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What do we know about the causes and effects of school socio-economic composition?  
A review of the literature

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Abstract

It is well known that socio-economic status (SES) at both the student and school level is associated with educational outcomes. Students from higher social backgrounds, on average, have greater educational outcomes than their less privileged peers. Also, a student that attends a school that enrolls students from primarily high social backgrounds will, on average, have greater educational outcomes than if she attended a school that enrolled students from low social backgrounds. School SES is related to student outcomes through a complex array of factors, including the quality of curriculum and instruction, resources and the learning environment. This chapter reviews the research literature about the relationship between school socio-economic composition and student outcomes, the mechanisms by which the relationship is enacted in schools, as well as the structural features of education systems that influence how students from varying social backgrounds are distributed across schools. I conclude with suggestions for future research.

Keywords: school composition, student outcomes, socio-economic status, school choice, school segregation

Introduction

Questions about the relationship between student outcomes and school composition, or the social mix of students at a school, were first raised over half a century ago. The groundbreaking Coleman Report examined the impact of a school’s racial and socio-economic composition on the academic achievement of African-American students. It found that attending school with middle-class white students had a larger positive effect on the achievement of African-American students than did school resources (Coleman et al., 1966). Attempts to desegregate schools in the US followed, which met many challenges and limited success. Despite policy attempts to manage the racial and socio-economic composition of schools, ethnic/racial and socio-economic segregation is on the rise in the US, fuelled in part by residential segregation and increasing numbers of Hispanic students (Charles Clotfelter, 2001; Orfield & Yun, 1999). Demographic trends and educational policies may be contributing to school ethnic and social segregation elsewhere as well. Some European countries are experiencing an increase in ethnic school segregation due to growing numbers of non-European immigrants and school choice mechanisms (Karsten et al., 2006; Kristen, 2006; Noreisch, 2007; OECD, 2004b). In Australia schools are becoming more segregated by socio-economic status, most likely a result of a highly marketized education system (Rothman, 2003).

As schools become more segregated, researchers are again examining the relationship between student outcomes and school composition. The increasing marketization and privatization of many national systems of education are also provoking a renewed interest in the effect of school composition on student outcomes, as these trends may be contributing to school segregation. Finally, studies of the effects of school composition are being facilitated by large national and cross-national data sets that contain rich and detailed information about student and school characteristics.

This paper reviews the current research on school socio-economic composition. First I review the relationship between school composition and student outcomes, including the intermediary mechanisms through which the relationship is enacted. I then examine some education policies and structures that may be contributing to the distribution of students from varying social backgrounds across schools. I conclude the chapter by proposing some possible lines for future research.
The Effects of School Composition on Student Outcomes

The educational outcomes of individual students are partly explained by their family background or socio-economic status (SES), which is typically based on three dimensions: educational attainment, occupational status and income. The SES of students is based on their parents’ educational attainment, occupational status and income. These three dimensions in turn are related to people’s dispositions, values, attitudes and tastes, which collectively Bourdieu calls *habitus* (1986). The *habitus* of the privileged classes includes possessions and activities centred on “high culture” such as original artwork, books, international travel, and visits to art galleries, museums, symphonies and theatre houses, as well as high expectations for educational success. These forms of *habitus* allow middle and upper class families to develop their children’s cultural capital, which Bourdieu defines as the knowledge, skills and qualifications that give individuals a high social status (Bourdieu, 2000). For this reason, the Programme for International Student Assessment (PISA), a large international test of student achievement, conceptualizes family background as an index of economic, social and cultural status. Students who participate in PISA are asked questions about their parents’ occupation and educational level as well as the economic and cultural resources in the home (e.g., number of computers, books and original artwork, visits to museums, etc.)

On average, students from higher SES backgrounds have greater educational outcomes compared to their peers from lower SES backgrounds, and this relationship holds true, to a greater or lesser degree, in all countries (Noel & de Broucker, 2001; OECD, 2010). Compared to their more privileged peers, students from lower SES backgrounds have lower scores on standardized achievement tests (OECD, 2007, 2010; Perie, Moran, & Lutkus, 2005) and are less likely to complete secondary school (Lamb, Walstab, Teese, Vickers, & Rumberger, 2004; National Center for Education Statistics, 2008; Payne, 2001), earn a university degree (Blossfeld & Shavit, 1993; Connor & Dewson, 2001; Terenzini, Cabrera, & Bernal, 2001), or attend a prestigious university (Bowen, Kurzweil, & Tobin, 2005; Kao & Thompson, 2003). The differences in educational outcomes between students of different social backgrounds are large and significant. For example, Lamb et al (2004) show that 66% of students from the lowest SES quartile completed secondary school in 1999 in Australia compared to 88% of students from the highest SES quartile. In the US, Palardy (2008) found that low SES students graduate from high school more than four grade levels behind their high SES peers. On average among the developed countries that participated in the latest cycle of PISA, SES explained 14% of the variance in student academic achievement (OECD, 2010). Student SES is one of the strongest predictors of student achievement (Sirin, 2005).

The reasons why students from higher SES backgrounds tend to have better educational outcomes than their lower SES peers are complex and derive from multiple sources, including the home and the school. Lower SES families often have limited financial resources, which means they are less able to purchase computers, books and learning materials (Gregg, Harkness, & Machin, 1999; Orr, 2003). Financial difficulties often increase stress within the home, which makes it more difficult to provide a cognitively stimulating environment (Yeung, Linver, & Brooks-Gunn, 2002). Due to their occupation and educational qualifications, many parents from higher SES backgrounds are able to provide a linguistically rich home environment that provides a good preparation for schooling (Aikens & Barbarin, 2008; Bernstein, 1961; Bodovski, 2010; Lareau, 2000). Middle and upper class parents are also more likely to read to their children and participate in other educational activities compared to parents from working class backgrounds (Bodovski, 2010; Coley, 2002; Nash & Harker, 2006; Portes, 2005). This greater parental participation, support and investment in their children’s education is driven by the recognition that educational success is the main route for reproducing their class status (Ball, 2003; Bourdieu, 2000).
Schools also play a large role in the relationship between SES and educational outcomes (Gillborn, 2010). For example, compared to their higher SES peers, lower SES students are less likely to have access to a stimulating and rigorous academic curriculum (Anyon, 1981; Lamb, Hogan, & Johnson, 2001; Oakes, 1990, 2000) and qualified teachers (Akiba, LeTendre, & Scribner, 2007; Charles Clotfelter, Ladd, Vigdor, & Wheeler, 2007; Ingersoll, 1999). Their teachers are also less likely to have high expectations for them (Auwarter & Aruguete, 2008; Rangel, 2009; Rumberger & Palardy, 2005). These differences are important because research has shown that curriculum, teacher quality, teacher support and teacher expectations are strongly associated with student achievement (Burris, Wiley, Welner, & Murphy, 2008; Gimbert, Bol, & Wallace, 2007; Heck & Mahoe, 2006; Muller, 2001; Nye, Konstantopoulos, & Hedges, 2004).

In addition to their own socio-economic status, a student’s educational outcomes are also influenced by the socio-economic status of their fellow students. Research has shown that school socio-economic composition, also known as school mix or mean school SES, is strongly associated with the outcomes of students. The relationship is positive, wherein increases in the mean SES of the school are associated with increases in student achievement. Students perform better in schools that have a higher mean school SES, regardless of their individual SES (Perry & McConney, 2010a; Rumberger & Palardy, 2005; Sirin, 2005). For any given student, his/her academic achievement will be higher at a high SES school than it would be at a low SES school. Thus, the SES of the school has a separate effect on a student’s academic achievement that is in addition to their own SES. Findings from PISA show that the effect of mean school SES is stronger than an individual student’s SES in many countries (OECD, 2004a).

School socio-economic composition indirectly affects student achievement via intervening school and peer variables. In other words, the overall SES of a school is related to a particular constellation of school and student characteristics that influence the learning environment, which in turn is related to student achievement. High SES schools tend to be better resourced and have a school climate more supportive of achievement, more functional and supportive teacher-teacher and teacher-student relations, and fewer discipline problems (OECD, 2005; J. Douglas Willms, 1999). Teachers often have higher expectations of their students, and because discipline problems are not as pronounced, they can devote more time to lessons. Teacher morale may be higher, with the school experiencing fewer turnovers in the teaching staff. Higher SES schools may also be better able to recruit and retain the most effective and qualified teachers. Lower SES schools, by contrast, tend to have less advantageous conditions (OECD, 2005; Orfield, 1996; Orfield & Yun, 1999; Rumberger & Palardy, 2005). Not only are students often less prepared or motivated, the schools often have difficulty hiring and retaining qualified and enthusiastic staff (Muijs, Harris, Chapman, Stoll, & Russ, 2009; Ofsted, 2000). Rumberger & Palardy’s (2005) study of student achievement in US secondary schools found that students in lower SES schools experience lowered teacher expectations, do less homework, and are less likely to feel safe. Compared to higher SES schools, low SES schools often have fewer resources (Chiu & Khoo, 2005; Tate, 1997) but have higher financial expenditures (Ofsted, 2000).

Access to curriculum and instruction also varies by school SES as well. Low SES schools offer fewer rigorous academic courses than higher SES schools (Anyon, 1981; Lamb, et al., 2001; Rumberger & Palardy, 2005; Rumberger & Thomas, 2000; Tate, 1997). Compared to their peers in lower SES schools, teachers in high SES schools are more likely to cultivate higher-order thinking skills and critical thinking than are teachers (Hallinger & Murphy, 1986; Pederson & Cogan, 2000); they also give more opportunities to students to discuss and interact with their peers (Duffield, 1998). Willms’ (2010) cross-national analysis of the 2006 cycle of PISA shows that school SES is correlated with six curriculum and
instruction variables, in particular curriculum breadth and time spent on instruction. In his final model, Willms shows that the individual SES, school SES, and the six curriculum and instruction variables show explain 75% of the variation in student science achievement between schools; by contrast individual SES and the six variables explain 66% of the variation between schools. This suggests that the relationship between school SES and student achievement is partially but not completely mediated by curriculum and instruction.

It is likely that peer effects also mediate the relationship between school SES and academic achievement. Student culture in higher SES schools may be more supportive of academic achievement. Rather than fearing the loss of social status, high achieving students in a high SES school may experience a positive achievement press from their peers. Higher SES schools often have a culture of achievement because the students themselves bring high expectations for academic success. Students from middle and upper class families come to school more prepared, and in all countries, to varying degrees, the student’s SES explains some of the variation among student achievement. When a school has a large number of students who are academically prepared and motivated, a culture of achievement is created in the school that lifts up the achievement of students from lower SES backgrounds (Hanushek, Kain, Markman, & Rivkin, 2001; Thrupp, 1999).

The Causes of School Composition Differences

In the previous section I discussed the consequences that are related to the socioeconomic composition of schools. In this section I will discuss some of the factors that shape differences in socio-economic composition across schools. In some countries, especially in Scandinavia and to a slightly lesser extent Canada, most students attend socially mixed schools, where one goes to school matters is not significantly related to one’s achievement, and school segregation by socio-economic status is minimal (OECD, 2010). In other countries, however (e.g., Germany and the US), the opposite is the case. Cross-national differences in the ways in which students from varying social backgrounds are distributed across schools are largely explained by education policies related to the structural aspects of educational systems. The most important determining factor seems to be the institutional arrangements and policies made at the national level rather than factors related to particular schools.

Most of the countries that have the largest effects for mean school SES have a differentiated secondary school system, wherein students of different academic abilities and socio-economic backgrounds attend very different schools. Typically there are three types of schools in a differentiated system: academic, technical and vocational. Each school type offers a different sort of curricula, with the academic schools (lycea, gymnasia) catering to university preparation, the technical schools toward many professions (nursing, finance and business, etc.), and the vocational schools toward the trades. Countries with such a system include the Netherlands, the Czech Republic, Germany, Austria, Belgium, and Hungary. The effect of school composition on academic performance in these countries is anywhere from 4 to 6 times stronger than the effect of an individual’s SES (OECD, 2004a).

By contrast, most of the countries that have the lowest effects of school composition have comprehensive secondary school systems (e.g., Canada) or a system of delayed differentiation (e.g., Finland). In a comprehensive secondary school system there is just one school type that is available to students. Secondary schools may cater to their local area by offering more or less academic education or vocational education, but the curriculum offerings do not differ by institutional definition as they do in a differentiated system. The effect of school composition in a comprehensive system is generally weaker because there is less segregation by SES and ability between institutions. Schools in differentiated systems are
much more homogenous in terms of student SES and ability, which leads to higher between-school differences in student achievement.

Comprehensive systems can also have substantial levels of school segregation, especially if fostered by school funding policies. For example, the US has a comprehensive system of schooling but has high levels of school socio-economic segregation and a very large achievement gap between students from different social backgrounds (OECD, 2010). These inequitable outcomes are driven by school funding and teacher training policies (Berliner, 2001). Australia, another country with a comprehensive school system, also has a relatively high degree of school socio-economic segregation. The majority of disadvantaged students attend school with other disadvantaged students, and the majority of advantaged students attend school with other advantaged students (OECD, 2010). This is in contrast with more socially mixed systems of education, such as Canada and the Scandinavian countries, wherein most students attend socially mixed schools (defined as schools whose mean SES is similar to the national average). Rothman (2003) has shown that school socio-economic segregation has been increasing in Australia over the last 30 years, which Ryan and Watson (2004) argue is the result of school funding policies. This in turn is affecting educational provision, which has the potential to further entrench social class differences in educational outcomes (Lamb, Long, & Baldwin, 2004).

School choice can also shape the socio-economic compositions of schools. Many parents are well aware that the social composition of a school influences the academic achievement of their child. Middle class parents in particular are likely to choose a school based on its social composition, favouring schools with the same or higher average SES as their own family (Ball, 2003; Bourdieu, 2000; Charles Clotfelter, 2001). Schools with favourable social compositions can increase property values in the local community as there is strong demand for housing by families with children. Conversely, in areas where the school has a lower mean SES, higher income families are likely to choose a school in a different area. In their study of school choice in New Zealand, Lauder and Hughes (1999) found that 65% of higher SES families in a lower SES community exited the local neighbourhood school.

School choice is also associated with increasing school socio-economic segregation in Australia (Lamb, 2007), the UK (Goldstein & Noden, 2003; Noden & Schagen, 2006), and the US (Carlson, Lavery, & Witte, 2011). School choice need not necessarily increase school socio-economic segregation, especially if the mechanisms of choice are equally available to all students and schools are not allowed to select students (Gorard & Smith, 2004). Nevertheless, many schools in lower SES areas lose their brightest students, and eventually the quality of the education they can provide the remaining students suffers, leading to a spiral of decline. Some schools become no longer viable and close, while others turn into “ghetto schools” that face severe challenges (Lamb, 2007). Van Zanten (2003) has noted a similar phenomenon in France.

Elsewhere in increasingly multicultural Europe, native families in countries such as Holland, Germany, France and Spain are choosing schools outside the neighbourhood as a way to avoid the children of low status immigrants. Because the children of these immigrants typically perform at a lower level in schools, parents of native children, especially those from the middle class, actively choose schools where these immigrant students are not enrolled as a way to safeguard the academic achievement of their own children (Bernal, 2005; Karsten & Teelken, 1996; Kristen, 2006; Noreisch, 2007). The main vehicle for this form of socio-economic segregation in Holland and Germany is the system of publicly funded Christian schools. These schools are privately managed but are public in the sense that they are completely funded by the state. For obvious reasons, Muslim families are less likely than Christian families to send their child to a Christian school.
Overall, the social composition of schools can positively or negatively affect a family’s choice of school. At the same time, school choice can influence a school’s composition. As the number of middle class students exit out of a neighbourhood school, it becomes more segregated, with a higher number of lower SES students than is represented in the larger community. This overrepresentation of lower SES students leads to increased educational challenges for both the school and the students who remain behind.

### Emerging Areas of Research

Questions remain about the exact effects of mean school SES on student achievement. We know that it has as strong or even stronger effect than individual SES, but by how much? How does it vary by country? How does it vary by student SES? Is the relationship between school SES and student outcomes the same for all students, or is it stronger for low SES students? PISA and other studies have shown that school composition affects all students. The question remains, however, if all students are affected equally.

Studies have found that low income students benefit more from educational interventions than higher income students (OECD, 2007; QCA, 1998; Turkheimer, Haley, Waldron, D’Onofrio, & Gottesman, 2003). In their assessment of PISA 2000 data, Lokan and associates show that the performance of high SES students varies across countries much less than the performance of low SES students. They therefore conclude that this “indicates that the impact of educational experiences on student performance is probably greatest for students from lower socioeconomic backgrounds” (Lokan, Greenwood, & Cresswell, 2001, p. 165). Because they do not have the home advantage of higher SES students to complement experiences at school, the impact of school-level factors is likely to be greater for low SES students.

School composition could plausibly have a similar differential effect based on the SES of the particular student. It may be the case that high SES students are affected to a lesser degree by the composition of the school than low SES students. It may be the case that high SES students who also have high ability and motivation would do similarly well in most schools, within certain limits. Most studies that examine the relationship between school SES and student outcomes do not disaggregate their findings for students of varying social backgrounds (see for example the OECD PISA reports). The few studies that have explicitly compared the relationship between school SES and academic achievement for students of different social backgrounds have shown, however, that the relationship is the same for all students (Perry & McConney, 2010a; Rumberger & Palardy, 2005). Student ability and self-efficacy (which is highly correlated with ability) may further mediate this relationship, however. McConney and Perry (2010b) found that the relationship between school SES and academic achievement is stronger for low SES/high self-efficacy students than for other students with other levels of self-efficacy and social background.

We also do not know if the relationship between school SES and academic achievement is linear (i.e. that increases in school SES are consistently associated with increases in student achievement) or not. In the latter scenario, it could be the case that differences in student achievement are less marked between middle and high SES schools (i.e., going to a high SES school is no different than going to a middle SES school in terms of student achievement). Or conversely, it could be the case that student achievement is relatively similar across low and middle SES schools, but that it increases dramatically in higher SES schools. In their series of recent papers, Perry and McConney (McConney & Perry, 2010a; Perry & McConney, 2010a, 2010c) have shown in that in Australia, the relationship between school SES and student achievement is especially strong for higher SES schools. In other words, the difference in student achievement between middle and high SES schools is much stronger than it is
between low and middle SES schools. It is likely, however, that other countries show a different pattern. Their preliminary findings, for example, show that the achievement difference between middle and high SES schools is much smaller in Canada than in Australia (Perry & McConney, 2010b). Their findings for these two countries also show that achievement in the highest school SES quintile is higher in Australia but that achievement in the remaining four school quintiles is higher in Canada. Based on this finding, they argue that the Canadian educational system is better able than the Australian to ameliorate the relationship between social background and academic achievement.

We also do not know whether the effects of school composition are similar at the primary and secondary levels of the education system. Most of the recent studies have measured the effect of school composition in secondary schools, including studies that use data from PISA. It is plausible that the effect of school composition is less strong in primary schools since curriculum at this level of the education system is not as differentiated between schools as it is at the secondary level.

In four countries – Korea, Denmark, Finland and Iceland – mean school SES has no statistically significant effect on student achievement in reading literacy (OECD, 2005, p. 35). A comparative study of these four countries could examine the features that make these education systems unique. What lessons can they offer other countries? Is their success in removing the effect of school composition unique to their national context, or are there policies that other countries can adapt? Are these policies within the realm of education, or are they broader government public policies that aim, for example, to reduce poverty and the underclass? For example, Blossfield and Shavit (1993) found that income redistribution policies more effectively widened the participation of working class students in higher education than did policies specific to education, such as increasing the number of tertiary institutions or lowering entrance requirements.

Even if the effect of school composition on academic achievement is strong in most cases, there may be other positive outcomes that could counterbalance it. As van Zanten (2006) noted in a keynote speech, education researchers have not undertaken studies that could motivate middle and upper class families to stay in the local neighbourhood school or even, in some countries, in the public school system. She suggested that research from the field of social psychology could provide insight on the potentially positive affective outcomes that middle class students might develop in racially, ethnically or economically diverse school settings. For example, middle class students who attend a school with a lower mean SES school may have increased opportunity to develop tolerance and empathy for individuals from less fortunate backgrounds. Some parents may appreciate the chance for their child to develop cross-class relationships with other students, or even more generally learn how to relate with individuals who have backgrounds different than their own (Orfè et al., 2007; Raveaud & Van Zanten, 2007).

Studies from the US have started to document the positive effects of culturally diverse university settings for both minority and majority students. For example, interaction with culturally diverse students inside and outside the classroom is correlated with higher levels of complex thinking (Antonio et al., 2004), cultural awareness and political participation (Johnson & Lollar, 2002), and active thinking, tolerance and empathy (Gurin, Dey, Hurtado, & Gurin, 2002). All of these qualities are beneficial to individuals and the larger society in multi-cultural democracies, which is why most US universities actively cultivate cultural diversity within the student body. As Gurin et al note (2002, p. 360), in higher education “a diverse student body is clearly a resource and a necessary condition for… [achieving] educational goals.”

While there is a small but growing body of scholarship on the benefits of ethnic/racial diversity within university settings, benefits to primary or secondary students have not been
studied (Vedder, Horenczyk, Liebkind, & Nickmans, 2006). As the findings from studies of university students have been overwhelmingly significant and positive, it is plausible that school composition in the form of cultural diversity could benefit younger students as well. Another question that remains is whether socioeconomic diversity within schools could provide similar benefits. For example, do socio-economically diverse schools develop higher levels of affective student outcomes such as social intelligence, empathy and tolerance among their students? And related to this, what are the disadvantages of attending high SES schools? Many parents would like to know the answers to such questions. It is our responsibility as researchers to start exploring.

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References


