 1.77)	− 0.01 (− 0.95)	0.00 (0.46)	− 0.00 (− 0.36)
Conscientiousness	− 0.04 (− 1.93)	0.02 (0.95)	− 0.02 (− 1.38)	− 0.01 (− 1.00)	− 0.01 (− 0.43)	0.00 (0.07)
Constant			− 2.17 (− 1.87)	− 0.96 (− 0.95)		
cut1						
Constant	2.60 (1.47)	2.71 (1.82)			1.84 (1.35)	1.31 (0.94)
cut2						
Constant	3.21 (1.82)	3.36* (2.24)			3.13* (2.29)	2.68 (1.91)
cut3						
Constant	3.75* (2.12)	3.83* (2.56)			4.57*** (3.34)	4.13** (2.91)
cut4						
Constant	3.92* (2.20)	4.14** (2.76)				
Observations	760	760	973	971	992	1055
Pseudo R^2	0.099	0.056			0.134	0.096
Log lik.	− 459.08	− 773.38	− 852.13	− 961.30	− 1049.56	− 924.47
Log lik. 0	− 509.43	− 818.84			− 1211.31	− 1022.87
Chi-squared	104.06	94.38	280.54	355.43	305.06	188.39
Model df.	29.00	29.00	29.00	29.00	29.00	29.00

Table 5 (continued)

Association between parental and filial civic engagement variables. Ordered probit (volunteering (1) and group frequency (2), political interest (5) and party support (6) and poisson count (associational membership (4) and activity (3) count) models estimated including both parental and filial control variables. Standard errors clustered on the parental household level to account for household influences not modeled directly

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Overall, these findings support the hypothesis that there is a transmission of parental civic engagement and voluntary associational participation (hypothesis 1). These results are in line with findings in the literature, most closely Bekkers (2007), Necker and Voskort (2014b) and Volland (2013). Comparing results to the latter study (which also uses BHPS data but different model specifications and a residual regression methodology that does not lend itself to directly comparing coefficients with this study), the association between parental and filial volunteering is present, but I cannot confirm a similarly strong association regarding group participation frequency. Compared with the former study, I also find attenuation of transmission once taking into account filial and parental variables regarding social status, religion and personality traits. The somewhat larger elasticities for political interest and party support in comparison to the associational variables also provides evidence for Quintelier's observation of an association between parental civic engagement and filial political interest (Quintelier 2008, p. 364). Overall, the (leisure) activity-specific transmission patterns in Volland (2013) are confirmed here also regarding different types of civic engagement. My results also confirm the weak but existant transmission patterns found in Necker and Voskort (2014b), but allow to further disentangle political from social engagement, showing differences in effect sizes for my UK sample.

Looking at the results in somewhat more detail, the analysis confirms several pertinent findings about the personal antecedents of civic engagement (hypothesis 2): filial education is robustly associated with higher civic engagement (similar in Volland 2013) and specifically tertiary education levels are related to all engagement variables. All education levels (compared to the baseline level) are strongly related to associational and political variables (a salient finding usually also in the volunteering literature but also for charitable giving, see Wilhelm et al. 2008). Regarding filial control variables, and in line with other research, I find that religiosity (as measured by church attendance frequency) is significantly related to all civic engagement categories, most strongly in the case of frequency of doing voluntary work, pointing to spill-overs between faith and civic mindedness (confirming results from Beutel and Johnson 2004; Bekkers 2007, for US and the Netherlands).

Good health, interestingly, is associated with less civic engagement, for example having health problems reducing volunteering frequency, political interest and the membership and activity count in voluntary associations. But being a registered disabled on the other hand is also negatively associated with volunteering. This could mean that the younger respondents in the BHPS, being in comparatively good health, pursue other activities instead of becoming civically engaged, but those who are in especially bad health cannot use civic engagement in a compensatory manner. Unemployment has a similarly strongly negative association with a number of civic engagement variables (volunteer work and group frequency, membership count and political interest). The most striking finding here is that gender exhibits strong negative associations with both membership and activity count variables and with the political engagement variables.

It is of note that income is not associated with civic engagement in a systematic fashion. It is not necessarily surprising that income has no association with volunteering (as opposed to charitable donations), considering that time, more than money, would determine whether one engages in voluntary or associational activities, but hours worked are not related to civic engagement in this analysis (or even positively in the case of group membership count; pace Volland 2013). The latter could be explained with individuals being employed being more likely to participate in professional organizations hence increasing their membership count.

Looking at parental control variables, no systematic and statistically significant pattern exists for any of my parental control variables (number of siblings is positively related to filial

volunteering frequency as the one exception here), i.e. any effect on filial civic engagement goes through parental preference. That parental resources have no direct association with filial civic engagement is in contradiction with hypothesis 3, but parental resources may well indirectly influence the relationship estimated through their persistent relationship with filial resources (i.e. transmission of education and income between generations; not tested here).

Comparisons between the intergenerational transmission of civic engagement and charitable giving show that the raw elasticities for volunteering are in a similar ballpark as those for secular charitable giving (compare Wilhelm et al. 2008, pp. 2150–2151, with secular giving elasticities ranging from $\eta = 0.084$ to $\eta = 0.142$ depending on model specification), but less pronounced than those for religious giving. Overall, the intergenerational elasticities for volunteering are smaller than those from the intergenerational income elasticity literature (which often are around $\eta = 0.4$ to 0.5), with preferences and attitudes less persistent across generations than material resources. This is consistent with existing evidence on the transmission of prosocial values (as opposed to behavior, Necker and Voskort 2014b).

For want of space, I will not discuss other statistically significant associations here in much detail, even though personality traits (for instance) show some interesting associations: openness relates positively to political interest and activity count, agreeableness positively to volunteering but negatively to the strength of political party support (maybe because agreeable persons dislike the conflict inherent in political activities), and extraversion is positively related to the number of memberships and activities one pursues and to political party support (but negatively related to political interest). While interesting in their own right, and in line with expectations regarding their signs, the empirical evidence for personality traits is not sufficiently coherent among the different civic engagement variables to support strong conclusions (Bekkers 2007, provides weaker empirical support for the role of personality traits in the transmission process): of the five, Extraversion shows the most consistent association with civic engagement (but even there, the negative coefficient for the political interest model is somewhat puzzling), whereas both Agreeableness and Openness are only associated with a subset of the civic engagement variables.

3.4 Sensitivity Analysis

The results presented so far are instructive as they show the presence of an intergenerational transmission of civic engagement, but it is worthwhile to further explore this relationship. Considering the large amount of zeros in the different dependent variables (e.g., large parts of the populace not volunteering at all or being part in no groups or not supporting a political party), one could conjecture that there are two different processes involved, one that determines whether an individual actually exhibits civic engagement, and then a different process that determines how frequent this engagement is. Such a distinction can be usefully modeled using hurdle/selection models. Some empirical confirmation for a difference in processes can be found in results discussed by Mustillo et al. (2004), where parental (mothers') volunteering is associated with daughters' concurrent volunteering, but parental volunteering does not predict filial frequency of volunteering. In order to explore such a two-part influence, I estimate logit hurdle models with identical first and second stage explanatory variables in the case of my activity and membership count variables (Cameron and Trivedi 2010, sec. 17.3.5) and Heckman selection models for the other (non-count) variables. In the latter case of a bivariate sample-selection model (or type-2 tobit model), I do not impose any exclusion restrictions (i.e., first stage variables are the same as second stage), but use the Heckman sample-selection model to automatically create those

exclusion restrictions through the non-linearity of the selection equation.[11] I will later on also explore the extent to which the use of parental variables as exclusion restrictions attenuates the intergenerational transmission coefficients.

Results of the two-stage models are depicted in Table 6 and show that indeed the parental transmission processes works with different strength on the two levels. We can see that both voluntary work frequency as well as political party support strength are not influenced by parental preferences for the doers, whereas their occurrence at all in the filial generation is influenced by parental preferences. In the case of political interest, parental preference is associated with filial preference both in regards to occurrence and strength, albeit with less strong correlation for the latter. The relationship is reversed regarding the two count variables, where parental counts are more strongly associated with filial counts, whereas the coefficients for triggering filial memberships/activities are smaller. There are no significant associations in the group participation frequency variable.

An advantage of the present data set is that different measures of civic engagement also allow to test for spillover effects between generations, testing what can be called an intergenerational Tocqueville hypothesis: does parental civic engagement (doing volunteer work, being member or active in voluntary associations) increase political engagement of their filial generation? Table 7 shows that this is not unequivocally the case. In the upper panel, we can see that the higher voluntary work or group participation frequency of parents, the lower the political engagement of their children, whereas parental membership count and political engagement variables are positively associated with filial engagement (some associations at the 10% level of significance). This picture does not change when also including filial civic engagement variables (lower panel) and shows that this parental spill-over effect takes place in addition to the direct transmission of the respective preferences; for instance, while there seems to be a transmission of volunteer work frequency (as seen above), there is a cost associated with this in terms of a reduction of (filial) political party support strength. This could be due to time trade-offs, where the civically very engaged parents do not bother about the political education of their children. Opposed to this, when it comes to associational membership or political interest, both are transmitted across generations, but both also increase political party support in the filial generation. In this case, the effect also pertains in addition to the positive association of filial membership and political interest with political party support.

As parents and children live in the same household before the split-off, their civic engagement preferences might be shaped by other third factors not modeled, such as peer effects from friends and role models. I have further explored the extent to which the association between parental and filial civic engagement preferences might be spurious and rather due to such other (non-parental) role models. One way to model other behavioral influences is to include variables into the regression equation that control for regional variation in civic engagement, representing the potential influence of other role models that can teach civic engagement apart from one's parents (see for instance Dohmen et al. 2012, who model regional trust attitude levels and regional levels of risk preferences). I have thus computed regional averages for all independent civic engagement variables both for pre- and post-leave years in order to control for peer effects while living in the parental household and after splitting off. Results of reestimating the full transmission models including those peer influence variables are shown in Table 8 (only regional peer coefficients

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[11] In essence, this can be called "identification through non-linear functional form" (Cameron and Trivedi 2010, p. 558).

Table 6 Two-step hurdle/selection model

	(1) Vol. (freq.)	(2) Groups (freq.)	(3) Active (count)	(4) Member (count)	(5) Pol. Int.	(6) Pol. Sup. Str.
Second stage: strength of civic engagement						
Parents: frequency: does volunteer work (avg)	− 0.72 (− 0.19)					
Parents: frequency: local groups (avg)		− 0.35 (− 0.29)				
Parents: count: active (avg)			0.34** (3.26)			
Parents: count: member (avg)				0.33*** (3.63)		
Parents: interest in politics (avg)					0.23* (2.25)	
Parents: strength of pol. support (avg)						0.50 (0.96)
First stage: civic engagement (y/n)						
Does volunteer work (y/n)	0.12* (2.16)					
Attends local groups (y/n)		0.08 (1.59)				
Is active in at least one group (y/n)			0.33* (2.56)			
Is member in at least one group (y/n)				0.20** (3.19)		
Is interested in politics (y/n)					0.53*** (7.61)	
Supports a political party (y/n)						0.44*** (6.83)
Observations	779	779	1009	1007	1045	1108
Log lik.			− 879.80	− 1026.26		
Chi-squared	0.42	1.34	81.90	81.20	57.26	3.75
Model df.	16.00	16.00	15.00	15.00	16.00	16.00

Association between parental and filial civic engagement variables. Type-2 tobit model/Heckman sample-selection without exclusion restrictions (volunteering (1) and group frequency (2), political interest (5) and party support (6)) and (logit) hurdle model (associational membership (4) and activity (3) count) estimated including both parental and filial control variables (as above) but not shown. Standard errors clustered on the parental household level to account for household influences not modeled directly (applies only to hurdle models)

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7 Spill-over models (Tocqueville hypothesis)

	(1)		(2)		(3)		(4)		(5)		(6)	
	Vol. (freq.)		Groups (freq.)		Active (count)		Member (count)		Pol. Int.		Pol. Sup. Str.	
Spillover model: parental civic engagement preferences on filial political party support strength												
Parental preference	−0.08+	(−1.75)	−0.10*	(−1.97)	0.01	(0.21)	0.08+	(1.78)	0.35***	(5.62)	0.43***	(6.59)
Observations	761		761		1056		1054		994		1055	
Pseudo R^2	0.088		0.089		0.071		0.072		0.093		0.096	
Spillover model: parental civic engagement preferences (controlling for filial civic engagement) on filial political party support strength												
Filial preference	0.01	(0.14)	−0.00	(−0.06)	0.12+	(1.69)	0.16**	(2.71)	0.92***	(13.32)		
Parental preference	−0.08+	(−1.74)	−0.10+	(−1.94)	0.02	(0.32)	0.08+	(1.71)	0.15*	(2.23)	0.43***	(6.59)
Observations	760		760		973		971		992		1055	
Pseudo R^2	0.089		0.089		0.071		0.076		0.212		0.096	

Influence of parental civic engagement preferences on filial political party support. These models contain the full set of parental and filial control variables as in the main models, but these are not shown in the table. Column titles denote (parental and filial) preference being modeled, with all models having strength of political party support as dependent variable. All models ordered probit with heteroscedasticity-robust standard errors clustered on the household level. Full set of parental and filial control variables used but not shown

t statistics in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8 Peer influences on filial civic engagement, both for pre- and post-leaving the parental household

	(1) Vol. (freq.)		(2) Groups (freq.)		(3) Active (count)		(4) Member (count)		(5) Pol. Int.		(6) Pol. Sup. Str.	
Parental preference	0.12+	(1.95)	0.06	(1.19)	0.12+	(1.78)	0.12**	(2.58)	0.37***	(4.91)	0.43***	(6.53)
Mean civic engagement (post)	0.69	(0.70)	0.00	(0.00)	0.75	(0.93)	0.13	(0.18)	0.58	(0.70)	− 0.29	(− 0.52)
Mean civic engagement (pre)	− 0.82	(− 0.98)	1.24+	(1.76)	− 0.58	(− 0.86)	− 1.37*	(− 2.30)	− 0.46	(− 0.83)	1.00	(1.31)
Observations	760		760		679		678		738		1055	
Pseudo R^2	0.100		0.058						0.140		0.097	

These models contain the full set of parental and filial control variables as in the main models, but these are not shown in the table

t statistics in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

and parental preferences shown). All civic engagement variables remain rather similar to the main models (with some attenuation of effect sizes and statistical significance). In the case of regional peer effects after leaving the parental household, none of the mean levels of civic engagement in the filial new region of residence are statistically significant. As regards influences before leaving the parental household, I find a negative relationship between regional membership counts and (later) filial group membership and a positive relationship between group participation and frequency. One could argue that 'chequebook membership' has a negative influence on (and undermines further) filial memberships, discouraging such behavior, whereas actual participation is of more positive influence (which makes sense given that this allows actual role modeling to happen and behavior to be reinforced, as opposed to being a group member on paper). While very much in line with findings on regional leisure activity transmission in the UK (Volland 2013, also does not find regional influences to play a role), my findings here are in contrast with a strong positive influence of regional levels of trust and risk attitudes on the transmission process in Germany (Dohmen et al. 2012, p. 664). It should also be noted that such regional variables are only imperfect proxies for social networks that might exist on more narrow local levels (school, university, etc.) and further research could explore whether other peer groups (for instance comprising individuals of same sex, same age, or same education level) might exert stronger influences.

A further test for such otherwise omitted regional influences is to look at differences in transmission patterns between parent-child dyads who continue to live in the same region and those where parents and post-leave children live in different regions. A difference in associations between both would mean that there are other role model influences that shape filial preferences and/or that any transmission influence fades over time after children leave the parental household. Table 9 depicts an interaction model, where a dummy variable for parental and filial generation remaining in the same UK region is estimated. Parental preference coefficients in this model are main effects when the same region dummy equals zero, i.e. the offspring moves to a different region. This shows that most civic engagement variables exhibit the transmission patterns even for those children who move away from their parents (with the exception of activity count). There are no significant interaction effects, though, i.e. I cannot find evidence for a stronger parental transmission influence when children stay close to their parents. This points towards no specific regional influences and is in line with the above sensitivity test as well as findings on leisure activity transmission between generations in the UK (Volland 2013).

Finally, concerns about reverse causality or omitted variables might make the interpretation of the intergenerational transmissions coefficients as causal problematic. If, for instance, filial preferences for civic engagement in their youth have caused parental civic engagement, then any correlation between post-leave filial preference and pre-leave parental preference might might be due to reverse causation. One way of taking into account such a concern would be estimating the above equations using 2SLS and employing parents' unchanging characteristics (education, income, health) as instruments for parental civic engagement (e.g., Dohmen et al. 2012; Volland 2013). The argument behind this approach is that such unchanging characteristics should be plausibly be fixed at filial birth, hence not being endogenous to filial civic engagement preference but correlated with parental engagement preference. While these instruments have not shown extremely convincing econometric properties in the previous analyses mentioned, such an instrumental variable approach could at least provide suggestive evidence for a causal interpretation. I have thus re-estimated the full model using a 2SLS approach and using parental education, income and health variables as instruments. As can be seen in Table 10, this leads

Table 9 Transmission process of parental preferences where children remain in the same region as their parents after split-off

	(1) Vol. (freq.)		(2) Groups (freq.)		(3) Active (count)		(4) Member (count)		(5) Pol. Int.		(6) Pol. Sup. Str.	
Same region	0.19	(0.72)	0.38+	(1.76)	− 0.05	(− 0.37)	− 0.13	(− 1.21)	− 0.13	(− 0.41)	− 0.20	(− 1.20)
Parental preference	0.15+	(1.68)	0.14+	(1.78)	0.09	(1.23)	0.13**	(2.79)	0.48***	(4.49)	0.42***	(3.67)
Same region × Par. pref.	− 0.03	(− 0.23)	− 0.08	(− 0.96)	0.13+	(1.70)	0.02	(0.35)	− 0.05	(− 0.42)	0.03	(0.24)
Observations	760		760		973		971		992		1055	
Pseudo R^2	0.104		0.058						0.135		0.096	

These models contain the full set of parental and filial control variables as in the main models, but these are not shown in the table

t statistics in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10 IV estimates (2SLS) of the main models, instrumenting parental preferences with fixed parental characteristics (education level, health, age)

	(1) Vol. (freq.)	(2) Groups (freq.)	(3) Active (count)	(4) Member (count)	(5) Pol. Int.	(6) Pol. Sup. Str.
Parents: frequency: does volunteer work (avg)	0.39* (2.48)					
Parents: frequency: local groups (avg)		0.28 (1.37)				
Parents: count: active (avg)			0.02 (0.17)			
Parents: count: member (avg)				0.10 (1.30)		
Parents: interest in politics (avg)					0.32* (2.37)	
Parents: strength of pol. support (avg)						0.26[+] (1.88)
Observations	763	763	977	975	998	1063
Hansen-J (overidentification)	2.83	0.40	2.52	9.03	6.52	3.58
(p-value)	0.59	0.98	0.64	0.06	0.16	0.47
Kleibergen–Paap LM rk (underidentification)	24.00	27.12	44.63	72.86	43.59	25.14
(p-value)	0.00	0.00	0.00	0.00	0.00	0.00
Kleibergen–Paap F-statistic (weak instruments)	5.15	6.10	9.91	18.59	9.30	5.42

These models contain the full set of parental and filial control variables as in the main models, but these are not shown in the table sparabreak t statistics in parentheses

[+] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

to an attenuation of the coefficients regarding political engagement. The parental group frequency, member and activity variables are no longer significant in this model specification. In the case of volunteering, the effect size compared to OLS increases, but it has to be noted that instruments are likely weak and estimates hence biased.[12] Overall, these tests confirm the stability of the full model results and provide some 'suggestive' evidence of a causal relationship.

4 Conclusion

This paper has pursued the question to what extent there exist "home-schools" of democracy in the UK. With civic engagement being an integral part of democracy, the cultivation of civic virtues and engagement is of vital interest for society (Fung 2003; Freise and Hallmann 2014). As opposed to studies that try to locate such learning of civic engagement in voluntary associations, i.e. the "schools of democracy" (see for instance Kamerāde et al. 2015; Binder 2017), the present paper has focused on the family as the locus where those democratic skills are learned and transmitted from parents to children. In the family, parents transmit predispositions and behaviors to their children, in part through their genes but also through modeling behaviors that children pick up through social learning (Bandura 1977) or through providing resources to enable their children's behaviors.

I have contributed to a growing stream of literature interested in the intergenerational transmission and persistence of preferences and attitudes more general (Waldkirch et al. 2004; Bekkers 2007; Dohmen et al. 2012; Volland 2013; Necker and Voskort 2014a, b). Using data from the British Household Panel Survey, I have analyzed how civic engagement (measured in various ways through volunteering, membership in voluntary associations as well as political interest and political party support) is transmitted from parents to their children. I have found significant positive associations between parental and filial measures of civic engagement that range from $\eta = 0.11$ to 0.48. Controlling for a range of parental and filial influences that determine civic engagement, these associations expressed as intergenerational elasticities are $\eta = 0.09$ (volunteer work), $\eta = 0.04$ (groups; but not significant), $\eta = 0.33$ (political interest), $\eta = 0.41$ (political party support), $\eta = 0.16$ (activity count) and $\eta = 0.18$ (membership count), respectively. While these effects should be considered small in the case of voluntary engagement and moderate for political engagement, they are found consistently and largely comparable to other studies in the field.

Controlling for parental characteristics has attenuated the influence of parental preference somewhat, but parental preference, alongside filial education levels (which themselves are to some extent transmitted) have turned out to be the strongest predictors of filial civic engagement. Two-stage models have shown that this transmission works stronger in terms of enabling or nudging children to actually take up civic engagement and is less strong in predicting the actual frequency or strength of that commitment. My findings can

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[12] Identification tests show that while overidentification tests (Hansen J null hypothesis cannot be rejected) and underidentification tests (Kleibergen-Paap LM rk null hypothesis can be rejected) are as desired, weak instrument tests indicate with their low F statistics that the instruments presented are suffering from weakness. Full test results available from the author on request.

explain why evidence is not stronger for the schools of democracy as opposed to the "pools of hypothesis" (Van Der Meer and Van Ingen 2009): if transmission and learning of civic engagement skills happens at early ages in the family, we would expect civic associations to rather function as pools of democracy, where civic-minded parents send their (already) civic-minded children. Moreover, as we have seen, in some cases, spill-over effects from civic engagement to political engagement are negative over the generations, suggesting trade-offs between civic and political engagement transmissions. These should be further explored in future research to better understand whether time constraints work to produce such an effect or other dynamics are at play here.

Using a panel data set, where both parents and children respond to questions about their civic engagement addresses concerns of imperfect recall or social desirability, when children would not recall their parents' civic activities or align them with their interests (Mustillo et al. 2004). Using panel data further helps to account for measurement in variables bias by allowing to average imperfectly measured variables such as income or frequency of civic engagement. Despite this, obvious limitations remain: First, even though the BHPS allows to control for a large number of confounders and its panel data set up allows to distinguish pre- and post-leave variables, one should be careful with attributing a causal interpretation to the associations presented above. Reverse causality and endogeneity bias cannot be completely excluded despite the setup chosen above, for example, children's preferences might actually have led parents to start their civic engagement activities while still being in the same household. Secondly, omitted variables for both parents and offspring might bias the coefficients estimated above. While the fact that including a number of parental control variables did not seem to change transmission coefficients much gives some reassurance in this area, it cannot be excluded that some omitted confounds might have a larger effect than parental income, education or religiosity. This could concern social networks and peer influences from friends or extended family, but could also encompass specific institutions that are present during the sample horizon and shaped both parental and filial civic engagement preferences. Further research should also include a focus on how this transmission relationship may change as a result of social media and their potential to organize and influence civic engagement. While temporally largely outside of the scope of the present manuscript (the sample horizon from 1991-2008 has barely seen social media come into existence), it is likely that the use of social media creates influences on civic engagement that go beyond the purely regional level and may lead to yet another source of potential confounding of the transmission relationship between generations.[13] Thirdly, measurement error in variables decreases when averaging variables of larger number of years, but for the exercise at hand, only few years worth for data have been available for some individuals. This means that despite averaging, there might be measurement error left and longer-lasting panel data sets might improve the estimates further. In a comparable case study on the transmission of charitable donations, back of the envelope calculations on such biases led the authors to conclude that true elasticities might be twice as large as the ones estimated due to measurement and lifecycle bias (Wilhelm et al. 2008, p. 2155), and estimates found in the present context might thus also underestimate the true elasticities for that reason. Fourthly, while using a number of different measures of civic engagement, the robustness exercises have shown that the type of engagement

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[13] I am indebted to an anonymous referee for raising this particular issue.

matters for the transmission process and the variables at hand only imperfectly allow to disentangle secular vs. religious volunteering as well as the types of political engagement.

These limitations notwithstanding, understanding how civic engagement is transmitted between generations is of high policy-relevance. As Wilhelm et al. (2008) argues for the case of intergenerational transmission of charitable giving: traditional models assuming Ricardian equivalence will conclude that parental giving mitigates or undoes governmental social policies, whereas the shown intergenerational stickiness of civic engagement empirically demonstrated here suggests that pro-social behavior encouraged by the government will be amplified in the long run through these parental transmission channels. Any assessment of such policies focussing only on one generation also likely will underestimate the effects and hence lead to an under-provision of policies that foster civic engagement. On the other hand, providing for more opportunities of civic engagement spanning generations, for instance through family memberships for political parties or voluntary associations, might foster and support the familial transmission processes explored in this paper.

Compliance with ethical standards

Conflict of interest The author declares that he has no conflict of interest.

Appendix

See Table 11.

Table 11 Bivariate (Pearson) correlation coefficients between parental and filial civic engagement variables. *Source:* BHPS

	vol.	pa_vol.	groups	pa_groups	active	pa_active	member	pa_member	pol.int.	pa_pol.int.	str.sup.	pa_str.sup.
Volunteers (avg)	1.00											
Parents: volunteers (avg)	0.12*** (0.00)	1.00										
Local groups (avg)	0.46*** (0.00)	0.13*** (0.00)	1.00									
Parents: local groups (avg)	0.07* (0.02)	0.71*** (0.00)	0.11*** (0.00)	1.00								
Active (avg)	0.36*** (0.00)	0.18*** (0.00)	0.34*** (0.00)	0.17*** (0.00)	1.00							
Parents: active (avg)	0.12*** (0.00)	0.47*** (0.00)	0.14*** (0.00)	0.58*** (0.00)	0.19*** (0.00)	1.00						
Member (avg)	0.30*** (0.00)	0.20*** (0.00)	0.32*** (0.00)	0.17*** (0.00)	0.70*** (0.00)	0.20*** (0.00)	1.00					
Parents: member (avg)	0.11*** (0.00)	0.45*** (0.00)	0.14*** (0.00)	0.50*** (0.00)	0.20*** (0.00)	0.79*** (0.00)	0.25*** (0.00)	1.00				
Interest (avg)	0.15*** (0.00)	0.11*** (0.00)	0.12*** (0.00)	0.08* (0.01)	0.23*** (0.00)	0.19*** (0.00)	0.28*** (0.00)	0.25*** (0.00)	1.00			
Parents: interest (avg)	0.07* (0.01)	0.19*** (0.00)	0.09** (0.00)	0.20*** (0.00)	0.15*** (0.00)	0.32*** (0.00)	0.19*** (0.00)	0.36*** (0.00)	0.35*** (0.00)	1.00		
Support (avg)	0.09*** (0.00)	0.05 (0.09)	0.06* (0.02)	0.05 (0.13)	0.20*** (0.00)	0.10*** (0.00)	0.25*** (0.00)	0.18*** (0.00)	0.55*** (0.00)	0.28*** (0.00)	1.00	
Parents: Support (avg)	0.04 (0.16)	0.06 (0.06)	0.03 (0.23)	0.08* (0.01)	0.09*** (0.00)	0.13*** (0.00)	0.12*** (0.00)	0.20*** (0.00)	0.19*** (0.00)	0.59*** (0.00)	0.30*** (0.00)	1.00
Observations	1726											

Observations restricted to sample of split-offs and their parents and values averaged over post-leave years (filial generation) and pre-leave years (parental generation)

p-values in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

References

Almond, G. A. & Verba, S. (1989[1963]). *Civic culture—Political attitudes and democracy in five nations*. London: Sage Publications.

Anger, S., & Heineck, G. (2010). Do smart parents raise smart children? The intergenerational transmission of cognitive abilities. *Journal of Population Economics*, *23*(3), 1105–1132.

Ayala, L. J. (2000). Trained for democracy: The differing effects of voluntary and involuntary organizations on political participation. *Political Research Quarterly*, *53*(1), 99–115.

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs: Prentice-Hall.

Bekkers, R. (2005). Participation in voluntary associations: Relations with resources, personality, and political values. *Political Psychology*, *26*(3), 439–454.

Bekkers, R. (2007). Intergenerational transmission of volunteering. *Acta Sociologica*, *50*(2), 99–114.

Beutel, A. M., & Johnson, M. K. (2004). Gender and prosocial values during adolescence: A research note. *The Sociological Quarterly*, *45*(2), 379–393.

BHPS. (2010). *British household panel survey: Waves 1–18, 1991–2009. [data collection]* (8th Edn.). UK Data Service. SN:5151. https://doi.org/10.5255/UKDA-SN-5151-2.

Binder, M. (2017). Enhancing democracy: Can civic engagement foster political participation and subjective well-being? SSRN Working Paper No. 2967479. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2967479 (**accepted for publication in: Social Science Quarterly**).

Bisin, A., & Verdier, T. (2011). The economics of cultural transmission and socialization. In J. Benhabib, A. Bisin, & M. O. Jackson (Eds.), *Handbook of social economics* (Vol. 1A, pp. 339–416). Amsterdam: North-Holland.

Black, S. E., & Devereux, P. J. (2011). Recent developments in intergenerational mobility. *Handbook of Labor Economics*, *4*, 1487–1541.

Bowles, S., Gintis, H., & Groves, M. O. (2005). *Unequal chances: Family background and economic success*. Princeton: Princeton University Press.

Boyce, C. J., Wood, A. M., & Powdthavee, N. (2013). Is personality fixed? Personality changes as much as "variable" economic factors and more strongly predicts changes to life satisfaction. *Social Indicators Research*, *111*(1), 287–305.

Boyd, R. N., & Richerson, P. J. (1985). *Culture and the evolutionary process*. Chicago: University of Chicago Press.

Brady, H. E., Verba, S., & Schlozman, K. L. (1995). Beyond SES: A resource model of political participation. *The American Political Science Review*, *89*(2), 271–294.

Burbidge, J. B., Magee, L., & Robb, A. L. (1988). Alternative transformations to handle extreme values of the dependent variable. *Journal of the American Statistical Association*, *83*(401), 123–127.

Cameron, A. C., & Trivedi, P. K. (2010). *Microeonometrics using stata*. College Station: Stata Press.

Costa, P. T. J., & McCrae, R. R. (1994). Set like plaster? Evidence for the stability of adult personality. In T. F. Heatherton & J. L. Weinberger (Eds.), *Can personality change?* (pp. 21–40). Washington, DC: American Psychological Association.

Dekker, P. (2014). Tocqueville did not write about soccer clubs: Participation in voluntary associations and political involvement. In M. Freise & T. Hallmann (Eds.), *Modernizing democracy: Associations and associating in the 21st century* (pp. 45–57). New York: Springer.

Doepke, M., & Zilibotti, F. (2008). Occupational choice and the spirit of capitalism. *The Quarterly Journal of Economics*, *123*(2), 747–793.

Dohmen, T., Falk, A., Huffman, D., & Sunde, U. (2012). The intergenerational transmission of risk and trust attitudes. *The Review of Economic Studies*, *79*(2), 645.

Donnellan, M. B., & Lucas, R. E. (2008). Age differences in the big five across the life span: Evidence from two national samples. *Psychology and Aging*, *23*(3), 558–566.

Ermisch, J., & Francesconi, M. (2004). Chapter 7: Intergenerational mobility in britain: New evidence from the british household panel survey. In M. Corak (Ed.), *Generational income mobility in North America and Europe* (pp. 147–189). Cambridge: Cambridge University Press.

Fletcher, A. C., Elder, G. H., & Mekos, D. (2000). Parental influences on adolescent involvement in community activities. *Journal of Research on Adolescence*, *10*(1), 29–48.

Freise, M., & Hallmann, T. (Eds.). (2014). *Modernizing democracy: Associations and associating in the 21st century*. New York: Springer.

Fung, A. (2003). Associations and democracy: Between theories, hopes, and realities. *Annual Review of Sociology*, *29*, 515–539.

Gosling, S. D., Rentfrow, P. J., & Swann, W. B. J. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, *37*, 504–528.

Gutmann, A. (Ed.). (1998). *Freedom of association*. Princeton: Princeton University Press.

Hampson, S. E., & Goldberg, L. R. (2006). A first large cohort study of personality trait stability over the 40 years between elementary school and midlife. *Journal of Personality and Social Psychology*, *91*(4), 763–779.

Janoski, T., & Wilson, J. (1995). Pathways to voluntarism: Family socialization and status transmission models. *Social Forces*, *74*(1), 271–292.

Kamerāde, D., Mohan, J., & Sivesind, L. H. (2015). *Third sector impacts on human resources and community: A critical review*. New York: Mimeo.

Kasser, T., Ryan, R. M., Zax, M., & Sameroff, A. J. (1995). The relations of maternal and social environments to late adolescents' materialistic and prosocial values. *Developmental Psychology*, *31*, 907–914.

Levy, H., & Jenkins, S. P. (2008). *Documentation for derived current and annual net household income variables. BHPS waves 1–16*. New York: Mimeo.

Li, Y., Pickles, A., & Savage, M. (2005). Social capital and social trust in Britain. *European Sociological Review*, *21*(2), 109–123.

McCrae, R. R., & Costa, P. T. J. (2003). *Personality in adulthood—A five-factor theory perspective* (2nd ed.). New York: Guilford.

Mustillo, S., Wilson, J., & Lynch, S. M. (2004). Legacy volunteering: A test of two theories of intergenerational transmission. *Journal of Marriage and Family*, *66*(2), 530–541.

Necker, S., & Voskort, A. (2014a). Intergenerational transmission of risk attitudes—A revealed preference approach. *European Economic Review*, *65*, 66–89.

Necker, S., & Voskort, A. (2014b). Politics and parents—Intergenerational transmission of values after a regime shift. *European Journal of Political Economy*, *36*, 177–194.

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, *6*(1), 65–78.

Putnam, R. D. (2000). *Bowling alone*. New York: Simon & Schuster.

Quintelier, E. (2008). Who is politically active: The athlete, the scout member or the environmental activist? Young people, voluntary engagement and political participation. *Acta Sociologica*, *51*(4), 355–370.

Sacerdote, B. (2002). The nature and nurture of economic outcomes. *The American Economic Review*, *92*(2), 344–348.

Taylor, M. F. E. (2010). *British household panel survey user manual volume A: Introduction*. In J. Brice, N. Buck, & E. Prentice-Lane (Eds.), Technical Report and Appendices. Colchester: University of Essex.

Tocqueville, A. D. (2010[1835-1840]). *Democracy in America*. Indianapolis: Liberty Fund.

Van Der Meer, T. W., & Van Ingen, E. J. (2009). Schools of democracy? Disentangling the relationship between civic participation and political action in 17 European countries. *European Journal of Political Research*, *48*(2), 281–308.

Volland, B. (2013). On the intergenerational transmission of preferences. *Journal of Bioeconomics*, *15*(3), 217–249.

Waldkirch, A., Ng, S., & Cox, D. (2004). Intergenerational linkages in consumption behavior. *The Journal of Human Resources*, *39*(2), 355–381.

Wilhelm, M. O., Brown, E., Rooney, P. M., & Steinberg, R. (2008). The intergenerational transmission of generosity. *Journal of Public Economics*, *92*(10), 2146–2156.

Wilson, J. (2012). Volunteerism research. *Nonprofit and Voluntary Sector Quarterly*, *41*(2), 176–212.

Yates, M., & Youniss, J. (1998). *Roots of civic identity: International perspectives on community service and activism in youth*. Cambridge: Cambridge University Press.

Zaff, J. F., & Michelsen, E. (2001). *Background for community-level work on positive citizenship in adolescence: Reviewing the literature on contributing factors*. New York: Mimeo.