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Cultural Capital, Ambition and the Explanation of Inequalities in Learning Outcomes: A Comparative Analysis

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ABSTRACT

This article is devoted to the explanation of the influence of social origins on student achievement. Using the data of the Project for International Student Assessment on 25 nations, I show that cultural capital provides a relevant, but far from exhaustive, account of schooling inequalities; furthermore, the explanatory power of Bourdieu's theory seems impressively similar across countries. I also try to argue that, in order to elaborate a more satisfactory explanation, we need to take into account at least two more factors: occupational aspirations and economic resources. Finally, I discuss whether the above mentioned factors can be integrated into a coherent theoretical framework to achieve a better understanding of educational inequalities.

KEY WORDS

achievement / ambition / Bourdieu / cultural capital / schooling inequality

Introduction

Rational choice explanations of schooling inequalities have become increasingly popular in sociology. Following Boudon's (1974: 29–31) seminal work, this approach makes a distinction between primary effects (i.e. the influence of social origins on students' demonstrated academic ability) and secondary effects (i.e. the influence of social origins on transition rates, net of students' ability). It is well known that schooling inequalities result from both differential achievement and differential participation in the educational system.

So far Rational Choice Theory ('RCT') has focused almost exclusively on secondary effects, disregarding primary effects as a minor influence;¹ at the same time, it is well-recognized that ability plays an important role in the decision to invest in education and, perhaps even more important, in the choice of secondary and tertiary tracks (Erikson and Jonsson, 1996: 44). Therefore, if we are to account for inequalities in schooling, we need to develop a systematic explanation of primary effects. Cultural Capital Theory ('CCT') is widely assumed to offer such an explanation (Bourdieu and Passeron, 1964, 1970). Indeed, the relationship between cultural resources and learning outcomes is a core subject of Bourdieu's thought and it probably represents the most debated part of his work (Lamont and Lareau, 1988).

This article is devoted to the explanation of primary effects. First, I will use the data on 25 nations from the Project for International Student Assessment ('PISA') in order to submit CCT to empirical scrutiny. The analyses indicate that cultural influences provide a relevant, but far from exhaustive, account of primary effects; furthermore, the explanatory power of CCT seems rather similar across countries. Second, I will try to show that, in order to elaborate a more satisfactory explanation, we need to take into account at least two more factors: occupational aspirations and economic resources. Finally, I will discuss whether the above mentioned factors can be integrated into a coherent theoretical framework, where a set of material and immaterial resources constrains the chances of success of rational actors pursuing different educational strategies.

The Debate about Cultural Capital Theory

CCT explanation of educational inequalities relies on two core assumptions. First, Bourdieu (1979: 112) is persuaded that in contemporary societies social classes preserve a strong cultural identity (Schwartz, 1997: 104–5). The notion of *habitus* is developed to show that social practices follow a common logic in different fields (Bourdieu, 1979: 21–3, 112), such as the educational system, the labor market, leisure time and the political arena. Each social class has its distinctive *habitus*, so that the position in the occupational hierarchy is closely related to the position in the cultural hierarchy. This is the first basic assumption that needs to be considered.

An important corollary to the preceding statement is that social origins have a strong influence on students' cultural resources, given that children of the same class are exposed to broadly similar socialization influences and share common conditions of existence. This means that social skills and language styles, as well as attitudes towards the teachers and the school curriculum, are differentiated according to class origins. In turn, cultural capital is considered the main determinant of school success. Students' performance is not evaluated according to (class) neutral standards. On the contrary, pedagogical practices and assessment procedures are related, to a significant extent, to the culture of the upper class. This is the second core postulate of CCT.

Bourdieu's explanation of schooling inequalities is a direct consequence of the above mentioned assumptions. If cultural resources are differentiated according to family background, and if some cultural resources are more 'appreciated' than others in the educational system, we can expect that differential achievement is related to social class. Indeed, Bourdieu (1972: 287–91) claimed explicitly that CCT could offer an adequate and almost complete explanation of primary effects.

However, the two basic assumptions underlying Bourdieu's account have been widely disputed in the past two decades. Several empirical analyses cast some doubt on the idea that social classes display a strong cultural identity (Davis, 1982; Di Maggio, 1982; Goldthorpe, 1983; Teachman, 1987; Katsillis and Rubinson, 1990). Boundaries between status groups are often weak and changing and, in any case, they cannot be easily identified with class divisions. Thus, it may be questioned whether cultural resources are so strictly connected to social origins as Bourdieu seemed to imply.

A further objection to CCT revolves around the crucial distinction between human capital and cultural capital (Farkas, 1996: 9; De Graaf et al., 2000). On one side, we can assume that what really matters for educational and occupational achievement is learning a set of basic cognitive abilities and progressively developing them into more specific technical skills that are relevant to the economy. On the other side, one may suggest that individual outcomes are influenced by the (socially inherited) possession of subtle cultural conventions. What really matters in this second view is not a know-how, but instead a *savoir-faire*. Needless to say, a priori the two conceptions need not exclude each other. Indeed, one could say that a broader understanding of cultural capital might even include cognitive resources (not the least because the mastery of cultural codes requires the capability to recall and process properly concepts, symbols and interaction scripts pertaining to the high-status culture). In this sense, for Bourdieu cultural and cognitive resources tend to go together, rather than being mutually exclusive. It is very important, however, to trace an analytic distinction between them and to determine empirically their relative weight. Some skills are not 'intrinsically relevant to the demands of citizenship and productive work in a modern society' (Kingston, 2001: 90): for example, elegant phrasing or the ability to quote in Latin are high-status signals that are loosely, if at all, tied to actual productivity. According to Bourdieu, their relevance at school or in work organizations reflects the power of the upper class to impose a cultural arbitrary. However, the same conclusion hardly applies to cognitive competences, such as comprehension, logical reasoning or mathematical skills (Farkas, 1996: 7–12). Therefore, if it turns out that cognitive resources are the main determinant of school success, Bourdieu's theory might need to be carefully reconsidered. Indeed, the human capital approach, which emphasizes the role of cognitive abilities instead of cultural codes, is becoming increasingly popular among sociologists, as I will show in the next section.

The Empirical Literature on the Role of Cultural Capital

It is commonplace between sociologists to understand the impact of parental education on their children's schooling outcomes as the influence of cultural resources. This view reflects, at least to some extent, the wide acceptance of CCT in our discipline. When it is submitted to empirical scrutiny, however, this interpretation receives a rather controversial support. For example, Lamb (1989) finds that in a sample of Australian high school students the statistical association between family background and schooling outcomes can be explained almost entirely by CCT. The article by De Graaf (1988) on the German case confirms the importance of cultural resources, which can account for almost half of the effect of the father's occupation on grades in German language, but have no influence on grades in arithmetic. However, the analyses carried out by Robinson and Garnier (1985) for the French case, by De Graaf (1986) for the Netherlands, as well as the studies by Katsillis and Rubinson (1990) on Greek students and by Sullivan (2001) on English students indicate that CCT has only limited explanatory power. Di Maggio (1982; Di Maggio and Mohr, 1985) has even argued that cultural capital may work as a factor promoting social mobility, instead of favoring the intergenerational reproduction of the class structure. The cultural mobility hypothesis finds support also in the studies by Aschaffenburg and Maas (1997) and by De Graaf et al. (2001). Finally, several analyses indicate that parents' cognitive skills may be the main determinant of success at school (Teachman, 1987; Farkas, 1996; Crook, 1997). The results obtained by De Graaf et al. (2001) are particularly straightforward, since parental beaux arts participation has no effect on academic achievement, controlling for parental reading behavior (which refers to thrillers, science fiction, regional novels and other popular books). The authors conclude that: 'Children seem to benefit more from their parents' linguistic and cognitive skills ... than from their parents' participation in highbrow cultural activities' (p. 11).

In sum, we can conclude that the bulk of the empirical evidence offers limited support to CCT, but at the same time we should recognize that the results obtained so far are divergent to a significant extent. Therefore, a key question is: how might we explain such a disagreement? At least three reasons can be given.

First, it is well recognized that there is no consensus about the proper way to operationalize the notion of cultural capital (Lamont and Lareau, 1988; Kingston, 2001; Sullivan, 2002). The most common indicators that can be found in quantitative research include: (a) measures of *subjective involvement* in high culture, such as self-declared interest for art (Di Maggio, 1982; De Graaf, 1988); (b) measures of cultural *participation*, such as the frequency of visits to museums, or the participation to courses on art subjects (Di Maggio and Mohr, 1985; De Graaf, 1986; Lamb, 1989; Aschaffenburg and Maas, 1997); (c) measures of cultural *competence*, such as the knowledge of famous composers or painters (Di Maggio, 1982; Sullivan, 2001). Studies that use explicit and well-defined indicators of communicative skills are rare

(Sullivan, 2001), although it is clear from Bourdieu's writings that they should have a considerable impact on proficiency at school. Thus, it could be argued that the weak empirical support for CCT may be ascribed to this limitation or, more generally, to the measurement problems inherent to the quantitative analyses about CCT.² Indeed, the above mentioned measures of cultural capital refer mainly to highbrow aesthetic culture, which might convey a rather narrow conception of cultural capital, as discussed recently by Lareau and Weininger (2003).

A second explanation for the divergent results on CCT relates to the accumulation of cultural capital during the educational career. Bourdieu and Passeron (1970: 92; Bourdieu, 1979: 290) suggested that the most brilliant students from the lower class can, to some extent, learn middle-class conventions at school. Indeed, either they manage to learn them or they run the risk of facing educational failure, no matter how clever and talented they are. Therefore, the descendants of the working class who 'survive' this cultural selection have necessarily reduced their disadvantage from the middle-class students.³ This argument implies that cultural differences (and their effect on schooling outcomes) are highest at the primary level, but they progressively decline during the educational career (Bourdieu and Passeron, 1970: 92). Empirical support for this prediction can be found in the analyses carried out by Aschaffenburg and Maas (1997). This means that, as the above mentioned quantitative studies refer to different stages of the educational career, it comes as no surprise that they reach different conclusions on the importance of cultural capital.

A third explanation relates to the variations in the distribution of cultural capital over time and space. All the empirical analyses mentioned above are based on surveys conducted in single countries, between the 1970s and the 1990s. Bourdieu (1972: 305) claimed that cultural differences are rather persistent over time, but it is quite difficult to check this assumption.⁴ He did not offer a systematic account of the variations of cultural capital across countries. It has been suggested, however, that the relationship between social class and cultural resources may be of varying intensity (Heath, 1995; Erikson and Jonsson, 1996: 26). For example, in small and more socially homogeneous countries (such as the Scandinavian nations), we can expect to find a lower degree of cultural segmentation. Di Maggio and Mohr (1985) further argued that educational systems may place a different emphasis on the possession of cultural capital in their curricula and selection procedures. It is well known, for instance, that the humanities play a more important role in French or Italian secondary schools than in many Nordic countries. The PISA survey, that will be presented in the next section, offers a unique opportunity to deal with the problems mentioned above.

The PISA Survey

PISA is a comparative survey conducted by the OECD in 2000 in order to examine the learning outcomes of students aged 15 in 32 countries. Compared

to similar surveys, PISA has a high degree of standardization of the survey design and questionnaire used across nations. This applies both to the measurement of achievement and of its determinants, which include a wide set of cultural, social and economic resources. However, one may contend that standardization is a true advantage only to the extent that the variability in the educational systems and in the socio-cultural contexts has been adequately taken into account.

Needless to say, this problem is common to every large scale comparative survey. However, it has been carefully addressed by the PISA team, which consisted of a research network including experts from all the participating countries. Each of them was asked to examine in detail the questionnaire in order to check the validity of the items in the single national contexts. Further quality monitoring was implemented during the pre-tests conducted in every country by the national research teams. Moreover, the results of the validation analyses conducted *ex post* are rather encouraging (Adams and Wu, 2002). Finally, the amount of country-specific variation was reduced because of the choice to investigate exclusively western countries.⁵ In sum, while some caution is always required, it might be argued that the PISA data reach a rather high quality standard for comparative research.

The selection of the interviewees was based on a two-stage random sampling.⁶ First, schools were extracted with probabilities proportional to their size, then the respondents were selected from a list of the 15-year-old students attending the school. Response rates are rather high and the national samples can be considered highly representative of the student population (OECD, 2002: 231–6).⁷ The official PISA weights have been used to correct for minor non-response distortions and to ensure comparability with previous analyses based on the same dataset.

Methods and Variables

We have seen that the empirical tests of CCT conducted so far have been based on data from single countries that were collected in different time periods. In this work, I can present the results for 25 countries and, at the same time, I am able to ‘control for’ time variations, since all the national data were collected in year 2000. Furthermore, while previous studies were based on different measures of cultural capital, I can use the same indicators of cultural resources for all the 25 countries examined. Moreover, the same statistical models will be specified for every country. Finally, the analyses that will be presented refer to students of the same age. This means that I am able to consider similar points in the educational career. In sum, the PISA survey allows an unprecedented level of generalization in the study of cultural capital effects, while ensuring at the same time a high level of data quality and standardization.

The cultural resources of the family are measured through the official PISA indexes of cultural communication and cultural possession (OECD, 2002:

222–3). The former refers to the frequency of the conversations between parents and children on cultural issues, while the latter refers to the availability of cultural objects at home. The two indexes are derived from a list of seven indicators through the Warm method (OECD, 2002: 220–3), that produces results highly correlated with those of a standard principal factor analysis.⁸

As noticed by Sullivan (2001), the selection of the indicators of cultural capital is usually driven simply by what is available in the dataset. While I am no exception to this rule, I wish to suggest that, if our aim is to test CCT, the best yardstick to judge the validity of the measures of cultural capital is Bourdieu's (1986: 47) discussion concerning the three dimensions of this concept. From this point of view, the PISA index of cultural possession may be directly related to the material dimension of cultural capital (i.e. its 'objectified state'), which refers to those objects that incorporate and express cultural meanings that are differentiated according to social class. Similarly, the cultural communication index reflects the relational dimension of cultural capital (i.e. its embodied state, in the form of long-lasting dispositions of the mind and body), which refers mainly to the interaction and language skills related to social class. As I have anticipated, one of the main weaknesses of previous quantitative studies is that they usually lack indicators for this dimension.⁹

I should make clear that the two indexes (and, more generally, measures of cultural consumption) are meant to capture *indirectly* the set of cultural resources that are relevant to the educational selection. These include interactional styles, linguistic repertoires and a wide variety of attitudes towards culture that cannot be measured straightforwardly, at least not in the context of a quantitative survey. However, if these attributes are strongly related to participation in highbrow culture, as suggested by Bourdieu (1972: 291; 1979: 12, 17–18), we have a rationale to make use of cultural consumption indexes to test Bourdieu's theory. In other words, we can expect that, if parents often go to classical music concerts, visit museums and art exhibitions or read books of classical literature, they will endow their children with the typical cultural resources that are conducive to success at school. For instance, the two indexes are not only direct measures of parental participation in highbrow culture: following Bourdieu and Passeron (1970: 150; Bourdieu 1979, ch. 1), I would suggest that they are also relevant because parents involved in high culture activities convey to their children a more general, transferable attitude of self-confidence and *familiarity* towards culture that is highly appreciated at school.

Family background is expressed through the International Socio-Economic Index of Occupational Status, derived by Ganzeboom and Treiman (1996), and through parental education. The dominance criterion is applied for both variables (Erikson, 1984). For example, I have selected either the occupational status of the father or that of the mother, whichever is higher. The Ganzeboom scale ranges from 16 to 90 points, while parental education ranges from 0 to 19 years of schooling.¹⁰

A standard path analysis is used in order to test CCT. In the first step, I estimate through robust OLS regression¹¹ the total effect of social origins on

student achievement, controlling for gender and age in months of the student and for parents' country of birth (i.e. immigrants vs. non-immigrants). In the second step, I introduce the indicators of cultural capital in order to evaluate to what extent they mediate the influence of family background. This strategy of analysis is first implemented for reading achievement and then for mathematic achievement. In both cases, the PISA combined literacy scales are used as dependent variables.¹² Unfortunately, the official dataset does not contain sufficient information to replicate the analysis systematically for the 25 countries using student *grades* instead of the achievement scores, although this is one of the most relevant developments for future analysis.¹³

Empirical Findings

Table 1 reports the point estimates of the total effect of social origins on reading achievement. The results are in line with the well-established conclusions of previous studies (OECD, 2002: 139–42; Woessman, 2004): both the occupational status and the level of schooling of parents have a positive influence on the performance of their children. Moreover, the combined impact of these two variables is rather strong. For example, we can easily calculate that the value 1.90 of the parameter for parents' occupational status in Great Britain indicates that the differences in proficiency between the two extremes of the status hierarchy can be as high as 141 points; as for parental education, they can amount to 72 points. Thus, the importance of social origins can be appreciated, if one considers that in Great Britain (as in the other countries) the statistical distribution of the reading scale has a range of approximately 350 points.

It is also apparent that in Eastern Europe and in Mediterranean countries the influence of the occupational status of the family is lower than in Anglo-Saxon nations and in other parts of Continental Europe. The same conclusion generally holds true for parental schooling. This may suggest that social inequalities in learning outcomes are higher in countries with higher mean achievement (see OECD, 2002: 56). However, there is no necessary trade-off between the level and the distribution of reading literacy, as illustrated by Scandinavian countries, where inequalities are relatively low and mean achievement is rather high. The estimates for the control variables, reported in the appendix, go in the expected direction: males, younger students and children from immigrant families have a lower achievement.

Table 2 reports the results of the second step of the analysis, where I introduce the indicators of cultural capital. These have a strong and positive influence on reading literacy in all countries, in line with CCT. Such influence is particularly relevant in Denmark and Norway, Portugal and Spain, Australia and Great Britain. It can be noted, moreover, that in many countries the effect of the cultural communication index (whose distribution ranges between -2.2 and $+2.7$ points) is of higher magnitude than that of the cultural possessions

Table 1 The influence of social origins on reading achievement (PISA, 2000)

| <i>Country</i> | <i>Family social status</i> | <i>Family level of education</i> |
|----------------|-----------------------------|----------------------------------|
| Austria | 1.45* | 3.77* |
| Belgium | 1.84* | 1.26* |
| France | 1.56* | 2.33* |
| Germany | 1.61* | 5.76* |
| Switzerland | 1.80* | 3.61* |
| Greece | 1.31* | 3.16* |
| Italy | 1.09* | 3.02* |
| Portugal | 2.09* | 0.88 |
| Spain | 0.93* | 4.87* |
| Denmark | 1.08* | 10.02* |
| Finland | 0.93* | 3.09* |
| Iceland | 0.69* | 3.73* |
| Norway | 1.45* | 2.51* |
| Sweden | 1.53* | 0.38 |
| Czech Rep. | 1.37* | 9.12* |
| Latvia | 1.04* | 11.76* |
| Poland | 1.52* | 8.17* |
| Russia | 1.40* | 0.54 |
| Hungary | 1.25* | 14.28* |
| Australia | 1.41* | 5.87* |
| Canada | 1.22* | 5.17* |
| Ireland | 1.59* | 2.31* |
| Great Britain | 1.90* | 5.01* |
| New Zealand | 1.62* | 2.98* |
| United States | 1.51* | 6.76* |

* = significant at the 95% level

index (range between -1.65 and $+1.15$ points). In other words, there is evidence that the relational dimension of cultural capital is of primary importance.

After introducing these measures of cultural capital, however, the influence of social origins (i.e. parents' occupation and level of schooling) still remains substantial. Furthermore, in no country do the two indexes account for more than 30 percent of the total effects of family occupational status, as can be seen simply by comparing the estimates in Tables 1 and 2. Only in five countries do they explain more than one-third of the influence of parental education (Belgium, France, Ireland, Australia, Norway).¹⁴ In short, there is evidence that CCT offers a relevant, but far from exhaustive, explanation of the differentials in learning outcomes related to family background. This result is remarkably constant across countries and it seems also a rather robust one (see note 12). While the total effect of social origins varies to a considerable extent across nations, the portion that can be accounted for by indicators of cultural capital is much more stable – once we are able to ensure sufficient standardization.

Table 2 The influence of cultural capital on reading achievement (PISA, 2000)

| Country | Family social status | Family level of education | Cultural capital (possessions) | Cultural capital (communication) |
|---------------|----------------------|---------------------------|--------------------------------|----------------------------------|
| Austria | 1.24* | 2.98* | 3.93* | 14.80* |
| Belgium | 1.54* | 0.78 | 15.10* | 5.06* |
| France | 1.24* | 1.26* | 16.84* | 7.98* |
| Germany | 1.31* | 4.61* | 12.04* | 10.19* |
| Switzerland | 1.55* | 2.51* | 6.31* | 15.56* |
| Greece | 1.09* | 2.13* | 16.95* | 10.25* |
| Italy | 0.93* | 2.40* | 9.02* | 9.43* |
| Portugal | 1.64* | -0.43 | 13.28* | 18.96* |
| Spain | 0.70* | 3.54* | 9.52* | 17.03* |
| Denmark | 0.77* | 8.04* | 7.11* | 19.57* |
| Finland | 0.74* | 2.21* | 8.24* | 16.95* |
| Iceland | 0.58* | 2.87* | 8.52* | 12.10* |
| Norway | 1.00* | 0.83 | 14.68* | 18.21* |
| Sweden | 1.20* | -0.78 | 11.43* | 13.28* |
| Czech Rep. | 1.20* | 7.63* | 11.57* | 11.57* |
| Latvia | 0.91* | 7.98* | 18.90* | 8.25* |
| Poland | 1.34* | 6.27* | 12.68* | 6.39* |
| Russia | 1.28* | 0.12 | 12.02* | 6.09* |
| Hungary | 1.04* | 12.06* | 20.30* | 5.04* |
| Australia | 1.08* | 3.87* | 15.10* | 16.14* |
| Canada | 1.02* | 3.90* | 8.52* | 12.29* |
| Ireland | 1.42* | 1.41 | 9.33* | 9.65* |
| Great Britain | 1.59* | 3.35* | 12.27* | 15.85* |
| New Zealand | 1.47* | 1.99* | 9.40* | 9.31* |
| United States | 1.20* | 4.70* | 17.71* | 6.92* |

We can add that, if we replicate the analysis using the data on mathematical achievement, the previous conclusions are reinforced, since our measures of cultural capital mediate even to a smaller extent the influence of social origins. This is in accordance with CCT: cultural resources are less important in those subjects where cultural codes play a less pervasive role. At the same time, this further corroborates our conclusion concerning the limited explanatory power of Bourdieu's theoretical account. It might be of some interest to note that France, i.e. Bourdieu's home country, is one of the few countries where the influence of cultural capital is considerable, at least as far as the mediation of the parental education effect is concerned.

A final observation is in order about the results of the previous analyses. We have found that the cultural capital indexes mediate to a minor extent the influence of social background, but at the same time they have a strong effect on student achievement. In other words, the low explanatory power of CCT cannot be traced back to a limited influence of cultural capital on learning

outcomes. Instead, it originates mainly in the weak relationship between social origins and family cultural resources. Indeed, if we estimate the partial correlation coefficients between the social background variables (occupational status and years of schooling of the parents) and the two cultural capital indexes, net of gender, age and immigrant status, we find that these coefficients range between 0.20 and 0.30 in all countries. This result supports the claim that in contemporary societies there is little room for strong cultural homogeneity within the strata of the occupational hierarchy (Goldthorpe, 1983, 2000: 166). Bourdieu (1979: 122–5) was aware of this kind of internal differentiation and he attributed it mainly to the variations in the social origins and in the educational levels of the members of the same class. However, he believed that these variations were quite limited (Bourdieu, 1979: 176–80). On the contrary, research on social stratification indicates that his belief was misguided:¹⁵ high absolute social mobility rates entail a considerable amount of variation in the social background and in the educational credentials of people located in similar class positions (Goldthorpe and Marshall, 1992). In short, social mobility tends to undermine class formation by weakening the cultural cohesion and social identity of each class. Thus, the first basic assumption of CCT, concerning the strong cultural identity of each class, may be its main weakness.

The Role of Occupational Aspirations, Cognitive and Economic Resources

The results presented in the previous section lead to a rather straightforward question: if CCT probably does not tell the whole story, what are then the other causal mechanisms underlying the influence of family background on student achievement? First of all, it can be noted that in the previous analyses I could not estimate the effect of parental *cognitive* resources on learning outcomes, therefore I was not able to disentangle their influence from the impact of cultural resources. If such distinction could be drawn, cognitive resources may improve the explanation of schooling inequalities, or they may even cancel out the influence of the indicators of cultural capital.

Indeed I suspect that, at least at the primary and lower secondary level, a set of rather basic parental skills, related to reading, comprehension, exposition and argumentation abilities, may play the crucial role. We should keep in mind that, even in advanced countries, a substantial portion of the adult population has very poor cognitive skills, and we know that these deficiencies are strictly related to the level of education and to the occupational position (OECD, 2000: 34).

To be sure, the ability to manipulate more sophisticated cultural codes, as expressed by the notion of cultural capital, may still play some role, especially for success at the tertiary level, or for the access to elite educational institutions, or to elite occupations – and we know that these phenomena were a privileged target of study for Bourdieu (1979, 1989). However, as I have already noted,

at the upper levels of the educational system there are also selection effects that work to mitigate the influences of social background.

Moreover, if we are to explain primary effects, we probably need to take into account a wider set of explanatory factors. Two possible candidates may be particularly relevant: occupational aspirations and economic resources. These variables are known to have an influence on learning outcomes (Teachman, 1987; Farkas, 1996; Morgan, 1998; Kirsh et al., 2002: 131–4; OECD, 2002: 142) and, at the same time, they are related to social class (Erikson and Jonsson, 1996: 17–21; Need and De Jong, 2001). Thus, they are expected to mediate the influence of family background.

In more detail, it may be argued that the higher occupational aspirations of upper-class students lead them to place more importance on educational success and, in turn, this is likely to have a positive influence on their learning outcomes. An upper-class student *must* have success at school and at work – at least, that is what parents expect from her. Although in case of educational failure her parents may still manage to provide a ‘safety net’, it is clear that for service-class families the investment in schooling is the main strategy of intergenerational reproduction.

Moreover, social ambition is probably reinforced by the availability of material and immaterial resources that make educational success feasible. The family wealth may also have a direct effect on achievement. For example, financial resources can be invested in foreign language lessons, computer courses, or cultural activities (Lareau, 2002). At least to some extent, economic capital can be converted into human capital. In countries where private education is of higher quality than the public educational system, the middle class has one more option to enhance school achievement. Clearly, the set of feasible strategies to ‘maximize’ student performance is a function of the peculiarities of each educational system as well as depending on the level of ability and motivation of every single student.

In short, middle-class children are motivated to obtain better results at school, and they also have access more easily to the cognitive and economic resources that are necessary for this purpose. The PISA data do not allow a detailed examination of the above mentioned hypotheses.¹⁶ It is possible, however, to estimate the influence of social ambition on achievement. For all countries, student aspirations were measured through an open-ended question on future occupational expectations and the answers were then recoded into the Ganzeboom status scale. This variable can be added to the previous OLS equation (i.e. its effect is estimated net of the cultural capital variables). Table 3 displays the results of the analysis.

As can be seen, in every country ambition represents an important determinant of achievement. Moreover, if we compare the family background effects in Tables 2 and 3, we see that aspirations explain the influence of social origins to a significant extent.¹⁷ In many countries ambition mediates a relevant portion of the effect of *both* parental occupation and education. This suggests that social ambitions are shaped not only by social class, but also by parental

Table 3 The influence of social aspirations on reading achievement (PISA, 2000)

| Country | Family social status | Family level of education | Occupational aspirations | Cultural capital- possession | Cultural capital communication |
|---------------|----------------------|---------------------------|--------------------------|------------------------------|--------------------------------|
| Austria | 0.83* | 2.26* | 1.73* | 0.96 | 10.80* |
| Belgium | 0.84* | 0.16 | 2.19* | 12.11* | -0.04 |
| France | 0.87* | 1.25* | 1.44* | 11.48* | 6.39* |
| Germany | 0.81* | 2.76* | 1.84* | 6.58* | 9.02* |
| Switzerland | 0.80* | 2.22* | 1.76* | 5.10* | 11.97* |
| Greece | 0.75* | 1.21* | 1.57* | 13.36* | 7.81* |
| Italy | 0.68* | 2.22* | 0.80* | 6.41* | 8.49* |
| Portugal | 1.34* | -0.91 | 1.41* | 8.35* | 16.26* |
| Spain | 0.51* | 2.76* | 1.18* | 8.19* | 13.55* |
| Denmark | 0.21 | 7.11* | 1.41* | 4.20 | 16.93* |
| Finland | 0.51* | 1.07* | 1.30* | 5.26* | 11.35* |
| Iceland | 0.44* | 2.29* | 1.20* | 5.72* | 9.38* |
| Norway | 0.56* | -0.05 | 1.69* | 11.73* | 12.84* |
| Sweden | 0.88* | -0.51 | 1.28* | 7.40* | 10.55* |
| Czech Rep. | 0.72* | 4.59* | 1.87* | 7.66* | 8.52* |
| Latvia | 0.63* | 8.07* | 1.18* | 16.29* | 7.12* |
| Poland | 1.00* | 3.77* | 2.07* | 7.29* | 1.72 |
| Russia | 0.91* | 0.13 | 1.08* | 8.93* | 4.53* |
| Hungary | 0.63* | 9.02* | 1.60* | 15.92* | 1.71 |
| Australia | 0.77* | 2.72* | 1.48* | 12.27* | 12.26* |
| Canada | 0.83* | 3.10* | 1.13* | 7.37* | 10.04* |
| Ireland | 1.07* | 1.12 | 1.60* | 6.45* | 7.22* |
| Great Britain | 1.21* | 2.72* | 1.53* | 7.49* | 13.16* |
| New Zealand | 1.02* | 1.50* | 1.55* | 7.31* | 7.20* |
| United States | 1.06* | 3.44* | 1.02* | 15.55* | 5.29* |

educational credentials, which concur to define the status position that must be preserved from one generation to the next. In the final section some possible theoretical implications of these findings are discussed.

Conclusion

The results of the comparative analysis on 25 countries presented in this article seem to undermine a widespread belief, i.e. the idea that the impact of parental education on schooling outcomes can be understood simply as a 'cultural influence'. On one side, the indicators of family cultural capital have a modest explanatory power, on the other the effects associated with these variables may be better interpreted as an indirect sign of the importance of *cognitive* resources. To be sure, the influence of these variables is not negligible, but it is clearly also far from exhaustive.

In a more constructive vein, I have further suggested that the limited explanatory power of CCT may be simply due to the very fact that there are also other causal mechanisms that mediate the influence of social origins: occupational ambitions and economic resources may be the most relevant ones. It is well known that Bourdieu's theory of the class *ethos* focuses precisely around the role of social aspirations and expectations in the generation of schooling inequalities – although it should be noted that Bourdieu was referring primarily, if not exclusively, to secondary effects and not to differential achievement. However, Bourdieu considered this influence as expressing an irrational tendency that compels people to *over-react* to the objective difficulties that they face. Working-class families are thus led to collude in their own disadvantage, as they fail to take advantage of the (limited) opportunities available to them. A substantial body of empirical research, however, supports the opposite claim that lower-class students are able to adapt rationally to the structure of constraints and opportunities in the course of their educational careers (Gambetta, 1987; Erikson and Jonsson, 1996: 49–57; Morgan, 1998; Goldthorpe, 2000: 172–8; Need and De Jong, 2001).

Indeed, it is well known that economic resources and ambition play a crucial role in rational choice models of inequalities in schooling (Boudon, 1974; Breen and Goldthorpe, 1997; Becker, 2003). However, so far scholars have focused their attention on the role that these two factors play in generating secondary effects: there is a substantial body of empirical research concerning their influence on transition rates and on the choice of secondary and tertiary tracks. In this article, I have tried to argue that they may be relevant also to the explanation of differential ability. The statistical analysis on the role of social ambition on learning outcomes seems to support this claim, although further research is obviously needed.

In other words, if my argument is confirmed, primary effects are no longer entirely exogenous to rational choice models. An important advantage of this theoretical account is parsimony: the same core mechanisms may explain both primary and secondary effects. Ambition, economic and cognitive resources may generate differential ability, which in turn would account for, once again together with ambition and economic resources, the differential participation rates: a possible direction for future research.

APPENDIX The influence of social origins on reading achievement: control variables (PISA, 2000)

| Country | Age (in months) | Gender (1) | Immigrant status (2) | N |
|----------------|--------------------|------------|-------------------------|-------|
| Austria | 2.73* | -25.19* | -38.39* | 4318 |
| Belgium | 1.38* | -30.92* | -47.71* | 6043 |
| France | 1.92* | -26.60* | -17.02* | 4183 |
| Germany | 0.41* | -30.44* | -35.73* | 4393 |
| Switzerland | 1.33* | -27.45* | -36.39* | 1548 |
| Greece | 1.65* | -34.05* | -26.34* | 4354 |
| Italy | 1.33* | -29.99* | 0.91 | 4619 |
| Portugal | 1.40* | -22.86* | -9.30 | 4317 |
| Spain | 1.72* | -23.20* | -29.95* | 5662 |
| Denmark | 1.45* | -23.92* | -16.20* | 3804 |
| Finland | 1.00* | -47.34* | -32.06* | 4562 |
| Iceland | 1.20* | -34.91* | -13.47* | 3065 |
| Norvey | 1.40* | -40.66* | -17.30* | 3779 |
| Sweden | 1.32* | -35.39* | -21.86* | 4143 |
| Czech Republic | 0.67* | -28.44* | 4.49 | 5036 |
| Latvia | 1.45* | -48.33* | -4.92 | 3630 |
| Poland | 0.64* | -31.98* | -24.61* | 3146 |
| Russia | 0.49* | -33.52* | 5.73 | 6141 |
| Hungary | 0.89* | -32.85* | -6.50 | 4657 |
| Australia | 3.17* | -32.02* | -0.33 | 4788 |
| Canada | 1.35* | -30.06* | -4.57 | 27515 |
| Ireland | 1.98* | -26.34* | 0.12 | 3668 |
| Great Britain | 1.02* | -24.70* | -0.85 | 8333 |
| New Zealand | 1.88* | -43.59* | -13.05* | 3121 |
| United States | 1.33* | -22.92* | -3.13 | 3090 |

(1): reference category: female (2): reference category: native * = significant at the 95% level

This appendix reports the point estimates of the control variables in the first statistical model discussed in this article (see par. 6, table 1). The substantive interpretation of the parameters can be exemplified as follows: in Great Britain the negative parameter for the gender effect indicates that on average males have a lower academic achievement than females (-24.7 points in the literacy scale, which has a range of approximately 350 points). Correspondingly, the negative parameter for immigrant students indicates that they have a slightly lower level of achievement (-0.85), although this difference can be considered negligible. Finally, the positive effect for the age parameter indicates that older students have better results (one more month corresponds to 1.02 points in the literacy scale).

Notes

- 1 A relevant exception to this general tendency is the Bayesian learning approach developed by Breen (1999, 2001).
- 2 The qualitative analyses about CCT give much more detailed and richer descriptions of cultural capital (Lareau, 2002; Mehan, 1992; Sullivan, 2002).

However, this approach also faces serious inferential problems (Goldthorpe, 2000: 74–84); even more relevant for our purposes, it is obviously not suited for answering ‘quantitative’ questions, such as ‘*how much* important is CCT for explaining inequalities in schooling?’.

- 3 We could suspect that here Bourdieu is also referring to himself: one of the most fascinating exceptions to CCT is that its author, in spite of his low social background, reached the top of the elitist French academic system.
- 4 This would require a repeated measurement of class, cultural capital and educational outcomes over a sufficiently long time span.
- 5 This is the reason why Brazil, Mexico, Korea and Japan have been excluded from the analysis. The results for Liechtenstein and Luxemburg have also been omitted because of the very small size of their national samples. The results for the Dutch case are not presented, given the serious problems that affect the corresponding data (see also note 7). The exploratory analyses concerning all these countries, however, entirely confirm the conclusions drawn in this work.
- 6 For more details on the methodology of the PISA, including a description of some relevant differences among countries in the sampling procedures, see OECD (2002: 234–5).
- 7 The percentage of schools that agreed to participate to the survey is not lower than 80 percent in all the 32 countries, except Belgium (69%), the United Kingdom (61%), the United States (56%) and the Netherlands (27%).
- 8 The index of cultural communication was derived from students’ reports on the frequency with which their parents engaged with them in the following activities: discussing political or social issues; discussing books, films or television programmes; listening to classical music. The index of cultural possessions concerns the availability of the following items at home: classical literature, books of poetry and works of art (examples were given). For a detailed description of these indicators and of the Warm procedure, see OECD (2002: 220–1) and Warm (1985).
- 9 The third dimension refers to the *institutionalized* cultural capital, i.e. to the objectification of cultural resources in the form of academic qualifications. This dimension pertains to the *final outcomes* of educational careers as expressed by the credentials obtained, therefore it is not relevant for the analysis of the *process* of generation of schooling inequalities.
- 10 Parental occupation was originally coded into the ISCO 88 classification of occupational titles and then converted into the Ganzeboom scale, following the procedures indicated by Ganzeboom and Treiman (1996). Parental education was derived from an aggregated version of the ISCED scheme: no title; primary education; lower secondary education; upper secondary education in vocational tracks; upper secondary education in academic tracks; tertiary education. Each educational level was then recoded into an estimate of the correspondent years of schooling, following the conversion rules reported in OECD (2002: 222).
- 11 The Hubner robust estimator with school clusters is used in order to ensure that violations of the homoschedasticity assumption (i.e. the assumption that the variability of the error term in the regression model is constant) have no effect on the results of the analysis and that the independence assumption between students of the same schools is not required.
- 12 The reading literacy scale is composed of 140 items, submitted through pencil-and-paper assessments. It summarizes the results from three subscales that refer

- to the student's ability to locate information in a text (*retrieving scale*), to draw inferences from written texts (*interpreting texts scale*) and to relate information to prior knowledge and experiences (*reflection scale*). For reasons of space, the results on mathematic achievement are not presented, although they will be shortly commented on. They are available on request to the author. Also available is a control analysis carried out with a measure of *student* cultural capital (instead of parental cultural resources): the PISA index of cultural activity, that refers strictly to participation in high culture events. Analyses using this alternative specification leave our substantive conclusions virtually unchanged.
- 13 The comparison between achievement and grades obtained at school is useful because it sheds some light on the hypothesis of teachers' discrimination against working-class students. It should be noted, however, that Bourdieu and Passeron (1970: 200–1; Bourdieu, 1979: 301) were sceptical about this explanation of schooling inequalities. Indeed, CCT states that teachers treat (and evaluate) all students *the same way*, although on the basis of a cultural arbitrary that is related to upper-class conventions.
 - 14 In the case of Portugal, Sweden and Russia the total effect of parental education was not significant (see Table 1).
 - 15 As noted by two anonymous referees, Bourdieu (1979: 132, 176–84) documented significant social mobility flows between classes and between class fractions, although he was persuaded that, at least for working-class students, long-range upward mobility through education was largely precluded because of credential inflation and the consequent disqualification of educational credentials.
 - 16 The index of family wealth available in the official PISA dataset might have expressed the influence of economic resources, but I suspect that, unfortunately, it suffers from serious measurement problems, given that in several countries it has a negligible correlation with social origins or with achievement, in open contrast with well known results of empirical research.
 - 17 It is fairly clear that the relationship between occupational aspirations and ability is bi-directional. Thus our estimates would be much more accurate with longitudinal data, given the possibility to estimate this bi-directional effect using repeated measurement over time to solve identification problems. Besides, it is likely that the problem of reciprocal causation is more severe when ability is specified in terms of school grades rather than via literacy scales.

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