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VOCATIONAL EDUCATION AND ACTIVE CITIZENSHIP BEHAVIOR IN CROSS-NATIONAL PERSPECTIVE

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ABSTRACT

Educational systems should provide students with job-relevant skills as well as prepare students for active citizenship. These two core functions of schools may be in conflict with each other, as diversified and vocationally specific educational systems usually do well in terms of labor market preparation (e.g. reduce youth unemployment) but may be detrimental to (commonality in) citizenship education. Yet, there has been no cross-national research that examines the relationship between educational track (vocational or general) and citizenship behavior. This paper investigates whether track placement affects political interest and participation in voluntary organizations for 17 countries, using IALS data and employing multilevel models. It was shown that people educated in vocational programmes were less active citizens than people educated in general education. Moreover, these differences were stronger in strongly stratified educational systems relative to comprehensive systems, indicating that vocationally oriented schooling systems prepare less well for active citizenship than for the labor market.

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1. INTRODUCTION

In cross-national studies of social stratification and labor market sociology, one persistent finding is that in countries with an extensive vocational educational system, youth unemployment is lower, poverty is lower, and school leavers' chance of unskilled work are reduced (Allmendinger 1989; Breen & Buchmann 2002; Breen 2005; Moller et al. 2003; Ryan 2001; Shavit & Müller 1998). Countries such as Germany, the Netherlands and Switzerland are, in that sense, seen as success stories of how to organize educational systems. This has led many governments to look at the German case (see e.g. Culpepper & Finegold 1999; Hansen & Vignoles 2005), and to strengthen the vocational sector in their educational systems, albeit often unsuccessfully.

However, the strong emphasis on providing relevant skills for the labor market disregards another important task for educational institutions, namely to develop citizens who actively participate in society. It remains to be seen whether civic education benefits from educational systems with a strong focus on vocational skills. As vocationally oriented educational systems usually stream pupils into different tracks early in the school career (e.g. at age 10 in Germany, or age 12 in the Netherlands), it may be difficult for such systems to provide training to all pupils in the sorts of skills that are usually thought to be relevant for each individual citizen *equally*, such as knowledge of institutions and organizations in society, the ability to keep track of the news, or to be informed about politics and democracy. Thus, whereas an early streaming of students into different tracks may enhance the transparency of qualifications for labor market purposes, thereby emphasizing *variation* across the pool of school leavers looking for jobs, it may be less successful in providing civic education, and more particularly *commonality* in civic education. This element of commonality is relevant because it serves democratic equality (cf. Verba et al. 1978; Verba et al. 1995). Research on the impact of track placement on citizenship outcomes is scarce, and I am not aware of any study that examines cross-national variation in this impact.

To explain cross-national variations in the impact of schooling on youngsters' integration in society, it is useful to look at the variety of structural-institutional schooling arrangements in cross-national perspective. This structural-institutional perspective is hardly available in the citizenship literature. Thus far – mostly national – studies on citizenship education typically have concentrated on the classroom implementation of citizenship education, and whether this has led to changes in students' attitudes and behavior. A large international project on citizenship education among 14-year olds, the Civic Education Study of the International Association for the Evaluation of Educational Achievement, has compared countries, but mainly from a classroom implementation perspective, rather than from a structural-institutional perspective (Torney-Purta et al. 2001). Although these

studies have revealed significant differences across countries in the level of civic skills and attitudes, this variation has not been connected to cross-national differences in educational systems.

Therefore, the citizenship literature does not cover the same width in perspectives as the literature on vocational education. Whereas the literature on vocational education includes both educational studies on the content of vocational education and sociological studies on the school-to-work transition and social selection – the latter being far less concerned with a detailed description of the content of education than with its cross-national variation in institutions – with regard to citizenship education the broader explanation of cross-national variation through institutional variation has not been very high on the agenda.

Given this omission, there is no literature that connects the stratification sociological studies on institutional effects on labor market outcomes with the research mostly from educational studies on civic education. With regard to the stratification literature, which is increasingly matching up with political economy studies on welfare state design (e.g. Müller and Gangl 2003; Moller et al. 2003), there has evolved a large consensus that a vocational educational system is good for young people's integration into the labor market. Empirical studies have, for example, shown that a dual system of combined work-school enrolments smoothened the transition from school to work by reducing youth unemployment (Van der Velden and Wolbers 2003; Breen 2005; Breen & Buchmann 2002; Ianelli & Raffe 2007). However, research on vocational education has mainly looked at economic issues, "setting aside such issues as personal development and social exclusion" (Ryan 2001: 74). The theme of social exclusion, or social cohesion, is extremely relevant in comparative research, and we need to know more about other indicators of social cohesion besides labor market integration, such as civic engagement and political behavior.

Therefore, this paper asks the question to what extent educational track placement affects citizenship outcomes (in terms of participation in voluntary associations, and political interest), and whether this influence varies across educational institutional structures (i.e. countries). Moreover, if this is so, this paper aims to explain cross-national variation in the impact of schooling on citizenship behavior. These research questions are answered using information from 17 countries of the International Adult Literacy Survey (IALS) in combination with national-level statistics on educational systems. This dataset is very useful because it includes detailed information on educational attainment (including track placement) and some useful indicators of active citizenship.

Moreover, the IALS data were designed to measure literacy, which is a valuable indicator of cognitive ability (e.g. Kerckhoff et al. 2001). Because countries are likely to vary with regard to the selectivity of track placement by cognitive ability, controlling for cognitive ability is essential in studying cross-national variation in the impact of track placement on citizenship outcomes.

2. VOCATIONAL EDUCATION AND CITIZENSHIP BEHAVIOR

A core task of education is to prepare students for participation in society. The role of education in preparing for citizenship has mainly been studied by educationalists and political scientists studying citizenship education. The premise of this approach is that employment is relevant, but not sufficient, for integration in society. In addition to labor market integration, active citizenship can be seen as crucial for young people's integration in society.

The impact of education on active citizenship has been studied frequently. Political scientists stress that political participation and civic engagement are affected by the resources people have available to them (including civic skills) and the extent to which people are part of networks that stimulate political activity (Verba et al. 1978; Brady, Verba and Schlozman 1995). Both aspects are related to schooling; through education people acquire the civic skills and attitudes that influence active citizenship, and because schooling is related to social networks (with causality running both ways) low educated people are less likely than highly educated persons to vote at elections, be member of voluntary organizations, or subscribe to democratic attitudes (Brady et al. 1995; Bekkers 2005; Gesthuizen 2006; Phelan et al. 1995). Moreover, educational level affects democratic attitudes differently across countries, with stronger effects in countries with a long democratic tradition than in recently established democracies (Weil 1985; Coenders and Scheepers 2003).

However, neither students of citizenship education nor of political socialization more generally have carefully studied the impact of track placement on citizenship outcomes in comparative perspective. Possibly due to the inadequate measurement of education in cross-national surveys on citizenship outcomes (such as the World Values Survey, the European Values Survey, data from the International Social Survey Programme, or the IEA Civic Education Study), we know next to nothing about the variation between people educated in different educational tracks in terms of political participation, memberships of organizations, social trust, or democratic attitudes. This lack of knowledge is unfortunate because people educated in different tracks receive different kinds of education, plausibly also in terms of the skills relevant for active citizenship. Indeed, the foundation of adult citizenship behavior is laid during youth, so that an understanding of what is happening at the formative period of youngsters is essential for understanding adult variation in citizenship behavior (McFarland & Thomas 2006).

One study by Green et al. (2006) has studied the interplay between education, equality, and social cohesion. Their results, based on aggregate (country-level) data, showed two important findings. First, it was shown that higher dispersions of earnings and educational attainment in a country (i.e. more 'inequality' in these measures) are associated to lower levels of 'social cohesion' (in terms of higher crime rates, lower social trust, and lower levels of memberships of organizations). Second, they found that educational systems that stream pupils in different tracks are associated to higher levels of inequality in terms of dispersion of literacy or cognitive abilities (cf. Hanushek & Woessmann 2005). Relatedly, it has been argued (Erikson and Jonsson 1996) and empirically found (Schuetz et al. 2005; Brunello and Checchi 2007) that in early-tracking systems, class inequality in terms of educational attainment is larger than in countries with less and later tracking. Importantly, according to Green et al. (2006) the focus should be on the *distribution* of schooling in a society rather than on the average *amount*, in order to understand cross-national variation in citizenship behavior. Furthermore, they "posit, but do not explore, the possibility that different forms of school socialization may have differential impacts on social cohesion at the national level" (Green et al. 2006: 54). In other words, their study has not analyzed the third link in the triangle of education, equality and social cohesion: that between comprehensive schooling and social cohesion. With the focus on the relationship between educational tracking and citizenship the present paper fills this gap in the literature.

Which variations across educational tracks can be expected in terms of social and political participation? It is likely that people educated in vocational tracks receive less education in the general skills that are deemed important for civic participation. Vocational tracks are designed to prepare students for work through the provision of work-relevant skills, leaving less room for citizenship classes, or the provision of general skills that enhance active participation (such as literacy and communicative skills). This implies that the *resources* people have available to them (in terms of civic skills, see Brady et al. 1995) vary across education groups. Furthermore, in addition to resources, also the *'recruitment networks'* in which people are enrolled are likely to vary across educational groups, through which active participation is affected (Brady et al. 1995: 271; Bekkers et al. forthcoming; Eckstein 2001). Because, as Marshall (1950) argued, a 'divided' education system (into several tracks) emphasizes social distance by promoting intra-class similarity and inter-class difference, people educated in vocational schools belong to different networks with different habits and norms regarding social participation than people educated in general education or with tertiary qualifications. For these various reasons it can therefore be expected that people educated in vocational programmes have lower commitment to active citizenship than people educated in general educational tracks at the same level *(hypothesis 1)*.

This hypothesis has thus far not been tested at all. One empirical study that has studied the variation across tracks in civic *education* is the work by Niemi and Junn (1998). Their descriptive findings showed that, in the vocational track 12 percent of 9th-12th graders did not take any American government/civics course, whereas this was only 6 percent for students enrolled in the college-preparatory track. Unfortunately their study did not incorporate track placement as independent variable predicting civic *knowledge* or any other type of citizenship outcome.

3. CROSS-NATIONAL VARIATION IN THE IMPACT OF SCHOOLING

Given that the American high-school system is generic in nature, and has a low level of institutionalized tracking in separate schools, and does not have completely separated curricula at the secondary level (such as in a number of European countries) it could be precisely this element of the American system that would cause a low impact of track placement on citizenship outcomes.[1] Therefore, it is relevant to study cross-national variation in the impact of educational attainment on citizenship outcomes.

There are two alternative hypotheses about cross-national variation. On the one hand, as stated above, in strongly institutionalized tracked systems, with a large share of vocationally qualified students, there may be *stronger* effects of track placement on civic participation relative to comprehensive schooling systems (*hypothesis 2a*). In such systems, separation of school pupils is more rigid, in separate schools or school buildings, and for the full multiple-years duration of the programme, whereas in less rigid tracking systems (such as the United States) students are less strictly separated in separate school buildings; are separated on a year-by-year basis; or are even less rigidly separated by subject. Additionally, in vocationally oriented schooling systems there is often a strong involvement of employers in the design of vocational education. Because it is not in their interest to prepare students for democratic participation in society at large, vocationally qualified students may receive relatively weak citizenship education in strongly developed vocational systems.

Also in support of this hypothesis is an argument about the impact of selection in education on citizenship education. Despite recent trends to improve citizenship education in all educational programmes in many countries, if this education is given in separate schools and classrooms for different types of students the commonality is reduced. Essential to citizenship education is that it is an important institution where the state should endorse full equality towards its younger citizens. Given that track placement is affected by social class and ethnicity in many countries, separate citizenship classes could prohibit the mutual understanding and integration of groups of diverse backgrounds. Communication, central to citizenship education ever since Dewey (1966[1916]), may then be harmed by separation (cf. Vygotsky 1978; Torney-Purta 2002).

[1] An unpublished conference paper by Damico et al. (1996) showed no differences across educational tracks in adult community participation and political activity in the United States, but their empirical model included also democratic attitudes as independent variable. Because this variable may well serve as an intermediating variable it is still plausible that track placement has a continuing 'total' effect on citizenship behavior, intermediated by democratic attitudes, even in the United States. intermediated by democratic attitudes, even in the United States.

Vocationally oriented schooling systems are often the same systems that select their pupils early in the school career. For example, in Germany, the archetypical example of a vocationally oriented system, an important educational decision is made at the age of 10, and in the Netherlands, another country with strongly vocationally oriented educational institutions, at the age of 12.

On the other hand it may be argued that vocational education attracts different student populations in different countries, with vocational students being more negatively selected (e.g. on academic ability, parents' social class, or motivation) in systems with limited vocational educational institutionalization than in highly vocationalized systems. In highly vocationalized systems, a vocational qualification is more acceptable, because it leads to good employment opportunities. In less vocationalized systems, such as the United States, Britain, or Scandinavian countries, the negative impact of vocational education on working lives are so tremendous that Alison Wolf called British vocational education "a great idea for other people's children" (Wolf 2002: 56). To the extent that this differential selection across countries takes place, vocational education may have a stronger negative effect on citizenship in less vocationally oriented schooling systems than in strongly vocationally oriented systems. If attributes that affect track placement are also affecting active participation in society, such as literacy, social class, and motivation, such a differential selection will lead to lower civic engagement of vocationally educated students in generic systems than in vocationally oriented systems. In addition, due to these processes vocational education may lead to a stronger negative stigma in generic systems which may lead to refraining from active participation in society. This reasoning would therefore lead to the hypothesis that vocational track placement has a *weaker* effect on citizenship outcomes in strongly vocationally oriented schooling systems (*hypothesis 2b*).

4. DATA, VARIABLES AND RESEARCH DESIGN

4.1. DATA

Data are employed of the International Adult Literacy Survey (IALS), collected among 19 countries in 1994 and 1998, of which between 10 and 17 countries are used for the analysis (conditional on availability of the dependent variables, which were not part of the questionnaires in all countries). Because the interest is in the formative function of schooling, I limit the analysis to individuals between 18 and 44 years old. This dataset is very useful for several reasons. First, it is the best available cross-national dataset that includes both detailed information on educational attainment (including track placement) and valuable indicators of citizenship behavior. Building upon the citizenship literature crucial forms of behavior that indicate active citizenship are a personal interest in politics, and active participation in voluntary associations (e.g. in clubs, unions, charity). For each of these outcomes useful indicators are available in the IALS data, although not for every country. Although other datasets include more diverse forms of citizenship outcomes, such as democratic attitudes and more detailed measurement of social and political participation, thereby offering a wider range of dependent variables, these datasets are typically too limited in measuring educational attainment for our purposes (e.g. World Values Survey, European Values Survey, and the International Social Survey Programme). Although the European Social Survey has better measurements of education, using the ESS would limit the analysis to European countries (and without information about cognitive ability, another advantage of IALS, see below). The IALS data include both European and American countries, so that our analysis is not limited to Europe.

Another dataset that could have been useful for our purposes had it included better measurements of track placement, is the Civic Education Database (CIVED) collected among fourteen-year old pupils in 28 countries from various continents (Torney-Purta et al. 2001). This dataset is specifically aimed at the measurement of citizenship outcomes (mainly in terms of attitudes and *intentions* of future behavior) and to relate it to citizenship education. However, the CIVED data have no information on individual track placement, not even for the countries where tracks already exist at the year in which fourteen-year old pupils are typically enrolled. For some countries data are only collected among pupils enrolled in general tracks. One important advantage of the CIVED data could have been that we would have had detailed information about the content of civic education, something we do not have in the IALS data. Although with the IALS data we thus have to make assumptions about the variation in citizenship education across educational tracks, this assumption is validated by earlier work (Niemi and Junn 1998). It should furthermore be noted that comparative research on the effect of vocational education on school-to-work transitions has to deal with similar

(very likely) assumptions, namely that work-relevant skills are more strongly provided in vocational tracks than in general or academic tracks.

A second major advantage of the IALS data in comparison to other cross-national datasets is that it includes valid and reliable measures of literacy, which serves as a good proxy for cognitive ability (Kerckhoff et al. 2001). Given the primary focus of the IALS to measure literacy among cross-sections of adult populations, the efforts in measuring it are tremendous. With a battery of fifteen test items, three elements of literacy are measured: prose literacy, document literacy, and numerical literacy. In the present study the three elements of literacy are included in one overall measurement, because factor analysis did not discriminate among the elements, and reliability of the whole scale was 0.97. The advantage of having a literacy measure as proxy of cognitive skills is that it captures important skills for active citizenship. Being interested in politics and participation in social organizations is facilitated by literacy skills. It is therefore important to control for literacy if we are interested in the causal effect of schooling on active citizenship.[2]

4.2. MEASURING ACTIVE CITIZENSHIP

Active citizenship is a social scientific concept that could include many forms of behavior, attitudes, and intentions. The most general understanding of active citizenship is that it includes forms of behavior, intentions, attitudes and opinions that foster participation in society and thereby promote social cohesion at the societal level. An important element of this understanding is that social cohesion at the macrolevel is the main focus, and that social cohesion at lower levels (e.g. within ethnic or religious groups, or within neighborhoods) not necessarily corresponds to cohesion at the macro-level. This is why the schooling system should offer citizenship education in the same way to all pupils, and why stratified educational systems may not be able to do this equally successfully as comprehensive schooling systems can. Importantly, due to trends of globalization, the changing populations because of immigration, and the "multiple loyalties" that may come with it, theorists stress that citizenship education should not be limited to the nation state, but should encompass the "increasingly interdependent world" (Osler & Starkey 2003: 245).

[2] It should be noted that the effect of education on active citizenship without controlling for literacy could also indicate a total, rather than spurious effect of schooling. Schooling enhances literacy, but also selects on literacy, so that controlling for literacy may indicate that the effect of education either runs partly through literacy (as indirect effect) or is partly spurious (to the extent that literacy affects schooling levels). In the economics literature this causality issue is studied when human capital and screening explanations of the schooling effect on wages are compared (e.g. Groot & Oosterbeek 1994; Weiss 1995). Because of this, we estimate models with and without ability.

I study two useful indicators of active citizenship available in the IALS data: active participation in voluntary organizations, and being interested in politics. *Active participation in voluntary organizations* is important for social cohesion because civil society is a main driving force behind interest formation, social communication, and connecting people. It is a form of behavior of great concern among scientists studying the decline of social capital (e.g. Putnam 2000; Andersen et al. 2006). Participation in voluntary organizations is measured in the IALS with one single item, asking "How often do you participate in volunteer or community organizations?" The answer categories of this variable were: never, several times a year, monthly, weekly, or daily. The answer categories were recoded to times per year.[3] In the regression analyses the natural logarithm of that amount was used. The following seventeen countries are available for our analysis of this dependent variable: Switzerland, Germany, USA, Ireland, Netherlands, Poland, New Zealand, Great Britain, Belgium, Italy, Norway, Slovenia, Czech Republic, Denmark, Finland, Hungary, Chile (N=22,517).[4] Given the large number of countries (in comparison to the other dependent variable), and the strong emphasis on voluntary organization participation in citizenship studies, it is this variable that I consider most important for our test of the hypotheses. The other dependent variable, which can be analyzed for a smaller number of countries, is studied in order to re-test the analyses on participation in voluntary organizations, assuming that finding opposite results is more problematic than finding weaker effects.

Our other dependent variable, *political interest*, is important for active citizenship because it is through democratic participation that interests of diverse groups can be balanced in designing policy. If particular groups refrain from politics, their voice may not be fully heard, so that policy is not fully balanced to their interests. Hence, structurally under-represented groups in parliaments may feel increasingly disconnected from society, which may lead to lower levels of social cohesion. Democratic attitudes are at the heart of many citizenship studies (e.g. Torney-Purta et al. 2001; Niemi & Junn 1998). Although our dependent variable is not necessarily capturing democratic attitudes, as one may be very interested in politics but has a negative stance towards democracy, it is clear that political participation is strongly affected by political interest (e.g. Van Egmond, De Graaf and Van der Eijk 1998). Political interest is measured with the following survey question: "Would you say that you follow what is going on in current events, public affairs, and the government most of the time, some of the time, only now and then, or hardly at all?" Given that it is impossible to scale the answer categories on an interval scale, we dichotomized the answer categories for political interest, with answers 'some of the time' and 'most of the time' indicating political interest, and the

[3] The assigned values were 0.1 for never, 5 for several times per year, 11 for monthly, 48 for weekly, and 288 for daily (48 weeks times six days), of which we took the natural logarithm. If the original response in scores 1-5 was used in a linear model specification, the results are similar in terms of significance and sign of main effects and interaction terms.

[4] Sweden is not analyzed because it lacks information on household income, which we include as control variable. Canada is not included because there is no detailed measurement of level of schooling (only in years).

other answers indicating no political interest..[5] This dependent variable can be studied for the following 10 countries: Switzerland, USA, Netherlands, Great Britain, Italy, Slovenia, Czech Republic, Finland, Hungary, Chile (N=14,086).

The average scores on the two indicators of active citizenship by educational attainment and country are shown in Appendix table A1.

4.3. INDEPENDENT INDIVIDUAL-LEVEL VARIABLES

Educational attainment is operationalized with six categories: primary education (value 0), lower secondary vocational (1); lower secondary general (2), upper secondary vocational (3), upper secondary general (4) and tertiary (5). This variable is constructed using a survey question about the level of education and a follow-up question whether this education was general/academic or vocational.

The following control variables are included: *age*, *gender*, *household income* (in within-country quintiles, which is the way it is included in the dataset), and parental educational level (primary, lower secondary, upper secondary, tertiary).

Importantly, the present study incorporates the 'positive' effects of vocational schooling for labor market outcomes in the analysis of active citizenship. This is essential because employment (which is promoted by vocational schooling in many countries, see Shavit and Müller 1998) is in itself a potentially valuable avenue to reduce social exclusion. This is implemented by examining whether the impact of vocational education on citizenship behavior is prevalent after controlling for *employment status*, operationalized with dummy variables for 'employed', 'not in labor force', unemployed', and 'unknown'. Together with household income this variable offers sufficient controls for the potential positive effects of vocational education.

[5] The models for this binary dependent variable are estimated with the xtlogit programme in Stata. An alternative model for the four-category variable would have been the random effects ordered logit models available in the gllamm package in Stata. These models were estimated but they did not converge. Also a linear multilevel model was estimated on the ordered dependent variable. The results of this analysis were only different with regard to the effects of the macrovariables. The Coordination index and the Stratification index had no significant impacts on political interest in the linear model, but do have significant impacts in the xtlogit model. Besides that, the general pattern regarding the direction and significance of the effects of educational attainment and its interaction with macrovariables is the same as with the present models.

4.4. MACRO-LEVEL VARIABLES

It is not straightforward how to operationalize the tracking of educational systems. Although some have argued that, with regard to explaining youth unemployment rates, the dual system of work-school based learning is most important (Breen 2005), it is only one indicator of many, and by itself not very satisfactory because a great number of countries do not have a dual system at all. Another valuable indicator is the percentage of students enrolled in vocational programmes within upper secondary education. However, such an indicator alone will not capture the extent to which students are separated in educational tracks before they reach upper secondary education. The age of first selection in the educational system is valuable for that purpose, but by itself it does not say anything about the vocational orientation of systems. Yet, given that between 10 and 17 countries are analyzed, it is useful to develop one single variable that captures the extent and system of tracking and vocational orientation. This is done by a factor analysis on a file with N=19 countries (all IALS countries), with five country-level indicators obtained from OECD data: the percentage of upper secondary students enrolled in vocational programmes (OECD 1998: table C2.1); the percentage enrolled in a dual system (OECD 1998: table C2.1); the age of first selection in the schooling system (OECD 1993); the net enrolment rates in vocational and technical programmes at ages with the highest upper secondary enrolment (OECD 1998, table C2.2a); the gross enrolment rate at the typical age in vocational and technical programmes within first educational programmes (OECD 1998, table C2.2a). For Slovenia (which is not part of the OECD nor of the affiliated states for which statistics are collected by the OECD) the first three have been obtained from official statistics of Slovenia. The latter two variables were not available for Slovenia. For Italy the net enrolment rate was missing in the OECD data. For these two countries the factor score was imputed with OLS regression based on their scores on the first three variables. The factor loadings were very high, with –0.681 for age of first selection, 0.959 for percentage of upper secondary vocational enrolment; 0.929 for net enrolment rate; 0.786 for gross enrolment rate, and 0.648 for dual system enrolment. The saved factor score was standardized across the 19 countries with mean=0 and standard deviation =1, and merged with the individual datafile. This indicator is labeled the Stratification of Educational Systems Index.

A second macro-level variable that is included mainly serves as a control variable. Recent neo-institutionalist work has argued that cross-national variation in voluntary association membership is not only caused by cross-national differences in value systems, as may be derived from the work of Putnam (2000) and in particular Inglehart (1997), but also by the extent to which "sovereign actorhood" is principally assigned to either private persons or social groups (Schofer and Fourcade-Gourinchas 2001). In corporate social systems, it is argued, "a higher moral purpose [is assigned] to

organized groups, empowering individuals chiefly as members of broader collectives that have specific rights and functions" (Schofer & Fourcade-Gourinchas 2001: 813; cf. Jepperson 2002). Such countries, it is argued and empirically demonstrated, encourage civic activities because the state supports "collective institutional arrangements as a way of promoting economic and political order" (p. 813-814).

Institutional variation in corporateness (or coordination) is important to control for in the present study, because it is positively related to the (development of the) system of vocational education (Culpepper and Finegold 1999; Thelen 2004; Iversen & Soskice 2001). In strongly coordinated societies institutions governing the development of employment relations are precisely those institutions that Schofer and Fourcade-Gourinchas (2001) see originating from the guilds in the 19th century (see e.g. Thelen 2004). Through coordination, systems of vocational education are set up, which can only successfully be maintained if corporate actors agree on some form of employment protection (Iversen and Soskice 2001; Estevez-Abe et al. 2001). We include a measurement of coordination that has recently been developed for a large number of countries, including Central and Eastern Europe (Knell and Srholec 2007). Based on an approach by Hall and Gingerich (2004), who analyzed only Western societies, Knell and Srholec calculate the level of coordination in a society on three dimensions: social cohesion, labor market regulation, and business regulations. We employ their overall measure of coordination consisting of all three dimensions, which we standardized for the 19 IALS countries with mean=0 and standard deviation =1.[6] Table 1 shows the values of the aggregate variables per country.[7]

[6] Chile was the only country of IALS not included in the coordination measure of Knell and Srholec (2007). I set Chile at the average value of coordination among the 19 IALS countries, and checked whether the effects of macro-variables and their interactions with education varied in models with and without Chile. These results were obviously very similar, so I left Chile in the analysis. Furthermore, given the positive correlation of both aggregate variables (r = 0.74 on the country level), I also estimated models without coordination. These models led to the same conclusions as defended here, based on the signs and significance of coefficients of stratification, educational attainment and their interaction.

[7] I have also tried whether GDP per capita (PPP) affected citizenship behavior, but, like Curtis et al. (2001) and Schofer and Fourcade-Gourinchas (2001) I did not find an effect of GDP. This variable is left out of the analysis.

Table 1: Stratification of Educational System Index by Country

Country	BEL	CAN	CH	CHL	CZ	DK	FIN	GER	HUN	IRL	ITA	NL	NOR	NZ	POL	SLV	SWE	UK	USA
Stratification of Educational System Index	0.54	-2.09	0.58	-0.53	1.59	-0.18	-0.15	1.1	0.95	-0.97	0.51	0.5	0	-0.75	0.86	0.63	0.16	-0.68	-2.09
Coordination Index	-0.28	-1.62	-0.88	0.00	1.35	0.10	-0.70	1.44	-0.26	-0.57	1.37	1.00	-0.30	-1.01	0.06	1.75	0.62	-0.78	-1.30

Country abbreviations: BEL=Belgium, CAN=Canada, CH=Switzerland, CHL=Chili, CZ=Czech Republic, DK=Denmark, FIN=Finland, GER=Germany, HUN=Hungary, IRL=Ireland, ITA=Italy, NL=Netherlands, NOR=Norway, NZ=New Zealand, POL=Poland, SLV=Slovenia, SWE=Sweden, UK=United Kingdom, USA=United States
Source: *Stratification Index*: standardized factor scores of five national level variables obtained from OECD (1993; 1998).

Coordination index: Taken from Knell & Shrolec (2007). This measure is based on a factor score on: Gini coefficient, Highest marginal personal income tax rate; Highest marginal corporate income tax rate; Government final consumption expenditure (% of GDP); Difficulty of hiring workers index; Difficulty of firing workers index; Costs of firing workers (weeks of wages); Rigidity of working hours index; Number of start-up procedures to register a business; Time to resolve insolvency (years); Number of procedures to register property; and Stock market relative to banking sector in the financial system.

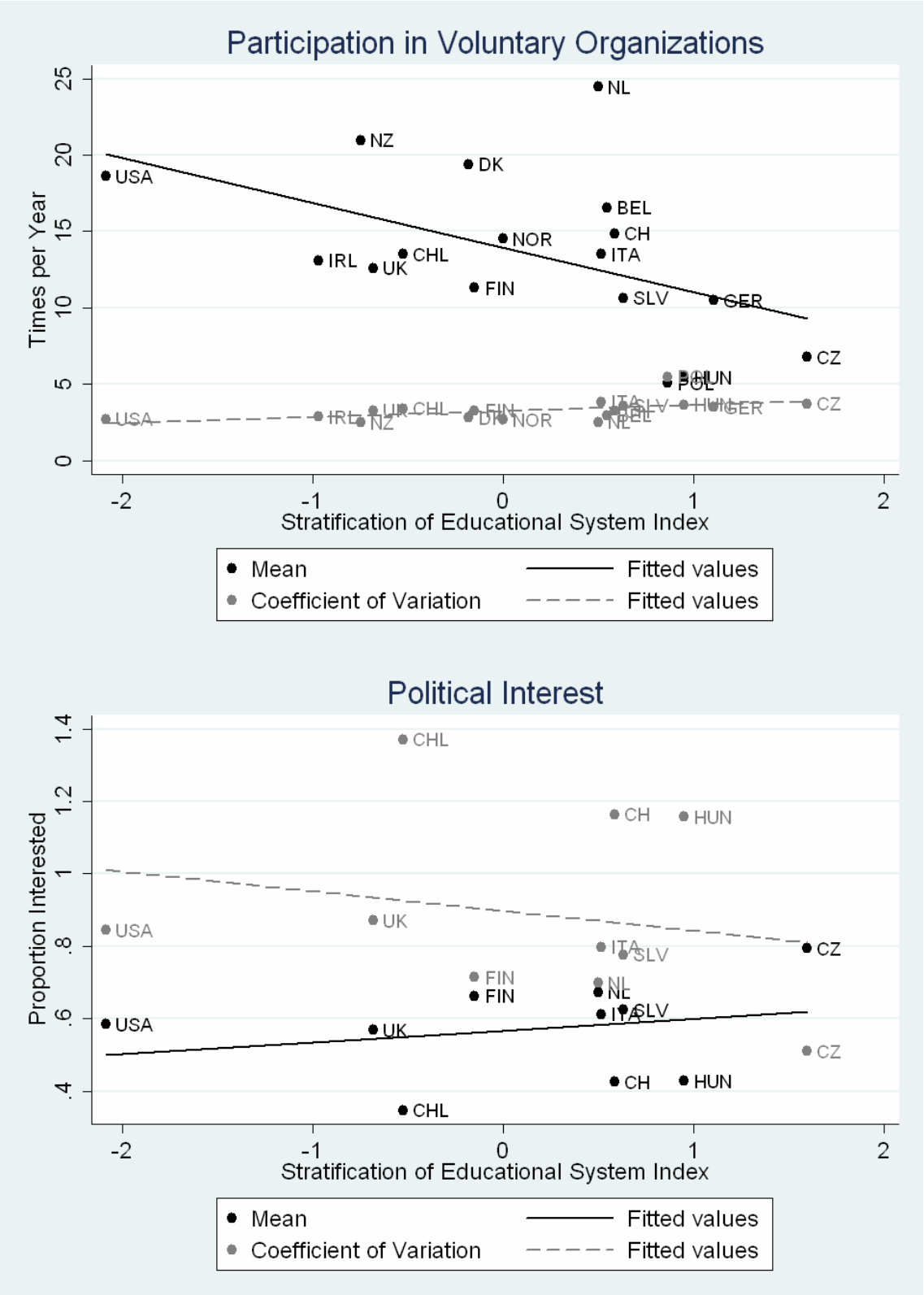
5. RESULTS

5.1 CITIZENSHIP BEHAVIOR ACROSS COUNTRIES

In order to see whether countries differ in the extent to which citizens participate actively in society through participation in voluntary associations and political interest, it is important to observe the average *level* and the *dispersion* of citizenship behavior. Figure 1 shows the mean and the coefficient of variation (standard deviation relative to the mean) of citizenship behavior by the extent of stratification of educational systems. The first graph, on participation in voluntary associations, shows that people living in countries with more extensive stratification of the educational system, participate less in voluntary and community organizations than people living in less stratified countries. The dispersion slightly increases with increasing stratification of the educational system. In that sense 'inequality' (in terms of dispersion) of active citizenship is larger in strongly stratified systems. These macro-observations could result from variations in participation across general and vocational educational programmes, but need not necessarily have to.

With regard to political interest we do not observe lower levels of interest in strongly vocationalized systems; instead political interest slightly increases with increased levels of stratification of the educational system. Although by itself interesting, this finding does not say anything about variation across educational programmes in political interest. Dispersion is lower the more strongly stratified a system is.

Figure 1: *Mean and Dispersion of Active Citizenship by Stratification of Educational System Index*



Source: IALS data; OECD (1993; 1998), Slovenian government files. Dispersion is measured by the coefficient of variation, which divides the standard deviation by the mean average score for each country.

Multi-level (hierarchical linear) models are employed to study the impact of individual level variables and the macro-level variables on citizenship outcomes. These models are random effects models.[8]

In order to analyze to what extent the two macro-level indicators (the stratification of the educational system and the coordination index) capture the variation at the level of countries, some variance component models were estimated. Given the hierarchical structure of the data, with individuals *i* nested in countries *j*, the individual score on the dependent variable Y_{ij} is a function of the overall average β, a country-level deviation from the overall average ζ_j, and the individual error term ε_{ij}, with, in the random intercept framework, ζ_j and ε_{ij} having a normal distribution with mean=0 and variance= ψ and θ, respectively (cf. Rabe-Hesketh and Skrondal 2005). By comparing the between-country variance of a model without and one with the two country-level variables, we can estimate what percentage of the between-country variance is captured by these two variables. Table 2 shows that, in line with Figure 1, the between-country variance in both outcomes is rather well explained by the two macro-variables. Around 34 percent of the between-country variance in participation in voluntary associations and 36 percent of the variance in political interest is captured by the two aggregate variables.

Table 2: *Between-country variance with and without inclusion of Macro-level variables*

	Without Macro variables	With Macro variables	% Explained
Participation in voluntary organizations	0.23	0.15	33.5
Political interest (log of the variance) [a]	-1.71	-1.10	35.9

[a] Given that in xtlogit models the country-level variance is computed by the formula $\sqrt{(\exp \sigma^2)}$, we compared the log of this variance.

[8] In order to test the acceptability of random effects models we also ran fixed effects models. From these fixed effects models, it appeared that the estimates (of education, parents' education, age, sex, employment status and household income) were very similar between fixed effects and random intercept models. Because of the advantage of random effects models to allow the inclusion of macro-level variables we use random effect models.

Table 3 shows estimates of random intercept models including the macro-variables and individual-level variables.

The first panel of Table 3 refers to the dependent variable participation in voluntary organizations, using the natural logarithm of times per year. Note that using logged variables has the advantage that regression coefficients can be interpreted as (slight underestimations of) proportional changes (Gelman and Hill 2007: 60; cf. Hauser 1980).[9] Model 1 of this panel shows that parents' education has a positive effect on voluntary participation. Children of parents educated at the primary or lower secondary level are less often involved in voluntary and community organizations than children of more highly educated parents. Note that this effect is controlled for children's own education, household income, age, gender, and employment status. Men are more often participating than women with equal education, employment status and household income. Age has the expected effect, with a 3-percent increase in participation for every additional year of age. Employment status has some effect on participation in voluntary organizations; people not participating in the labor market are more often involved than employed or unemployed persons (cf. Andersen et al. 2006 for similar results). Note that unemployment does not have a (negative) effect on participation, controlled for other characteristics in model 1. Household income has a modest but positive and significant effect on participation.

Education has a strong effect on participation in voluntary associations. The least participating group are the people with primary education, wheras people with higher levels of schooling, in particular at the tertiary level, participate significantly more. Importantly, graduates from upper secondary vocational programmes participate less than those from upper secondary general education, as was expected in hypothesis 1. Stratification of the educational system does not have a negative effect on participation.[10]

In model 2 cognitive ability is added to the model. Cognitive ability has a strong effect on participation. Participation in voluntary organizations increases with 30 percent for every standard deviation increase in cognitive ability. The inclusion of cognitive ability to the model has an important impact on many of the other parameters of the model. First, the influence of parents' education is reduced by about a third. This means that part of the differentials in participation between individuals of different social origins is manifested through differential levels of ability/literacy.

[9] This is true because a coefficient of, say, $\beta = 0.20$ predicting logged participation per year, indicates that participation can be multiplied by $e^{0.20} \approx 1.20$ (1.22 to be precise), which is similar to an increase of 20 percent. The smaller the coefficients, the more accurately the effects can be interpreted as proportional changes.

Second, the effect of household income drops below significance. This means that observed effect of income on participation in model 1 is not pointing to a causal effect, but is rather to be interpreted as spurious. This is an important finding and stresses the relevance of controlling for cognitive ability in analyzing citizenship behavior. Others have stressed the problems of low civic participation of low-income groups (e.g. Skocpol 2003). This worry is, at least with the data at hand, not substantiated with evidence; low income groups are not participating less than high-income groups among people with equal educational attainment and cognitive ability. It seems that low attainers in education and people with low levels of literacy are more severely hampered in participation than low income groups per se.

Third, the effect of education decreases substantially in model 2 compared to model 1. The difference in participation of people of primary or lower secondary vocational school versus upper secondary general schooling is reduced by more than half, indicating that these differences are for a large part attributable to differential abilities. The differences between general secondary and tertiary education are reduced by 30 percent, indicating that a substantial fraction of these education effects are non-cognitive as well.

Model 3 adds the cross-level interactions between educational attainment and the index of stratification of the educational system, and leaves out cognitive ability. This model fits better than model 1, with a Chi-square (-2LL) deviance of 22.8 with df=5 (p=0.000). This model shows that the main effects of education, referring to the situation when the Educational stratification index is at its mean of 0, are naturally very similar to the main effects of education in model 1.[11] Furthermore, the interaction effects show that the difference between upper secondary general and tertiary education is much smaller in strongly stratified educational systems. Within 1.18 standard deviations increase in the national-level stratification index (0.211 in the main effect divided by –0.179 in the interaction effect), the positive effect of tertiary education relative to upper secondary general becomes zero. Notably, the difference between upper secondary vocational and upper secondary general becomes *larger* when the educational system becomes more stratified. Thus, the relatively low participation of the vocationally qualified at the upper secondary level is even increased in strongly stratified systems compared to comprehensive systems. A third significant interaction term concerns the difference between lower secondary general and upper secondary general.

[10] There would be a negative effect of stratification if the Coordination index was removed from the model.
[11] Slight variation occurs because the Stratification Index is standardized on the basis of 19 countries, whereas 17 are included in the model; and obviously because the country-level standardization does not weight the data by the size of the samples of IALS.

This difference gets larger the more stratified an educational system is. Notably, the interaction terms remain rather similar, although slightly smaller, if we control for cognitive ability (model 4), indicating that differences in the effect of education across countries are not caused by differences across tracks in ability.

To illustrate the varying education effects across levels of stratification, Figure 2 displays fitted values on the dependent variables using estimates of model 4, separately by relevant educational categories and stratification of educational system.[12] In the first graph of Figure 2, we see that people educated at upper secondary general education participate in voluntary organizations in an increasingly similar way as tertiary qualified across levels of stratification, and that upper secondary vocational is increasingly lagging behind these two education categories. This means that hypothesis 2a is supported, which predicted that differences between vocational and general programmes are stronger in strongly stratified educational systems.

[12] These models are fitted for employed 30 year old men, with parents educated at the lower secondary level, in the third household income quartile, with average cognitive ability.

Table 3: *Multilevel Estimates of individual and country-level variables on active citizenship*

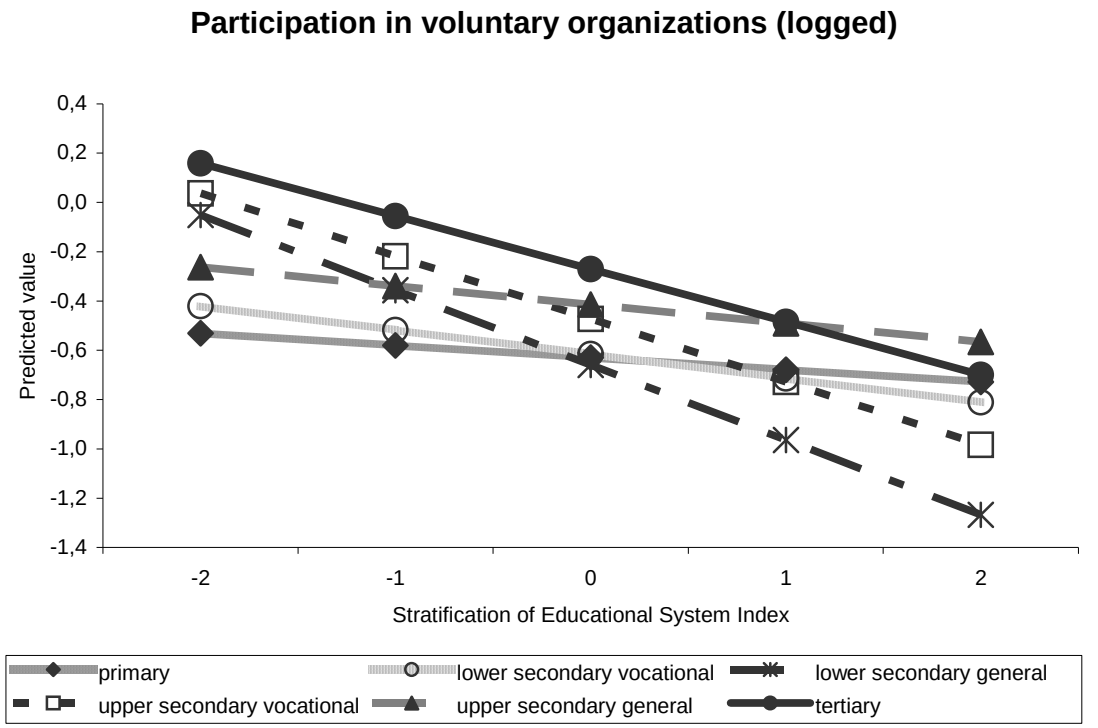
	Participation in voluntary organizations (logged) (N=22,517 in 17 countries)											
	Model 1			Model 2			Model 3			Model 4		
	b	se	sig	b	se	sig	b	se	sig	b	se	sig
Intercept	-1.406	0.138	0.000	-1.554	0.132	0.000	-1.391	0.139	0.000	-1.538	0.134	0.000
Parents' education												
primary	-0.245	0.068	0.000	-0.142	0.069	0.039	-0.239	0.068	0.000	-0.139	0.069	0.043
lower secondary	-0.222	0.062	0.000	-0.163	0.062	0.009	-0.217	0.062	0.001	-0.160	0.062	0.010
upper secondary	-0.095	0.065	0.143	-0.067	0.065	0.299	-0.089	0.065	0.173	-0.063	0.065	0.329
tertiary (reference)	0.000	0.000 .		0.000	0.000 .		0.000	0.000 .		0.000	0.000 .	
Gender (male=1, female=0)	0.167	0.034	0.000	0.162	0.034	0.000	0.164	0.034	0.000	0.159	0.034	0.000
Age	0.034	0.002	0.000	0.036	0.002	0.000	0.034	0.002	0.000	0.036	0.002	0.000
Employment status												
unknown	-0.220	0.091	0.016	-0.162	0.091	0.075	-0.219	0.091	0.016	-0.161	0.091	0.076
not in labor force	0.291	0.048	0.000	0.295	0.048	0.000	0.284	0.048	0.000	0.289	0.048	0.000
unemployed	-0.033	0.067	0.622	0.010	0.067	0.883	-0.033	0.067	0.626	0.010	0.067	0.884
employed (reference)	0.000	0.000 .		0.000	0.000 .		0.000	0.000 .		0.000	0.000 .	
Household income	0.046	0.014	0.001	0.018	0.014	0.208	0.044	0.014	0.002	0.017	0.014	0.223
Education												
primary	-0.542	0.086	0.000	-0.201	0.090	0.026	-0.553	0.087	0.000	-0.215	0.091	0.018
lower secondary vocational	-0.301	0.074	0.000	-0.144	0.074	0.053	-0.358	0.083	0.000	-0.200	0.084	0.017
lower secondary general	-0.357	0.056	0.000	-0.203	0.057	0.000	-0.398	0.057	0.000	-0.244	0.059	0.000
upper secondary vocational	-0.111	0.056	0.048	-0.061	0.056	0.276	-0.109	0.060	0.066	-0.058	0.060	0.333
upper secondary general (reference)												
tertiary	0.242	0.051	0.000	0.168	0.051	0.001	0.211	0.052	0.000	0.145	0.052	0.005
Cognitive ability				0.300	0.024	0.000				0.296	0.024	0.000
Coordination Index	-0.127	0.130	0.342	-0.106	0.117	0.375	-0.134	0.132	0.324	-0.112	0.120	0.362
Stratification of educational system	-0.141	0.137	0.317	-0.182	0.123	0.158	-0.017	0.145	0.906	-0.076	0.132	0.570
Stratification of educational system * education												
primary							0.037	0.088	0.675	0.026	0.088	0.766
lower secondary vocational							-0.041	0.094	0.660	-0.024	0.094	0.800
lower secondary general							-0.240	0.068	0.000	-0.227	0.068	0.001
upper secondary vocational							-0.200	0.074	0.007	-0.179	0.074	0.016
upper secondary general (reference)												
tertiary							-0.179	0.056	0.001	-0.139	0.056	0.013
[-2LL]	104954.4			104803.2			104931.6			104785.3		

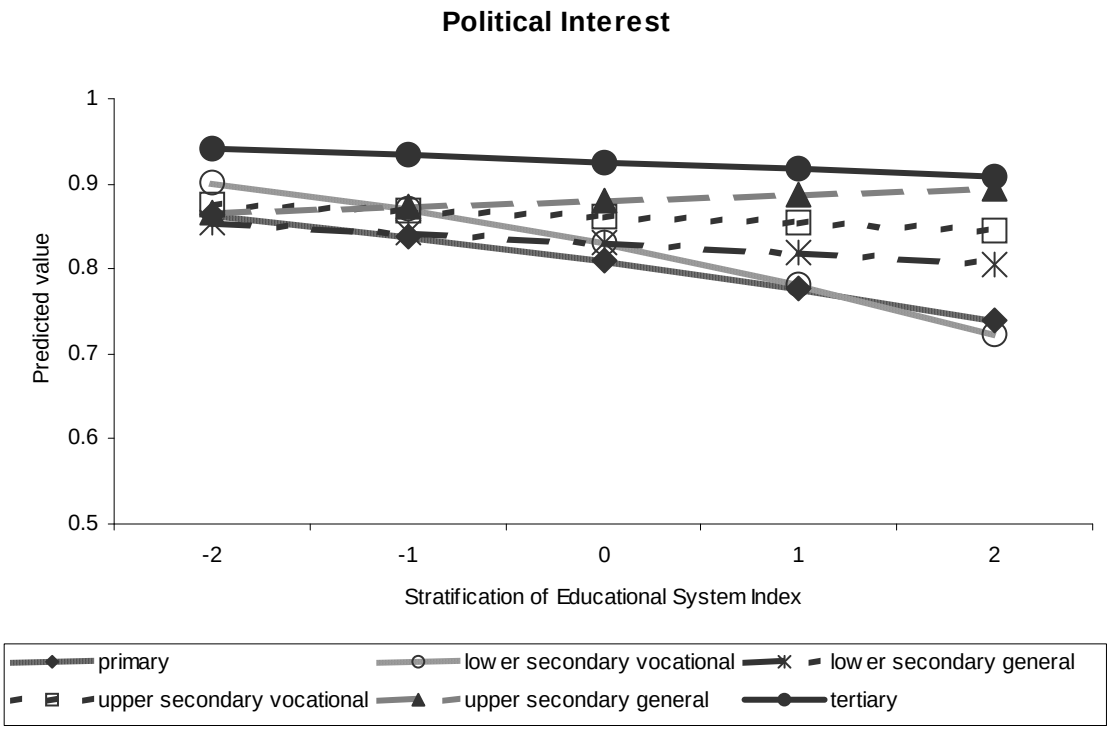
Source: IALS (respondents aged 18-44)

	Political interest (dichotomized) (N=14,086 in 10 countries)											
	Model 1			Model 2			Model 3			Model 4		
	b	se	sig	b	se	sig	b	se	sig	b	se	sig
Intercept	0.029	0.214	0.894	-0.339	0.218	0.120	0.021	0.216	0.923	-0.338	0.218	0.121
Parents' education												
primary	-0.605	0.146	0.000	-0.411	0.147	0.005	-0.614	0.147	0.000	-0.415	0.148	0.005
lower secondary	-0.232	0.145	0.110	-0.129	0.146	0.377	-0.237	0.145	0.104	-0.124	0.146	0.395
upper secondary	-0.133	0.143	0.352	-0.124	0.143	0.388	-0.120	0.143	0.401	-0.106	0.144	0.461
tertiary (reference)	0.000	0.000.		0.000	0.000.		0.000	0.000.		0.000	0.000.	
Gender (male=1, female=0)	0.492	0.069	0.000	0.525	0.069	0.000	0.490	0.069	0.000	0.526	0.070	0.000
Age	0.043	0.005	0.000	0.047	0.005	0.000	0.044	0.005	0.000	0.048	0.005	0.000
Employment status												
unknown	0.223	0.170	0.190	0.286	0.173	0.098	0.191	0.172	0.266	0.286	0.173	0.098
not in labor force	0.044	0.092	0.631	0.080	0.093	0.391	0.023	0.093	0.805	0.067	0.093	0.471
unemployed	-0.092	0.120	0.445	-0.029	0.121	0.811	-0.082	0.120	0.493	-0.032	0.121	0.790
employed (reference)	0.000	0.000.		0.000	0.000.		0.000	0.000.		0.000	0.000.	
Household income	0.119	0.028	0.000	0.068	0.028	0.015	0.118	0.028	0.000	0.071	0.028	0.012
Education												
primary	-1.010	0.143	0.000	-0.510	0.153	0.001	-1.086	0.145	0.000	-0.549	0.153	0.000
lower secondary vocational	-0.820	0.133	0.000	-0.550	0.135	0.000	-0.823	0.210	0.000	-0.405	0.210	0.053
lower secondary general	-0.639	0.105	0.000	-0.386	0.108	0.000	-0.673	0.110	0.000	-0.400	0.113	0.000
upper secondary vocational	-0.241	0.099	0.015	-0.139	0.099	0.163	-0.279	0.106	0.008	-0.166	0.106	0.115
upper secondary general (reference)												
tertiary	0.685	0.117	0.000	0.469	0.042	0.000	0.577	0.120	0.000	0.526	0.121	0.000
Cognitive ability				0.214	0.011	0.000				0.465	0.042	0.000
Coordination Index	0.339	0.046	0.000	0.372	0.046	0.000	0.049	0.063	0.432	0.367	0.047	0.000
Stratification of educational system	0.080	0.047	0.084	-0.065	0.047	0.168	0.166	0.072	0.022	0.066	0.067	0.330
Stratification of educational system * education												
primary							-0.268	0.103	0.009	-0.269	0.105	0.010
lower secondary vocational							-0.256	0.255	0.315	-0.380	0.244	0.119
lower secondary general							-0.156	0.098	0.113	-0.156	0.099	0.116
upper secondary vocational							-0.156	0.103	0.129	-0.130	0.103	0.205
upper secondary general (reference)												
tertiary							-0.268	0.089	0.003	-0.186	0.091	0.041
[-2LL]	10419.261			10317.0			10411.4			10307.3		

Source: IALS (respondents aged 18-44)

Figure 2: *Predicted Values on Dependent Variables by Educational Attainment and Stratification of Educational System Index.*[a]





[a] Predicted values are fitted for employed 30 year old men, with parents educated at the lower secondary level, from the third household income quintile, with average cognitive ability and average national coordination level.

The results with regard to our second dependent variable political interest in table 3 should be judged with some caution, as the analysis only includes 10 countries with (in the interaction models) maximally seven parameter estimates on the aggregate level. Nevertheless, the analysis is informative to see if the results corroborate the findings on participation in voluntary organizations.

The effects of parents' education, gender, age, and employment status are in many ways similar as with regard to participation in voluntary organizations. However, the effect of household income remains significant after controlling for ability, indicating that income positively affects political interest. Yet, the effect of household income is reduced in size by almost half (model 2 compared to model 1), indicating that cognitive ability partly explains the influence of household income. Given the causal relationship of cognitive ability affecting income, an uncontrolled effect of income is partly spurious.

The effects of education show that people educated in vocational programmes are generally less interested in politics than people educated in general education, although the differences within the same level are not significant in the model that controls for ability. Tertiary education affects political interest strongly, even after controlling for ability.

Political interest is not significantly affected by the stratification of the educational system, Yet, similar as with regard to participation, upper secondary general and tertiary education become more alike with increasing levels of educational stratification. In addition, inspection of the main effects of education tells us that vocationally qualified people are significantly less interested in politics than people educated in upper secondary general education (which refers to educational differences in a situation with 'average' stratification of the educational system). In terms of effect sizes it is clear that the negative main effect of vocational upper secondary education becomes stronger in more strongly diversified and stratified educational systems, although this interaction effect not significantly different from zero. The second graph of Figure 2 shows that lower vocational and upper vocational school are increasingly lagging behind upper secondary general and tertiary education, and that upper secondary general and tertiary education are becoming more alike with increased levels of educational statification. In summary, the results on political interest are not at odds with the results on participation in voluntary organizations.

6. DISCUSSION AND CONCLUSIONS

In this paper I studied the impact of educational attainment on active citizenship behavior in seventeen countries, operationalized by participation in voluntary and community organizations, and political interest. The particular focus was on differences between vocational and general programmes of schooling. Our results showed that vocational education leads to lower participation in society than general education. Moreover, it is clear that countries vary in the way in which schooling affects active citizenship; the impact of education varies with levels of stratification of the educational system. One of the most persistent findings is that the strongest educational boundary in active citizenship varies between countries with different educational systems. In low-stratifying countries, the crucial boundary exists between tertiary levels of schooling on the one hand and non-tertiary education on the other. In strongly stratified systems, however, the main boundary lies between upper secondary general and tertiary education on the one hand and lower levels on the other, implying that vocationally qualified people display less active citizenship than their counterparts educated in general schooling. Strongly stratified systems select students early and in great numbers, which results in lower shares of students being eligible for tertiary education (Shavit & Müller 1998). This results in the fact that those with upper secondary general education behave much more like tertiary qualified people in strongly stratified countries than in comprehensive countries. The results were clearest with regard to participation in voluntary organizations, but for various reasons it is this analysis which I consider most important. This was the dependent variable that could be analyzed for 17 countries, instead of 10 for the other dependent variable. Moreover, participation in voluntary associations is at the heart of contemporary concerns about the decreasing levels of social capital and social cohesion (Putnam 2000; Skocpol 2003; Andersen et al. 2006; Curtis et al. 1992; 2001). Given the obvious relevance of citizenship behavior for social cohesion of present-day societies (Green et al. 2006), variations between educational groups and countries in social participation helps us to understand cross-national variations in social capital and social cohesion. Following Green et al. (2006), it is argued that stronger variations across educational groups in terms of active citizenship is detrimental for social cohesion of societies.

There are important conclusions to be drawn from these findings. First, in the light of contemporary studies of the relevance of vocational education to strengthen the signalling function of schooling on the labor market more generally, and to reduce youth unemployment in particular (e.g. Breen 2005; Moller et al. 2003; Shavit & Muller 1998; Muller and Gangl 2003), our results indicate that there is also a less positive story to tell about strongly vocationally oriented educational systems. Such systems, given the large numbers of students choosing vocational tracks, contribute to the diversification active citizenship among populations, thereby limiting equality in participation, and,

ultimately, democratic equality. Noteworthy is that also labor market studies have revealed disadvantages of vocationally qualified people, especially in less diversified systems like the United States.

A second important conclusion concerns the value of vocational education for the preparation of youth for a successful integration into adulthood. Although the findings of the present paper show a negative impact of vocational schooling for citizenship, it must be stressed that comparative labor market research stresses positive effects of strongly institutionalized vocational schooling. Thus, the lesson of the present study should perhaps not be that we should abolish vocational education with a strong involvement of employers. Rather, to combine the positive signalling function of vocational schools in such countries with the avoidance of separating groups of students for preparation for citizenship, it may be concluded that an optimal schooling system both separates in tracks with strong involvement of employers, and brings together students of diverse ethnic and social backgrounds of the various programmes for citizenship education. This way, communication can realize mutual understanding of social groups that have been separated before they have grown into maturity. That such a solution may not be perfect for realizing equality in citizenship is clear; many of the skills that prepare for active citizenship are taught outside citizenship classes (e.g. argumentation and communication skills).

Which direction should future comparative studies on the relationship between education and citizenship behavior take? The present study used data from cross-sectional samples of 17 countries. Educational attainment thus reflects the highest completed education, implying that we do not have information of secondary school track for those who continued to tertiary education. It is likely that this has underestimated the difference between vocational and general (upper) secondary education. The group of upper secondary general education contains only people who have not taken the step to higher education, which makes them a group that is plausibly negatively selected on unobserved factors that may enhance citizenship. For vocationally qualified people the step to higher education is far less natural. Yet it is also important to examine variations across secondary school tracks for youngsters, independent of their continuation to higher education. Given that adult citizenship behavior is strongly determined by active participation during youth (McFarland & Thomas 2006), it is very important that future cross-national data collections warrant the possibility to take this up.

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TABLE A1: MEAN SCORES ON ACTIVE CITIZENSHIP BY COUNTRY AND EDUCATIONAL ATTAINMENT

Country	Educational attainment	Participation in voluntary organizations: times per year	Political Interest
Switzerland	Primary	1.84	.42
	Lower secondary vocational	10.46	.38
	Lower secondary general	10.39	.66
	Upper secondary vocational	12.28	.68
	Upper secondary general	11.82	.74
	Tertiary	22.60	.82
	Total	14.84	.72
Germany	Primary	.10	
	Lower secondary vocational	9.64	
	Lower secondary general	2.86	
	Upper secondary vocational	10.93	
	Upper secondary general	11.61	
	Tertiary	16.85	
	Total	10.47	
USA	Primary	11.56	.59
	Lower secondary general	12.48	.65
	Upper secondary vocational	19.93	.78
	Upper secondary general	17.40	.75
	Tertiary	21.45	.92
	Total	18.59	.81
Ireland	Primary	8.75	
	Lower secondary general	9.40	
	Upper secondary general	11.48	
	Tertiary	22.69	
	Total	13.09	
Netherlands	Primary	28.04	.65
	Lower secondary vocational	24.85	.66
	Lower secondary general	28.21	.82
	Upper secondary vocational	23.41	.82
	Upper secondary general	31.77	.89
	Tertiary	19.82	.94
	Total	24.44	.83
Poland	Primary	1.92	
	Lower secondary vocational	4.00	

Country	Educational attainment	Participation in voluntary organizations: times per year	Political Interest
	Lower secondary general	3.49	
	Upper secondary vocational	7.94	
	Upper secondary general	1.73	
	Tertiary	7.70	
	Total	5.04	
New Zealand	Primary	128.00	
	Lower secondary vocational	18.07	
	Lower secondary general	23.22	
	Upper secondary vocational	20.66	
	Upper secondary general	20.16	
	Tertiary	21.78	
	Total	20.95	
Great Britain	Primary	6.77	.74
	Lower secondary general	11.50	.65
	Upper secondary general	11.98	.81
	Tertiary	15.01	.94
	Total	12.59	.77
Belgium	Primary	9.49	
	Lower secondary vocational	10.92	
	Lower secondary general	6.26	
	Upper secondary vocational	11.34	
	Upper secondary general	16.97	
	Tertiary	21.65	
	Total	16.55	
Italy	Primary	6.18	.67
	Lower secondary vocational	5.44	.81
	Lower secondary general	11.69	.77
	Upper secondary vocational	14.47	.86
	Upper secondary general	14.53	.90
	Tertiary	16.73	.97
	Total	13.50	.86
Norway	Primary	.10	
	Lower secondary general	13.96	
	Upper secondary vocational	11.40	
	Upper secondary general	13.83	
	Tertiary	16.30	

Country	Educational attainment	Participation in voluntary organizations: times per year	Political Interest
	Total	14.52	
Slovenia	Primary	3.00	.70
	Lower secondary vocational	24.69	.80
	Lower secondary general	3.52	.70
	Upper secondary vocational	8.86	.79
	Upper secondary general	12.00	.85
	Tertiary	14.68	.90
	Total	10.62	.81
Czech Republic	Primary	8.66	.87
	Lower secondary vocational	9.57	.90
	Lower secondary general	3.16	.92
	Upper secondary vocational	5.39	.95
	Upper secondary general	7.93	.93
	Tertiary	8.08	.97
	Total	6.77	.93
Denmark	Primary	17.03	
	Lower secondary vocational	26.98	
	Lower secondary general	25.13	
	Upper secondary vocational	16.74	
	Upper secondary general	20.20	
	Tertiary	17.83	
	Total	19.38	
Finland	Lower secondary vocational	4.34	.91
	Lower secondary general	7.14	.83
	Upper secondary vocational	12.86	.90
	Upper secondary general	12.12	.93
	Tertiary	11.18	.95
	Total	11.29	.91
Hungary	Primary	1.46	.23
	Lower secondary vocational	11.76	.62
	Lower secondary general	2.46	.52
	Upper secondary vocational	5.58	.70
	Upper secondary general	4.89	.77
	Tertiary	8.24	.82
	Total	5.45	.68
Chile	Primary	7.90	.32
	Lower secondary vocational	13.36	.53

Country	Educational attainment	Participation in voluntary organizations: times per year	Political Interest
	Lower secondary general	12.58	.52
	Upper secondary vocational	19.86	.59
	Upper secondary general	12.60	.57
	Tertiary	18.37	.77
	Total	13.48	.54
Total	Primary	8.56	.48
	Lower secondary vocational	12.03	.71
	Lower secondary general	12.10	.68
	Upper secondary vocational	12.91	.77
	Upper secondary general	14.41	.82
	Tertiary	17.54	.90
	Total	14.03	.77

Source: International Adult Literacy Survey (respondents aged 18-44)

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