Ability grouping, segregation and civic competences among adolescents

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Abstract
This paper investigates whether civic competences among youngsters are linked to the social and ethnic composition of classrooms and whether these links are influenced by the system property of ability grouping. Use is made of the IEA Civic Education Study to investigate these relationships. The paper finds that inequalities of civic competences across classrooms are relatively large in systems characterised by early selection. Classroom social segregation is also most pronounced in such systems. However, classroom ethnic segregation shows no relation with ability grouping. The paper further finds that the social composition of the classroom primarily affects the cognitive component of civic competences (knowledge and skills). This relationship, moreover, is influenced by selection: the less a system groups pupils on the basis of ability, the weaker the link between classroom social status and civic knowledge and skills. However, similar regularities are not found for the attitudinal and behavioural components of civic competences.

Introduction

A concern among policy makers and social scientists that young people have become increasingly disengaged from society and democratic politics has sparked a renewed scholarly interest in the formation of civic competences. This literature has highlighted a multitude of conditions influencing these competences. Some studies focus on individual-level determinants of civic attitudes (on educational attainment, see, for instance, Nie, Junn and Stehlik-Barry 2004 and Hagendoorn 1999; on gender, see Verba, Brady and Schlozman 1995 and Hooghe and Stolle 2004; on ethnic background, see Rice and Feldman 1997). Other studies are primarily interested in political socialization and in the ways that civic education and other characteristics of the education process in schools can foster civic values and behaviour (for the effects of the formal curriculum, see Langton and Jennings 1968; Niemi and Junn 1998; for the effect of a participatory classroom climate and other non-conventional ways of promoting civic engagement, see Morgan and Streb 2001 and Torney-Purta 2004).

Invariably, however, these studies focus on *levels* of civic competence. Few have investigated *dispersions* of attitudes and behaviours such as tolerance, participation, trust and solidarity. This is an important omission as policy makers are likely to be at least as interested in the distributions of civic competences as in their levels. The development of pockets of alienation, inter-group hostility and disorder in the suburbs of large urban centres has, for instance, attracted considerable media attention and has prompted many area-based inclusion policies in West-European countries.[1] As a rule, these pockets are associated with ethnically diverse low status areas where the native majority and various immigrant communities live separate lives and schools and community life in general are strongly segregated along social

[1] The United Kingdom, for instance, has a *Neighbourhood Renewal* and *Community Cohesion* policy in place to tackle deprivation and build bridges between different social and ethnic groups (Government of the United Kingdom 2010a); in France , the *Law for the City and Urban Renovation* aims to destroy urban ghettos and reduce inequalities of opportunity (Government of France 2010); In the Netherlands current government policy is to turn 40 problematic neighbourhoods into 'splendid' neighbourhoods ("van probleemwijken naar prachtwijken") (Government of the Netherlands 2010).

and ethnic lines.[2] In other words, social and ethnic segregation are seen as important drivers of prejudice, distrust, and a sense of exclusion.

Interestingly, the role of school systems in mitigating segregation and combating pockets of alienation has not received much scholarly attention. This omission is remarkable in view of various OECD studies documenting large differences between countries in degrees of school social segregation (OECD 2001; OECD 2002**)**. These differences appear to be related to characteristics of national education systems: countries in which schools select students on the basis of ability show much larger disparities between schools in social composition (i.e. a higher level of social segregation) than countries with single-type, mixed ability schools. If it can be demonstrated that levels of school ethnic segregation are also lower in the latter and that school social and ethnic composition have a much smaller impact on civic competences in this group countries as well, policy makers have a potentially powerful tool at their disposal to reduce gaps in these competences. As they wield considerable power over the education system, they could reform it in ways that roll back segregation and, consequently, diminish a possible negative effect of school contextual conditions on such competences.

In this paper I therefore seek to explore the interrelations between the systemic property of ability grouping, school social and ethnic segregation, and civic competences (understood here as referring to attitudes and behaviours as well as knowledge and skills). Data of the IEA Civic Education Study on the civic knowledge, skills and attitudes of 14- and 15- year olds (i.e. the same age group that the aforementioned OECD studies examined) is used to explore these relationships.

The paper begins by reviewing the literature investigating various aspects of the interrelations between ability grouping, segregation and civic competences. It proposes several hypotheses regarding direct and indirect effects of ability grouping on civic competences. The third section explains the data source used, the indicators selected to measure the variables of interest and the methods of analysis. Results are presented in section four. They show that education systems without grouping by ability have the lowest levels of social segregation and the smallest disparities of civic knowledge and skills across classrooms. Moreover, the effect of classroom social composition on civic knowledge and skills is absent in such education systems while it is very strong in other systems. However, the effect of classroom social and ethnic composition on civic *attitudes* and *behaviours* does not vary in any predictable way across education systems. The conclusion sums up the main findings.

Ability grouping, segregation and civic competences

Examining the links between ability grouping, segregation and civic competences involves asking three questions: (1) How does ability grouping influence between-school inequalities in civic competences? (i.e. the direct system effect) (2) How does ability grouping shape school social and ethnic segregation? (3) To what extent does ability grouping influence the relation between the social and ethnic composition of schools on the one hand and civic competences on the other? (i.e. the indirect system effect). With regard to the first question it can be postulated that systems engaging in ability grouping show larger differences across

[2] See, for instance, the observations and recommendations of the report of the committee chaired by Ted Cantle, who were commissioned by the British government to investigate the racial disturbances in the Northern English towns of Bradford, Oldham and Burnley (Government of the United Kingdom 2010b); see also the analysis chapter of the report "Our Shared Future" of the Commission on Integration and Cohesion (Government of the United Kingdom 2010c).

schools in civic competences because such a pattern has been observed for another individual outcome - academic performance. The OECD (2002) and Green et al (2006) have found differences between schools in average academic performance to be much larger in early selection systems than in comprehensive systems with mixed ability classes. However, can we assume that the same effect applies for civic competences? The concept of civic competences must be examined first before this question can be discussed any further.

In policy circles civic competences are usually understood as a comprehensive collection of attitudes, dispositions and skills because of the belief that citizens need all these qualities to participate fully in a democratic society (e.g. European Commission 1998; Advisory Group on Citizenship 1998; Hoskins et al 2008). Consistent with these approaches I employ an all-embracing understanding of the concept, considering it to comprise civic knowledge and skills (the *cognitive* component), civic attitudes (the *affective* or *normative* component) and participation (the *behavioral* component). Civic knowledge and skills refer to knowledge about politics and society and a capacity to apply this knowledge to participate effectively in a democratic society (Niemi and Junn 1998; Galston 2001). Civic attitudes refer to the values and beliefs which are seen as fundamental to liberal democracy – e.g. trust, tolerance, freedom of expression, civic equality (Almond and Verba 1963; Putnam 1993). Participation refers to participation in all kinds of societies and organizations, political and non-political. According to Putnam (1993; 2000), people learn to accept compromises, develop a commitment to broader objectives and acquire other qualities essential for democracy by participating in societies and organizations.

I emphasize that the concept thus conceived is likely to be multidimensional because the various components are not necessarily closely related – i.e. it is quite possible for people to combine a high level of knowledge and skills with, say, average support for civic values and little participation in civic organizations (Green et al 2006; Jackman and Miller 2005; Janmaat 2006). This multidimensionality is likely to extend to various aspects *within* components. Janmaat (2008), for instance, has shown that some civic attitudes are quite unrelated to each other, e.g. social trust and ethnic tolerance, while other attitudes are actually mutually exclusive, e.g. national pride and ethnic tolerance. Civic competences (and related concepts such as civic culture and civic attitudes) are also highly *contested* as scholars disagree as to which dispositions, attitudes and skills really matter for an effective democracy. While, for instance, Almond and Verba (1963) consider trust in democratic institutions and a certain deference towards people in positions of authority to be important conditions for the smooth functioning of democratic politics, Kymlicka (2002) and Gamson (1968) highlight the importance of critical engagement and skepticism for the quality of democracy, as these dispositions in their view enable citizens to scrutinize public policy and keep politicians accountable.

The multidimensional and contested nature of civic competences complicates the conceptual delimitation of the phenomenon and make it unlikely that civic competences are all influenced in the same way by ability grouping regarding the distribution of these competences across schools. We would expect that the cognitive component of civic competences is most influenced by grouping by ability since this component can also be seen as an indicator of academic performance. Consequently, it can be proposed that the between school inequality in civic knowledge and skills should be largest in states with early selection systems. Moreover, once grouped by ability in different tracks, pupils are exposed to different curricula in terms of both substance and speed of coverage. These curriculum differences are likely to further enhance cross-track and –school inequalities of civic knowledge and skills (van de Werfhorst 2007).

The cross-school inequalities on the other two components of civic competences are unlikely to show this pattern to the same degree because attitudes, beliefs and behaviors can

be expected to be less directly affected by ability grouping than civic knowledge and skills. After all, attitudes and behaviors have much less in common with ability and achievement than civic knowledge and skills. Nonetheless, grouping by ability systems are likely to show the greatest cross-school inequalities in attitudes and behaviors as well for the following reasons. First, grouping by ability practices can be understood as *involuntary,* in a sense that the less able pupils have never given their consent to be enrolled in low status schools or tracks, where they find themselves surrounded by other low achievers. As a result, these pupils may well experience a sense of exclusion and abandonment, culminating in feelings of alienation and distrust. Low status tracks or schools are thus likely to constitute civic deserts. Second, curriculum differences and different teacher expectations across tracks may engender different life worlds in which different norms and values apply. Students in academic tracks, for instance, are likely to be socialized in the value of education and self-improvement while their peers in vocational tracks, faced with low teacher expectations, may well develop a dislike of education and a rejection of meritocracy in general. As a result the latter tend to fail in the system and turn to a counter culture as an alternative source of status (Willis 1977; Stevens 2002).

Examining the sociopolitical attitudes and lifestyles of pupils in Flanders, a region with an early selection system[3], Stevens (2002) indeed found substantial differences between students in (pre)vocational and academic tracks. The former displayed much higher levels of ethnocentrism, more negative attitudes towards democracy and a tougher stance on crime than the latter. Faas (2006) likewise observed large cross-track differences in attitudes towards Europe in southern Germany. Comparing students in a low-status Hauptschule to those in a prestigious Gymnasium, he found the former to be negatively disposed towards Europe and display strong nationalistic sentiments. In similar vein, using IALS data (International Adult Literacy Survey), van der Werfhorst (2007) found civic participation rates to be markedly lower among vocationally trained people. He moreover found the gap with people schooled in academic tracks to be significantly larger in early selection systems. This suggests that early selection systems magnify civic disparities between people who follow different educational tracks.

With regard to the second question and *social* segregation in particular, the theory suggests that systems practicing ability grouping are enhancing social segregation – i.e. an unequal distribution of students across school by social background - because of the close connection between performance and social background (Green et al 2006; Jenkins et al 2008). In other words, as low achieving students are disproportionally from disadvantaged backgrounds, an early sorting mechanism based on ability leads to a concentration of students from disadvantaged backgrounds in follow-up low status schools (low status both in terms of average academic performance and social composition) and an underrepresentation of such students in follow-up high status schools. Consistent with this logic, early selection can further be expected to be linked to school *ethnic* segregation if there are large gaps in academic performance between children of immigrant background and native majority children (Crul and Vermeulen 2003; Karsten et al. 2006). As studies using PISA data (Program for International Student Assessment) have indeed found first and second generation migrant students to lag significantly behind native students in reading literacy in almost all OECD states (OECD 2001: Entorf and Lauk 2008), it seems plausible to assume an effect of early selection on school ethnic segregation as well in the sense that in tracked systems children of immigrant background end up disproportionately in low status schools.

The proposed link between early selection and social segregation is supported by the findings of Jenkins et al (2008: 27). Analyzing PISA data they find countries with an early

[3] I use the terms early selection and ability grouping interchangeably in this section.

selection system (Hungary, Belgium, Germany and Austria) to show the highest social segregation and countries with comprehensive systems with mixed ability classes to show the lowest social segregation across schools (Finland, Denmark, Japan, Sweden, Norway). However, their measure of segregation, the dissimilarity index, has an important drawback which will be discussed below. Interestingly, Entorf and Lauk (2008: 641), using the same data source and the same measure of segregation, have not found a similar cross-country pattern for *ethnic* segregation: schools in states with comprehensive systems appeared to be at least as segregated as schools in states with early selection systems. I will explore whether the same patterns emerge relying on a different data source and measure of segregation.

To my knowledge not a single study has explored the third question in its entirety. On the one hand, there are studies investigating the linkages between ability grouping, school segregation and student outcomes but only with respect to academic performance, not civic competences (e.g. OECD 2000; OECD 2001; Green et al 2006). These studies proceed from the well-established finding that academic performance is highly susceptible to the social and ethnic composition of schools (e.g. Orfield 1978, Coleman and Hoffer 1987, Rumberger and Willms 1992; Ryabov and Van Hook 2006)). They find that the effect of school social composition on academic performance is most pronounced in early selection systems, which is understandable in view of the high level of school social segregation in such systems. In other words, in the system associated with the greatest differentiation across schools in social composition, the effect of social composition on performance is strongest. By implication, we would expect to see the same pattern for civic knowledge and skills, i.e. the component most closely related to academic performance.

On the other hand, there exists a vast literature on the effect of school ethnic composition on one civic attitude in particular – ethnic tolerance – but this literature has generally ignored the impact of system properties such as ability grouping (for good overviews, see Schofield 2001 and Pettigrew and Tropp 2006). Many studies in this body of literature found that ethnically diverse school environments contribute to ethnic tolerance and intercultural understanding (e.g. Ellison and Powers 1994; Sigelman et al 1996; Frankenberg et al 2003; Holme et al 2005), which supports the idea originally proposed by Allport (1954) that interethnic contact helps to overcome stereotypes and prejudice. Given the evidence for the link between ethnic composition and ethnic tolerance, it can be proposed that systems showing the greatest differences across schools in ethnic composition (i.e. the highest level of ethnic segregation) should also exhibit the strongest relation between ethnic diversity and ethnic tolerance.

Educational studies examining the effect of school ethnic composition on civic attitudes and behaviors other than ethnic tolerance are sparse. By contrast, political scientists have explored the impact of this contextual condition on participation and attitudes such as trust extensively, but they have tended to focus on the neighborhood, city and national level rather than on the level of schools and their findings have been quite inconsistent. On the one hand, there are scholars arguing that ethnic diversity undermines trust and cooperation because people purportedly do not feel the same level of commitment to ethnic others as to people of their own stock. Their studies have found a negative relation between ethnic/racial diversity and social capital outcomes, including trust, at sub-national levels (e.g. Luttmer 2001; Alesina and Ferrara 2002; Costa and Kahn 2003; Soroka, Johnston and Banting 2004; Putnam 2007). Focusing on Canada, Soroka, Johnston and Banting (2004), for instance, observed that interpersonal trust diminishes as the proportion of visible minorities in census tracts increases. On the other hand, there are studies finding either no link between neighbourhood diversity and social capital outcomes (Letki, 2008; Tolsma et al, 2008) or a positive link (Oliver and Wong, 2003).

However, the impact of ethnic diversity at the school or classroom level can be quite different. At these micro-levels the possibilities for sustained inter-ethnic contact are much more favorable than at the neighborhood, city and national level. Gurin et al (2004) argue that such sustained interaction, provided it occurs on the basis of equality and includes common goals, is conducive not only for ethnic tolerance but also for other civic qualities such as participation, cooperation and inter-group trust. Examining the civic attitudes and behaviors of students at Michigan University, they find that participation in a multicultural programme involving intensive contacts with ethnic and racial others significantly enhanced inter-group cooperation and participation in Campus political activities among Whites, African American and Asian American students alike.

The link between *social* composition and civic attitudes has not received the same scholarly attention as the relation between ethnic composition and civic attitudes. Yet, several political scientists have emphasized the importance of neighbourhood socio-economic status for civic orientations. They find that deprived areas where disorder and poverty prevail enhance alienation, mistrust and inter-group hostility (e.g. Oliver and Wong 2003; Li et al. 2005; Letki 2008). Consistent with these results, Kokkonen et al (2008) find that classroom social status enhances favourable perceptions of immigrants among upper secondary students in Sweden.

In sum the literature on contextual effects shows that many civic competences, trust and participation including, are affected by the social and ethnic composition of the social environment. The same regularity that was proposed for civic knowledge and skills and ethnic tolerance can thus be hypothesized: education systems producing the highest levels of segregation should display the strongest relation between school social and ethnic composition on the one hand and trust and participation on the other.

The remainder of the paper will focus on the civic competences highlighted in the current section: civic knowledge and skills, ethnic tolerance, trust and participation. Because of the multidimensional nature of civic competences, I will conduct separate analyses for each of these outcomes (see further below). Based on the discussion above I will explore the following hypotheses:

1. The more and the earlier a system selects on the basis of ability, the wider the disparities of civic competences across classrooms[4] in a country are, particularly those concerning civic knowledge and skills;
2. The more and the earlier a system selects on the basis of ability, the more pronounced the social and ethnic segregation across classrooms is;
3. The more and the earlier a system selects on the basis of ability, the larger the effect of the social and ethnic composition of classrooms on civic competences is, particularly on civic knowledge and skills.[5]

Data, selection of indicators and methods of analysis

[4] The measures of social and ethnic composition relate to the classroom and I adjusted the hypotheses accordingly (see ensuing section).

[5] It must be stressed that this hypothesis only makes a claim about the *size* of the contextual effects, not about their *direction*. It is quite possible that the direction of these effects varies across the different components of civic competences. For instance, ethnic diversity has been found to be negatively related to civic knowledge and skills (Kokkonen et al. 2008) and student achievement more generally (Rumberger and Willms 1992; Ryabov and Van Hook 2006) but positively related to ethnic tolerance (Ellison and Powers 1994; Sigelman et al 1996).

I explore the relationships between education systems, segregation and civic competences by analyzing data of the IEA Civic Education Study (Torney-Purta et al 2001). This study consists of a large scale test and survey conducted in 1999 among a sample of 90,000 14-year-old students and 4500 school principles in 28 countries worldwide. To this day, the Civic Education Study (henceforth Cived) has not enjoyed the same level of popularity as other large international surveys addressing civic values, such as the World Values Survey, the European Social Survey, the ISSP and the Eurobarometer. This is somewhat surprising given the quality of the data. Not only are the national samples much larger in the Cived study (around 3000 students in each country), the non-response is also significantly lower than in the other surveys. One of the advantages is that respondents of immigrant origin are represented to a sufficient degree. Given the nested character of the national samples, with one classroom being selected in each of the 150-200 sampled schools, the Cived study further allows researchers to explore both contextual effects (such as social and ethnic composition and other properties of the class or school) and individual-level factors. We selected the OECD states for further study (i.e. Norway, Finland, Sweden, Denmark, Germany, Switzerland, French Belgium, Italy, Portugal, Greece, England, United States, Australia – 13 states in total). By the end of the 1990s all of these states had become immigration countries, making issues of social and ethnic segregation in large urban areas particularly salient there.

Dependent variables

I made use of two ready-made multi-item scales from the student database to measure ethnic tolerance and civic knowledge and skills. These scales were created by the Cived methodological experts and are robust in terms of cross-country internal consistency and conceptual equivalence (Schultz 2004). An item asking students how much of the time they trusted "the people who live in this country" was used to tap interpersonal trust. Lastly, I devised a civic participation index as a measure of participation. This index represents the sum of all positive answers on 15 items asking about participation in a range of clubs and organizations. Appendix 1 shows the precise wording and answer categories of the item on trust and of the items included in the scales and index. It must be noted that the ethnic tolerance scale is not ethnically neutral as it is based on items asking about attitudes on immigrants. Because of this, the scale is likely to have tapped the ethnic tolerance of native majority students only since immigrants clearly constitute an out-group for these students. Ethnic minority students may have identified with immigrants which makes the scale unfit to tap their levels of ethnic tolerance. Ethnic minority students will therefore be removed from the analysis of ethnic tolerance. Table 1 provides the descriptive statistics of the four outcome measures using the pooled data of all 13 countries. It shows that the distribution of values on most of the scales has a slight positive skew (i.e. tail to the right). The distribution of values on the interpersonal trust item is more evenly spread with the mean almost exactly in the middle of the 1-4 Likert scale. A reliability analysis conducted on the four dependent variables produces a Cronbach Alpha of no more than .076, confirming that civic competences indeed constitute a loose collection of qualities and that separate analyses of the outcomes are warranted.

Independent variables

I used the system classification of Green et al (2006) as a measure of the degree and time of selection on the basis of ability. Their classification, although categorical in nature, has the

distinct advantage of not only considering the age of first selection (which would imply making a crude dichotomy between the German-speaking early selection states on the one hand and all other states with comprehensive systems on the other hand) but also the degree of ability grouping within comprehensive systems. Reviewing the education systems of OECD states, they distinguish four models: (1) the *full comprehensive model*, characterized by strict mixed-ability classes in all-through comprehensive schools combining primary and lower secondary education, (2) the *centralized model*, which is marked by strong central control, curricula encyclopeidism, strict achievement standards, grade repeating and some grouping by ability within otherwise comprehensive schools, (3) the *incomplete comprehensive model*, which has ability grouping in both state comprehensive and other schools, a large private sector, school choice and diversification policies as distinct features, and (4) the *early selection model*, in which pupils upon leaving primary education are assigned to different kinds of lower secondary schools varying in status and orientation (vocational or academic) on the basis of ability. The first-named model can be found in the Nordic states and in Japan and South Korea, the centralized model in Southern Europe, the incomplete comprehensive model in the English-speaking countries and the early selection model in the German-speaking and Benelux countries. The four models have been arranged in an ascending order regarding the degree and (early) timing of selection. In view of the aforementioned hypotheses, I would thus expect the states with full comprehensive systems to show the smallest cross-classroom disparities of civic competences, the smallest degrees of social and ethnic segregation and the smallest effect of social and ethnic composition on civic competences. All these effects should be largest in the states with early selection systems. The other two models should fall in between these two extremes.

As the Cived sample has a one classroom per school structure, I aggregated student data to the classroom level to create measures for the contextual variables of interest. Thus, the classroom average of the number of books at home as reported by the students was used as a proxy for social composition (henceforth *classroom status*).[6] Similarly, I utilized (the inverse of) the classroom mean of speaking the language of the test at home (i.e. the language of the participating country) as an indicator of ethnic diversity (henceforth *classroom diversity*). Ethnically diverse classrooms thus represent situations in which few students speak the language of the country at home.[7] Finally, I calculated the classroom mean of a ready made scale reflecting opinions on whether there is an open climate for classroom discussion (henceforth *classroom climate*), which will be used as a control variable. Previous research by Torney-Purta (2004) on the same dataset has shown that an open climate of discussion is strongly correlated to civic attitudes. In her view, practices which encourage students to take

[6] I considered the number of books at home to be a more reliable indicator of social status than parental educational attainment as reported by students since previous research has shown that many youngsters do not know their parents educational background. Indeed, the Cived data on the 13 OECD countries showed a lot of missing values on parental educational attainment (25 per cent on both *education mother* and *education father*).

[7] Relying on language as an indicator of ethnic identity of course has its drawbacks (second generation migrant children who already assimilated to the language of the host country will not be captured for instance), but given the alternatives available (the "which best describes you" item on ethno-racial identity that was asked in just a handful of countries and the item on place of birth which only captures first generation migrants) I considered it the best option.

In theory it is possible that high values on my measure of ethnic diversity actually represent the reverse – ethnic homogeneity. This occurs when most of the students in a classroom reporting that they do not speak the language of the country belong to a single ethnic group (in other words in situations where one ethnic minority makes up the majority in a class). However, the number of classrooms in which the majority of respondents does not or only sometimes speak the language of the country at home is so small (Table 1 shows that the ethnic diversity measure is strongly tilted towards the homogenous, native majority end) that it can safely be assumed that the higher the proportion of students not speaking the language of the country is the more ethnically diverse the classroom will be.

part in debate and in decision-making, in other words 'learning by doing', are much more important in fostering civic-democratic competences than the formal curriculum.

I further included several individual level control variables in the analyses. In addition to number of books at home (henceforth *social background*) and language of the test spoken at home (henceforth *state language use*), which may be seen as the individual-level counterparts of classroom status and diversity, these are gender and civic knowledge and skills. Other research has highlighted the importance of civic knowledge and skills for the attitudinal and behavioral component of civic competences (Galston 2001; Delli, Carpini and Keeter 1996). Civic knowledge and skills are thus understood as both a dependent and an independent variable in the analyses. Appendix 1 provides the full details of the independent variables. The descriptive statistics of Table 1 show that the distribution of values on classroom diversity is highly skewed towards the homogenous native majority end. Classroom status has a more balanced distribution of values.

Table 1 about here

Methods of analysis

I calculated the Intraclass Correlation Coefficients (ICCs) of the four outcome measures and of social background and state language use to assess the between-classroom variation in civic competences and levels of social and ethnic segregation across classrooms. An ICC of some individual-level measure represents the outcome of the between classroom variance divided by the sum of the between-classroom and the within-classroom variance. Its values range between 0 and 1 with 1 meaning that all the variation is between classrooms and not within classrooms (i.e. all students have the same score within classrooms) and 0 indicating that all classrooms have the same score and students vary maximally within classrooms. Capturing both the between and within classroom variation, the ICC, I believe, is ideal not only for exploring inequalities of civic competences across classrooms but also for measuring classroom social and ethnic segregation. The closer the ICC is to 1 on social background and ethnic identity, the more socially and ethnically segregated I consider an education system to be. Moreover, measuring social segregation by means of ICCs enables one to use *continuous* variables as input measures (such as, in our case, social background –based on the item on the number of books at home). By contrast, the Index of Dissimilarity, another widely used measure of segregation, has to rely on *binary* variables (see, e.g., Jenkins et al 2008) as input measures to calculate segregation levels, and this obviously has the drawback of information loss. Especially with regard to social background it is advisable to use a continuous variable with many values to capture the diversity of status differentials in the population.

To assess relations between the contextual conditions and civic competences I perform multilevel analysis (MLA), using the mixed methods option in SPSS. MLA is necessary because of the nested structure of the data. A structure of this kind, with students being nested in classes, classes in schools, and schools in countries, precludes the use of more conventional multiple regression techniques since these require that observations are independent. Using such techniques to analyze nested data would result in an underestimation of the standard errors of the contextual variables (and therefore an overestimation of the effects of these variables). Aggregating the dependent variables to the level of the independent contextual variables and performing a conventional regression analysis at that level is not a solution either as this makes it impossible among the independent variables to distinguish contextual effects from effects resulting from the aggregation of individual characteristics (Hooghe et al 2007; Snijders and Bosker 1999). Translated to the current study, this means that it is

essential to assess whether classroom status and classroom diversity have an effect over and above that of the social background and state language use of the individual student.

Because of the small number of observations at the national level (only 13 countries) I do not incorporate education systems as a national level property in the multilevel model. Instead, I construct a two level model consisting of individuals (L1) and classrooms (L2), and will perform analyses for each of the four systems separately. By comparing the effect of classroom status and classroom diversity on civic competences across education systems, I can address the third hypothesis.

Results

Let us start by examining whether inequalities between classrooms in civic competences are in line with the first hypothesis. In other words, are these inequalities smallest in the countries with full comprehensive systems and largest in the countries with early selection systems, and if so, is this pattern particularly pronounced on civic knowledge and skills? Interestingly, the data of Table 2 provides a negative answer to the first question and an affirmative one to the second question. Contrary to expectation, cross-classroom inequalities in ethnic tolerance and civic participation are relatively large in the full comprehensive group. The small inequalities in interpersonal trust in the early selection group are not in conformity with the hypothesis either. By contrast the pattern on civic knowledge and skills is very much in line with expectation: cross-class inequalities are indeed smallest in the full comprehensive group and largest in the early selection group. In fact, this pattern of variation corresponds almost exactly to the between-school variation in student literacy performance found in PISA 2000 (for the country scores of the latter, see OECD 2002 and Green et al 2006, 124), confirming the supposition that civic knowledge and skills have a lot in common with academic achievement. The diverging findings for the cognitive component on the one hand and the normative and behavioural components on the other are another indication that civic competences are a multidimensional phenomenon. What applies for one component need not apply for another component. The findings further suggest that the proposed causal mechanisms linking early selection to disparities of civic attitudes and behaviour do not apply or are overwhelmed by other influences. For some reason students in early selection systems manage to retain a certain individuality in attitudes and behaviour despite being more similar to one another in academic achievement within schools by comparison to their peers in other systems.

Table 2 about here

What is the cross-system pattern on social and ethnic segregation? Table 3 shows that the countries with full comprehensive systems have much lower social segregation levels than countries with other education systems. Social segregation, moreover, is most pronounced in the countries with early selection systems. There is considerable variation among countries within the full comprehensive, incomplete comprehensive and centralized systems (note, for instance the surprisingly high segregation level of Sweden[8]), but generally these findings are fully in line with the first hypothesis. These results, moreover, correspond closely to the

[8] Possibly, Sweden's remarkably high segregation levels are a legacy of the recent past when internal tracking practices were common in the country's schools. Sund (2006), for instance, reports that the Swedish government prohibited grouping by ability only in 1995. Schools may have continued these practices for several years after the ban.

aforementioned findings of Jenkins et al (2008), who used a different measure of segregation and based their analyses on PISA data. The fact that the very same patterns emerge regardless of the data source and measure of segregation used is further powerful evidence of the close relation between the degree and timing of ability grouping and school social segregation. However, cross-system patterns on *ethnic* segregation are quite different. The centralized systems group turns out to have the highest degree of ethnic segregation and the full comprehensive group comes in second. The groups of countries with early selection and incomplete comprehensive systems record the lowest segregation levels. This time, I only find substantial variation between countries within the full comprehensive group and again it is Sweden which shows a remarkably high level of segregation. Obviously, these patterns are not in agreement with the second hypothesis. They are, however, consistent with the aforementioned – and equally surprising - findings of Entorf and Lauk (2008), who like Jenkins et al used PISA. PISA and CIVED thus show remarkably similar patterns on both forms of segregation. As both data sources show that ethnic segregation is not particularly low in the full comprehensive group and not particularly high in the early selection group, there must be a mechanism at work that overwhelms the impact of ability grouping on ethnic segregation. Possibly, a pronounced residential segregation of ethnic minorities in combination with rigid school catchment areas constitutes such a mechanism.

Table 3 about here

Finally, let us assess how education systems shape the relation between the social and ethnic composition of classrooms and civic competences (hypothesis 3). Table 4 presents the results of the multilevel analyses in a step-by-step manner, with Models 0-II providing respectively (0) the distribution of the variance across classes and individuals (i.e. the ICCs of Table 3), (I) an analysis including only the estimates of the classroom-level conditions, and (II) the same model but this time with individual-level controls. The ICCs of Model 0 (also called the empty model) allow us to assess whether the variation at higher levels of analysis is large enough to warrant MLA. Considering Duncan and Raudenbusch' (1999) rule of thumb that an ICC of .01, .04, .08, and .14 are commonly viewed as small, medium, large and very large, respectively, we can conclude that the between-class variations on all four outcomes are indeed of a sufficient magnitude to justify MLA (with the possible exception of interpersonal trust in the full comprehensive and early selection group of countries).

Turning now to the model including only the classroom-level conditions, we see that classroom status and classroom diversity are linked in quite different ways to the four civic outcomes. Not only do these relationships vary by civic outcome, they also differ across education systems. Classroom diversity, for instance, is negatively linked to interpersonal trust but positively linked to civic participation in the full comprehensive group (that is, the lower the average number of speakers of the state language in a class, the less trusting the pupils are, but the more they participate). However, diversity is negatively related to civic participation in the centralized group. The relations with civic knowledge and skills are an exception to this pattern: classroom status shows a consistent positive and classroom diversity a consistent negative relation with this outcome across education systems. Most importantly, however, it cannot be said that the effect of the two compositional measures on civic outcomes is any weaker in the full comprehensive group. Particularly, the effect of classroom diversity appears to be at least as strong if not stronger (in either a positive or negative way) in the full comprehensive group compared to the other groups. This obviously is not in accordance with the third hypothesis.

Table 4 about here

However, will these relationships hold once we start controlling for individual-level conditions (Model II)? We see that most relations remain unchanged. However, there are a few significant changes with respect to the impact of classroom status. Crucially, classroom status no longer has a significant effect on civic knowledge and skills in the full comprehensive group while it retains a strong positive effect in the other groups, and particularly so in the early selection and centralized groups. Thus, the effect of classroom status on this outcome in the full comprehensive group is spurious, reflecting nothing more than the sum of the individual-level conditions. As this effect is thus weakest (or better non-existent) in the system with minimal grouping by ability and very strong in the early selection group, the cross-system pattern of relations is fully in line with the third hypothesis. Interestingly, the centralized group comes out slightly ahead of the early selection group in terms of the strength of the effect (see the t values in the seventh column). This shows that there is considerable variation between states with comprehensive systems as to the impact of school social composition on student outcomes, which all the more highlights the need of not only using age of first selection but also the degree of ability grouping within comprehensive schools to identify different systems.

Classroom status also loses its significant positive link with *ethnic tolerance* in the full comprehensive group. At the same time the non-relation between classroom status and ethnic tolerance becomes a significant negative relation in the centralized and incomplete comprehensive groups, while classroom status maintains its positive link with this civic outcome in the early selection group (but at a reduced level of significance). Thus, the pattern of relations on ethnic tolerance also supports the hypothesis, although the contrasting ways in which classroom status is linked to this outcome across the three last named systems complicates the picture.

The patterns on *interpersonal trus*t are not very clear. On the one hand classroom status is showing the strongest relationship with interpersonal trust in the early selection group, which is in line with expectation, but contrary to the findings of the neighbourhood studies on social capital reviewed earlier this relationship is negative. On the other hand it is not in the full comprehensive group that classroom status is unrelated to trust, as one might expect, but in the centralized group. Finally, it can be seen that the pattern of relations of classroom status with civic participation is *not at all* in agreement with the hypothesis since it is in the full comprehensive group that the effect of classroom status is strongest (although this effect is also quite strong in the early selection group). It is quite surprising to find such a strong effect in the full comprehensive group since classroom social segregation is smallest in this group. Evidently, some civic competences are highly responsive to the social composition of schools even in a context where there are little differences between schools in social status.

In sum, classroom status shows the expected cross-system variation in its effect on civic knowledge and skills, but is related in quite different ways to each of the other civic outcomes across the four systems. This suggests that we need to distinguish between the cognitive (knowledge and skills), the behavioural (participation) and the affective aspects (attitudes) when investigating civic competences. The results thus provide additional evidence for the notion that civic competences constitute a highly diverse set of qualities.

Remarkably, adding the individual level controls does not change any of the effects of classroom diversity. It, for instance, retains its strong link with all four civic outcomes in the full comprehensive group. In no other group is classroom diversity showing a significant

relationship with all four civic competences. In the incomplete comprehensive and early selection groups it is only linked in a significant (positive) way to ethnic tolerance. It further shows very strong relationships with the attitudinal and behavioural component but not with the cognitive component of civic competences in the centralised group. Obviously these patterns are not in agreement with the set of relationships expected by the third hypothesis. However, they do make sense if we recall that the centralised and full comprehensive groups actually demonstrate the highest level of classroom ethnic segregation by the ICC measure of segregation. Thus, in contexts where differences between classrooms in ethnic diversity are largest classroom diversity is also showing the strongest effect on civic competences. It is therefore not this effect that should surprise us but the high levels of ethnic segregation in both groups (but especially in the full comprehensive group) in the first place.

As it taps the ethno-cultural dimension, it is no surprise to find classroom diversity to be strongly correlated to ethnic tolerance across all systems. In three of the four systems the link is positive, meaning that students in ethnically more diverse classrooms show higher ethnic tolerance scores everything else being equal. In other words, interaction with peers of a different ethnic background contributes to ethnic tolerance.[9] This is an important finding which is in agreement with the aforementioned contact perspective. However, the centralized group 'spoils' the picture by showing a negative link between classroom diversity and ethnic tolerance. Furthermore, I find evidence of a reverse direction with regard to interpersonal trust. In the full comprehensive and centralized group, pupils are less trusting in more diverse classes. This is in agreement with the aforementioned political science studies arguing that diversity undermines trust and solidarity. Yet, this link can only be found in two system groups. In the incomplete comprehensive and early selection group, classroom diversity is unrelated to social trust. To complete the puzzle, I find that diversity undermines civic participation in the centralized group but enhances participation in the full comprehensive one. Possibly, it is the different mix of ethnic groups within each country that explains the irregular pattern of relationships of this classroom condition. If these groups do not only differ by ethnicity but also by social background across countries and education systems, it is likely that some of this variance is reflected in the effect of classroom diversity.

In sum, the pattern of relations of classroom diversity with the four outcomes only reinforces earlier observations: civic competences respond in quite different ways to classroom conditions; these relations vary across competences, across classroom conditions and across education systems. This suggests that country or system-specific factors influence the effect of classroom conditions to a significant degree.

Conclusion

This paper has shown that knowledge on the formation of civic competences among youngsters can be enhanced by drawing upon stratification literature concerned about the role that ability grouping plays in (re)producing inequalities in human capital. I found a distinct regularity between the degree and timing of ability grouping on the one hand and levels of classroom segregation and inequalities of civic competences on the other. In states with full comprehensive systems (i.e. with no grouping by ability and a network of uniform all-through schools), levels of social segregation were low and disparities of civic competences across classes were comparatively small (however, this applied more for the cognitive component of civic competences than for the normative and behavioural component). In contrast, countries

[9] I recall that student who did not speak the state language at home were omitted from the tolerance models. However, this does not invalidate an assessment of classroom diversity since the remaining students can simply be given a classroom diversity score.

with early selection systems showed marked degrees of social segregation and displayed relatively large cross-class differences in civic competences. Ethnic segregation levels, however, did not show a meaningful link with ability grouping since the full comprehensive group actually showed relatively high, and the early selection group relatively low, levels of ethnic segregation.

I also found education systems to influence the effect of classroom social status on civic knowledge and skills. In the full comprehensive group (i.e. the Scandinavian countries) this effect disappeared after controlling for individual background variables, while it retained its strong positive effect in countries with systems allowing for grouping by ability in various degrees. This finding is in agreement with the proposition that in systems which minimize ability grouping the effect of classroom compositional features, such as social status, on civic competences is likely to be small. The OECD PISA studies have found a very similar pattern of cross-country variation in the effect of school social status on literacy and numeracy skills. As civic knowledge and skills are bound to depend a lot on general linguistic competence it makes sense to find the two patterns corresponding closely.

In sum, for policy makers interested in reducing social segregation, combating pockets of ignorance, and neutralizing the effect of school social status on the cognitive dimension of civic competences, reforms aimed at maximizing mixed ability classes and minimizing cross-school differentiation would certainly be worth considering.

However, the analyses also showed that the effects of social and ethnic composition on civic *attitudes* and *behaviours* are not related to ability grouping. Particularly the strong effect of classroom diversity on all four civic outcomes in the full comprehensive group was not expected. More generally, the effects of the two compositional conditions appeared to vary across these outcomes and across education systems. Thus, as straightforward the pattern of effects was with regard to civic knowledge and skills, as unpredictable it was with regard to attitudes and behaviours. The pattern further suggests that a relation found between a contextual condition and a certain civic outcome in one education system can neither be generalized to other civic outcomes nor to other educational or regional contexts. Apparently region-specific factors play an important role in shaping such relations. Even more importantly, the unpredictable pattern of effects suggest that civic competencies do not "travel as a package", as Rice and Feldman (1997: 1150) believe. If some of them do, the 'syndrome' of civic culture they constitute is likely to be regionally unique and subject to local conditions. This means that policy interventions that are effective in one context in fostering civic attitudes and behaviours among youngsters may well fail in another.

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Table 1. Descriptive statistics

	Mean	SD	Minimum	Maximum	N
Dependent variables					
Civic knowledge and skills	101.97	20.13	9.47	165.19	40782
Ethnic tolerance	10.01	2.18	4.04	14.17	39623
Civic participation	18.29	2.40	15	30	34739
Interpersonal trust	2.61	.83	1	4	36998
Independent variables					
Classroom status	4.31	.65	2.23	6	40977
Classroom diversity	.91	.13	.11	1	40972
Classroom climate	10.19	.87	6.02	16.78	40931
Social background	4.32	1.32	1	6	40435
State language use	2.89	.36	1	3	36508
Gender (51% girl)			0 (girl)	1 (boy)	40559

Table 2. Between-classroom variation in civic competences (ICCs) by education system

	Full compre-hensive	Centralized	Incomplete compre-hensive	Early selection
Civic knowledge and skills	.12	.30	.24	.37
Ethnic tolerance	.14	.08	.11	.17
Civic participation	.12	.29	.09	.12
Interpersonal trust	.03	.13	.07	.03

Table 3. Social and ethnic segregation across countries and education systems

	Social segregation: Between classroom variance in social background as proportion of total variance (ICC)	**Ethnic segregation: Between classroom variance in state language use as proportion of total variance (ICC)**
Denmark	.05	.05
Finland	.06	.11
Norway	.07	.06
Sweden	.18	.17
Full comprehensive	*.11*	*.14*
Greece	.10	-*
Italy	.18	.12
Portugal	.20	-*
Centralized	*.18*	*.19*
Australia	.07	.10
England	.13	.09
United States	.16	.12
Incomplete comprehensive	*.15*	*.11*
Belgium (French)	.18	.09
Germany	.21	.10
Switzerland	.16	.10
Early selection	*.19*	*.11*

* The ICC could not be calculated for these countries because the between classroom variation was not significant.

Table 4. Effects of classroom status and classroom diversity on civic competence outcomes across education systems (coefficients of MLA)

		Civic knowledge and skills					Interpersonal trust				
		M 0	M I		M II		M 0	M I		M II	
			coef	t	coef	t		coef	t	coef	t
	Classroom status		**3.81**	**(5.4)**	.207	(.3)		**-.054**	**(-2.6)**	**-.054**	**(-2.5)**
	Classroom diversity		**-18.66**	**(-8.5)**	**-14.56**	**(-6.4)**		**-.351**	**(-5.4)**	**-.272**	**(-3.9)**
	Classroom climate		**2.76**	**(7.0)**	**2.76**	**(7.0)**		-.016	(-1.4)	-.018	(-1.5)
Full	Gender (ref cat girl)				**1.73**	**(3.8)**				**.067**	**(4.1)**
compre-	Social background				**3.64**	**(18.4)**				-.003	(-.5)
hensive	State language use				**5.04**	**(6.8)**				**.068**	**(2.4)**
system	Civic knowledge skills									**.001**	**(2.5)**
	ICC classroom (L2)	.12					.03				
	Explained variance L2		40.4%		38.1%			23.5%		23.5%	
	Explained variance L1		0%		5.7%			0%		.2%	
	N L1 (individuals)	7510	7510		7510		7510	7510		7510	
	Classroom status		**8.70**	**(10.9)**	**5.51**	**(6.7)**		**.102**	**(3.8)**	**.110**	**(3.9)**
	Classroom diversity		-4.22	(-1.2)	.60	(.16)		-.172	(-1.4)	-.105	(-.8)
	Classroom climate		**4.15**	**(8.0)**	**4.21**	**(8.1)**		**-.059**	**(-3.4)**	**-.053**	**(-3.0)**
Incom-	Gender (ref cat girl)				.46	(1.0)				.033	(1.6)
plete	Social background				**3.25**	**(17.9)**				.002	(.3)
compre-	State language use				**5.96**	**(6.5)**				**.074**	**(2.1)**
hensive	Civic knowledge skills									**-.001**	**(-2.1)**
system	ICC classroom (L2)	.24					.07				
	Explained variance L2		48.6%		46.6%			12.8%		14.9%	
	Explained variance L1		0.4%		5.8%			0%		0%	
	N L1 (individuals)	6724	6724		6724		6724	6724		6724	
	Classroom status		**12.12**	**(19.2)**	**9.79**	**(15.0)**		.027	(.9)	.025	(.8)
	Classroom diversity		**-8.14**	**(-4.0)**	-3.12	(-1.5)		**-.945**	**(-10)**	**-.867**	**(-8.8)**
	Classroom climate		**4.99**	**(8.9)**	**3.98**	**(8.9)**		.015	(.7)	.023	(1.1)
Centra-	Gender (ref cat girl)				-.01	(-.0)				**.085**	**(4.1)**
lized	Social background				**2.37**	**(14.2)**				.005	(.5)
system	State language use				**4.95**	**(8.4)**				**.086**	**(2.8)**
	Civic knowledge skills									-.000	(-.4)
	ICC classroom (L2)	.30					.13				
	Explained variance L2		67.4%		66.8%			26.6%		27.5%	
	Explained variance L1		0%		3.6%			0%		.3%	
	N L1 (individuals)	7924	7924		7924		7924	7924		7924	
	Classroom status		**11.72**	**(18.1)**	**9.94**	**(14.8)**		**-.103**	**(-4.6)**	**-.119**	**(-4.7)**
	Classroom diversity		-4.56	(-1.9)	-1.77	(-.71)		-.153	(-1.8)	-.099	(-1.1)
	Classroom climate		**3.59**	**(9.6)**	**3.68**	**(9.8)**		**.04**	**(2.8)**	**.036**	**(2.7)**
	Gender (ref cat girl)				**3.06**	**(7.9)**				.012	(.6)
Early	Social background				**1.93**	**(11.6)**				.014	(1.5)
selection	State language use				**3.40**	**(6.30**				.058	(1.9)
system	Civic knowledge skills				-					.000	(.3)
	ICC classroom (L2)	.37					.03				
	Explained variance L2		67.5%		66.3%			15.0%		15.0%	
	Explained variance L1		0%		4.7%			0%		.2%	
	N L1 (individuals)	5853	5853		5853		5853	5853		5853	

(continued)

		Civic participation					Ethnic tolerance				
		M 0	M I		M II		M 0	M I		M II	
			coef	t	coef	t		coef	t	coef	t
	Classroom status		**.822**	**(11.7)**	**.599**	**(8.1)**		**.263**	**(3.3)**	.140	(1.7)
	Classroom diversity		**1.32**	**(6.1)**	**1.41**	**(6.1)**		**2.51**	**(9.1)**	**2.72**	**(10.2)**
	Classroom climate		**.138**	**(3.5)**	**.124**	**(3.1)**		**.331**	**(7.4)**	**.270**	**(6.3)**
Full	Gender (ref cat girl)				**-.390**	**(-8.6)**				**-1.15**	**(-23)**
compre-	Social background				**.209**	**(10.3)**				.037	(1.6)
hensive	State language use				.043	(.6)				-	
system	Civic knowledge skills				**.004**	**(3.2)**				**.021**	**(16.9)**
	ICC classroom (L2)	.12					.12				
	Explained variance L2		39.9%		34.9%			34.2%		37.0%	
	Explained variance L1		0%		3.2%			0%		11.1%	
	N L1 (individuals)	7510	7510		7510		6991	6991		6991	
	Classroom status		**.257**	**(2.8)**	-.111	(-1.2)		-.120	(-1.5)	**-.256**	**(-3.1)**
	Classroom diversity		.109	(-3)	-.063	(-.2)		**1.10**	**(2.9)**	**1.07**	**(-2.9)**
	Classroom climate		**.379**	**(6.4)**	**.309**	**(5.4)**		**.205**	**(3.7)**	.097	(1.9)
Incom-	Gender (ref cat girl)				**-.628**	**(-9.6)**				**-.674**	**(-12)**
plete	Social background				**.300**	**(11.2)**				.020	(.9)
compre-	State language use				**-.231**	**(-2.1)**				-	
hensive	Civic knowledge skills				**.009**	**(5.2)**				**.014**	**(9.7)**
system	ICC classroom (L2)	.09					.10				
	Explained variance L2		21.6%		31.3%			8.8%		14.0%	
	Explained variance L1		0%		3.6%			0%		3.8%	
	N L1 (individuals)	6724	6724		6724		6269	6269		6269	
	Classroom status		**.218**	**(2.0)**	-.022	(-.2)		-.020	(-.4)	**-.260**	**(-4.9)**
	Classroom diversity		**-3.928**	**(-11)**	**-4.052**	**(-11)**		**-1.493**	**(-8.1)**	**-1.434**	**(-7.9)**
	Classroom climate		.074	(1.0)	.070	(.9)		**.252**	**(7.2)**	**.151**	**(4.3)**
Centra-	Gender (ref cat girl)				**-.009**	**(-.2)**				**-.430**	**(-10)**
lized	Social background				**.241**	**(11.0)**				.023	(1.3)
systems	State language use				**-.154**	**(-2.0)**				-	
	Civic knowledge skills				.00	(.1)				**.017**	**(15.0)**
	ICC classroom (L2)	.29					.07				
	Explained variance L2		28.5%		27.9%			40.7%		38.5%	
	Explained variance L1		0%		1.6%			0%		4.7%	
	N L1 (individuals)	7924	7924		7924		7195	7195		7195	
	Classroom status		**.669**	**(10.0)**	**.333**	**(4.7)**		**.472**	**(5.4)**	**.285**	**(3.2)**
	Classroom diversity		.364	(1.4)	.451	(1.7)		**1.602**	**(4.6)**	**1.72**	**(5.1)**
	Classroom climate		**-.119**	**(-3.1)**	**-.139**	**(-3.6)**		**-.217**	**(-4.3)**	**-.294**	**(-6.0)**
	Gender (ref cat girl)				**-.332**	**(-6.6)**				**-.713**	**(-12)**
Early	Social background				**.287**	**(13.1)**				-.036	(-1.4)
selection	State language use				.032	(.5)				-	
system	Civic knowledge skills				**.004**	**(2.3)**				**.017**	**(9.1)**
	ICC classroom (L2)	.12					.17				
	Explained variance L2		31.5%		33.0%			15.7%		24.6%	
	Explained variance L1		0.7%		3.9%			0%		3.5%	
	N L1 (individuals)	5853	5853		5853		5246	5246		5246	

NB1: The t statistic is the outcome of the coefficient divided by its standard error. A t larger than 2 or smaller than -2 indicates a significant relation at the level of 5 per cent; a t larger than 3.5 or smaller than -3.5 indicates a significant relation at the level of .1 per cent. Significant relationships at the 5 per cent level are given in bold.
NB2: I opted for a listwise deletion of missing values to ensure that Models 0, I and II are based on the same number of respondents. The N for the ethnic tolerance models is lower because the non-state language speakers were omitted from the analysis. The classroom level N is 615, 392, 461 and 437 for the four education system groups respectively. These numbers are the same for the ethnic tolerance models.

Appendix 1. Composition of dependent and independent variables

Dependent variables

Item

Interpersonal trust
'How much of the time can you trust each of the following institutions?'
'the people who live in this country'
Answers: never – only some of the time – most of the time - always

Scales

Civic knowledge and skills – This scale consists of a 38 items civic knowledge and skills test

Ethnic tolerance ('positive attitudes toward immigrants')
(1) Immigrants should have the opportunity to keep their own language
(2) Immigrants' children should have the same opportunities for education that other children in the country have
(3) Immigrants who live in a country for several years should have the opportunity to vote in elections
(4) Immigrants should have the opportunity to keep their own customs and lifestyle
(5) Immigrants should have all the same rights that everyone else in a country has
Answers: strongly disagree – disagree – agree – strongly agree

Composite index

Civic participation
'Have you participated in the following organizations?'
1 a student council / student government [classroom or school parliament]
2 a youth organisation affiliated with a political party or union
3 a group which prepares a school newspaper
4 an environmental organisation
5 a U.N. or UNESCO Club
6 a student exchange or school partnership program
7 a human rights organisation
8 a group conducting [voluntary] activities to help the community
9 a charity collecting money for a social cause
10 Boy or Girl Scouts [Guides]
11 a cultural association [organisation] based on ethnicity
12 a computer club
13 an art, music or drama organisation
14 a sports organisation or team
15 an organisation sponsored by a religious group
Answers: no - yes

Independent variables

Social background
'About how many books are there in your home?'
Answers:

1. none
2. 1-10
3. 11-50
4. 51-100
5. 101-200
6. more than 200

State language use
'How often do you speak [language of test] at home?'
Answers: never – sometimes – always or almost always

Classroom climate
Classroom average of a scale comprising the following items:

1. 'Students feel free to disagree openly with their teachers about political and social issues during classroom'
2. 'Students are encouraged to make up their own minds about issues'
3. 'Teachers respect our opinion and encourage us to express them during classroom'
4. ' Students feel free to express opinions in classroom even when their opinions are different from most of the other students'
5. 'Teachers encourage us to discuss political or social issues about which people have different opinions'

Answers: never – rarely – sometimes -- often