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Educational stratification in cultural participation: Cognitive competence or status motivation?

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Abstract

This article examines inequalities in highbrow cultural participation in 18 countries. It tests whether inequalities in such participation occur because of the status conferred by consumption of high culture, or whether they are more a result of differences in cognitive competencies. Inequalities are represented by respondents' education. By filtering out the effects of cognitive abilities, measured by a person's literacy skills, we obtain a net measure of the status motives for cultural behavior. Our analysis demonstrates that the net (i.e., status) effect of education on cultural participation is reduced in societies with greater educational expansion and intergenerational educational mobility. This is in line with the status explanation, which holds that exclusionary boundaries between educational groups become less rigid when there are more high-educated individuals in a society and when these originate more frequently from lower social backgrounds. In contrast, the relation between a person's cognitive skills and their cultural participation is unaffected by distributional variation in education, as the cognitive theory predicts.

Keywords: cultural participation, educational stratification, cross-national, status signaling, cognitive competency, cultural reproduction, multilevel modeling

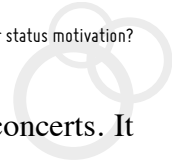


1. Introduction

Research convincingly shows that throughout the world, participation in the arts and highbrow culture is extremely stratified among social groups (e.g., Bourdieu 1984; Chan and Goldthorpe 2007a; Van Eijck 2001). Strong status divides are evident in participation in various forms of arts and culture, such as theater, concerts, museums, and (book) reading. Social stratification even affects genres regarded as “popular” or “lowbrow,” like country and folk music. Inequalities in cultural involvement exist in several dimensions, such as wealth, income, and occupation. However, they are particularly pronounced for education (see e.g., Ganzeboom 1982, 1984).

Cultural consumption research offers two contrasting explanations of why cultural participation is stratified. The first hypothesis claims that cultural participation is predominantly a signal of social status. The “status hypothesis” predicts that people come to appreciate particular forms of art because it expresses their belonging to a certain social group. Related to this hypothesis is the concept of “embodied cultural capital” (Bourdieu 1986), defined as “widely shared, legitimate culture made up of high status cultural signals used in direct or indirect social and cultural exclusion” (Lamont and Lareau 1988). The second hypothesis states that cultural participation depends on a person’s cognitive abilities, which is why educational stratification in cultural consumption is so evident, especially among consumers of high culture. According to the “cognitive hypothesis,” cultural activities are more rewarding to individuals who are better able to process complex information (Ganzeboom 1984). Empirical evidence favors both the status hypothesis (Chan and Goldthorpe 2007a; Collins 1979) and the cognitive hypothesis (Farkas 1996; Ganzeboom 1982, 1989).

Previous studies have tested and compared these two explanations by analysing different types of cultural participation, for instance reading and classical concert attendance, as well as different dimensions of stratification, such as wealth and education (e.g., De Graaf, De Graaf and Kraaykamp 2000; Chan and Goldthorpe 2007a). Reading, for example, has been argued to require more cognitive skills and to be less influenced by status-signaling motives than collective



and public forms of cultural consumption, such as visits to the theater and classical concerts. It has also been argued that cognitive competencies are particularly learned in formal education. This suggests that the effect of education on cultural participation should be interpreted as a cognitive effect, whereas the effects of occupational status and family background are more aligned with status motives. However, this approach neglects that also with regard to education itself both the status and cognitive explanations for cultural stratification may be at work.

The current study disentangles status-signaling and cognitive explanations to produce a better understanding of the role of education in cultural participation. We use two distinct but related strategies. First, we separate the status-related from the cognitive explanation of educational stratification in cultural participation. We do this by including an explicit measure of a person's cognitive abilities in the analyses, that is, their literacy skills. Since the cognitive explanation is captured by the skills measure, the net effect of educational level can then be assumed to represent status effects. This approach is similar to designs used to assess the cognitive "human capital" explanation of why education is related to earnings (e.g., Bowles and Gintis 2002; Farkas 1996).

The second strategy adopts a comparative approach. To further test the status and cognitive hypothesis, we examine whether stratification in cultural consumption is more pronounced in societies with higher levels of inequality, as has been shown for other relevant social gradients (e.g., Wilkinson and Pickett, 2006). We do so by relating the cognitive and status-related effects of education to distributions of educational attainment within a country. In line with the status hypothesis, status effects of stratification in cultural consumption should be weaker in societies where a larger share of the population has higher educational qualifications and where intergenerational educational mobility is higher. This is due to a blurring of boundaries between educational strata in these more egalitarian societies. From an information-processing perspective, however, the relation between cognitive abilities and cultural participation is not affected by distributional variations in education.

The study of stratification in cultural consumption is relevant for at least two reasons. First of all, by examining the extent to which different social groups have distinct lifestyles, we better understand the potential disbalance between social cohesion within subgroups and cohesion at the societal level. Second, cultural participation is an important factor in the intergenerational transmission of social and educational inequality (De Graaf, De Graaf and Kraaykamp, 2000;

Lareau, 1987). Studying the extent to which lifestyles are stratified helps to better understand processes of social mobility. Both motivations benefit from a detailed understanding of cognitive and status-related explanations of cultural stratification.

The data that allow us to use this research design are from the International Adult Literacy Survey (IALS). It comprises 43,981 men and women in 18 countries interviewed between 1994 and 1998. The IALS measures both reading behaviour and attendance at cultural performances. Next to information about respondents' educational levels, the IALS data offers high-quality measures of cognitive skills, including literacy.



2. Theoretical background

2.1. Cultural activities and dimensions

This study aims to provide more insight into the importance of status-related and cognitive elements of educational differentiation in cultural participation. However, “cultural capital” and “cultural participation” include a range of activities and behaviours. Research traditionally defines two broad yet distinct areas of taste: highbrow culture and lowbrow (or popular) culture (DiMaggio 1987; Katz-Gerro 2002). Examples of highbrow culture, or fine arts, are visiting classical concerts and reading literature. Involvement in these activities is prestigious and requires cognitive skills. Lowbrow cultural activities, by contrast, may be considered less challenging and esteemed. Examples of lowbrow activities are reading comics and visiting fairs. This article’s examination of cultural participation refers predominantly to highbrow activities. In particular, it looks at attendance at cultural performances and reading books. These two activities represent both status motivations and cognitive aspects of cultural consumption (e.g., Chan and Goldthorpe 2007a; Kraaykamp et al. 2007).

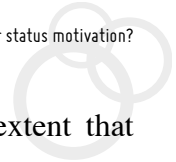
Outward-oriented cultural behaviours are particularly useful for measuring the social impact or value of a person’s cultural disposition. This is because they are observable activities that demonstrate social boundaries in the public domain. Overall, cultural activities, like attending a ballet or classical concert, are highly valued among the upper social strata. They attract an exclusive audience related to a person’s social network and are associated with an elite lifestyle and high social status, as well as cognitive abilities (Ganzeboom 1982, Lizardo 2006; López-Sintas and Katz-Gerro 2005). The second cultural behaviour under study is reading, which also relates to a person’s social status and cognitive competency (Notten and Kraaykamp 2010; Park 2008). Though it is closely associated with cognitive competencies and generally is an in-home activity, reading nonetheless creates or confirms social boundaries. By providing material for communication and conversations in day-to-day social life, reading may play a role in creating and maintaining social relationships and networks (Chan and Goldthorpe 2007a; Lizardo 2006).

Traditionally, cultural capital research has measured cultural participation by attendance at rather exclusive cultural activities outside of the home. These were seen as the most relevant indicators of an individual's highbrow cultural resources and thus of a person's cultural capital, relevant for social success. However, recent research acknowledges that cultural activities are not so clearly demarcated between highbrow and lowbrow repertoires (Katz-Gerro and Jaeger 2011; Peterson 2005). The proportion of "cultural omnivores," that is, persons consuming both popular and highbrow cultural products, has risen in the past decades, as well as the variety of their activities and preferences (Goldberg 2011; Lena and Peterson 1998). Nonetheless, highbrow activities are still a relevant part of the omnivore cultural consumer pattern. The cultural omnivore is characterized, too, by high educational attainment and occupational status (Chan and Goldthorpe 2007b; Katz-Gerro and Jaeger 2011). Indeed, recent studies confirm that cultural consumption remains socially stratified and a signal of social status (Bennett et al. 2009; Katz-Gerro 2002).

2.1 Cultural participation and status

According to cultural reproduction and lifestyle theory (Bourdieu 1984; Bourdieu and Passeron 1990), people participate in cultural life mainly as an expression of their social status. As such, individuals come to appreciate particular forms of fine art because it expresses their belonging to a group with a certain level and composition of capital (Bourdieu 1984). By demonstrating a particular lifestyle, members of status groups confirm existing social cleavages and rankings. From a Bourdieusian perspective, also referred to as the "homology thesis," it follows that specific cultural tastes are closely associated with social positions. Thus, highly educated individuals participate in high culture because it signifies their belonging to the elite. Cultural reproduction and stratification research clearly shows that it is highbrow cultural participation that matters when it comes to status attainment and social mobility (e.g., Lareau, 1987).

Most research on the status dimension of cultural participation is at the individual level. Few studies look at differences across countries in the relation between individual characteristics and cultural participation. However, according to Bourdieu's arguments, social context is highly



relevant in lifestyle choices, such as those related to cultural behaviours. To the extent that cultural consumption is driven by status motives, contextual characteristics are thus likely to be relevant in explaining variation in the association between education and cultural participation. Previous research indeed found different cultural consumption patterns, related to social background characteristics, in a range of countries including the United States, Great Britain, Finland, France, and the Netherlands (e.g., Alderson, Junisbais and Heacock 2007; Chan and Goldthorpe 2007b; DiMaggio 1987; Kraaykamp et al. 2007; Lamont 1992; Purhonen et al. 2012; Ultee et al. 1993).

A society with a greater share of highly educated people has a larger proportion of citizens belonging to the social group that consumes high culture. In these societies, participation in high culture may be a more widespread consumption pattern and less representative of an elite lifestyle. In such a context, status incentives are less likely to explain educational differentiation in cultural participation. Hence, in current postindustrial and information-based societies with more uniform educational attainment due to the expansion of educational opportunities (Rijken 1999; Featherman and Hauser 1976), it might be harder to distinguish oneself by means of highbrow cultural consumption. In these societies, and to the extent that cultural participation is an expression of social status, educational differentiation in cultural participation is likely to be less pronounced – especially when cognitive abilities are taken into account. We therefore hypothesize that in countries with a higher level of educational expansion, as in a greater share of highly educated people, the status-related (net) effects of education on cultural participation are smaller, once a person's literacy skills are controlled for (Hypothesis 1).

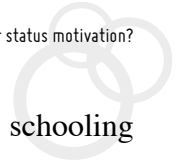
Educational mobility, too, is likely to affect the way that education stratifies participation in cultural activities (Beck 1992; DiMaggio 1987). Looser associations between the level of education of parents and children are indicative of societal “openness” (Lipset and Bendix 1959). In more open societies, boundaries between educational levels are less apparent. In such a context, high culture is no longer the exclusive terrain of the well-educated. Therefore, cultural participation is likely to be less important as a status marker. Consequently, the status gains conferred by cultural participation are lower in open societies and highly educated individuals may feel little or no need to emphasize their status position by attending cultural performances (e.g., Erikson and Jonsson 1996; Heath 1995). This is further reinforced by the increased heterogeneity of the highly educated. Upwardly mobile people generally lack the requisite

cultural socialization to develop a highbrow taste (Van Eijck and Knulst, 2005; Van Eijck 1999). In countries with a high level of intergenerational educational mobility, large groups of highly educated individuals may not have been raised in a high status environment. In such a context, cultural participation is a less enduring and persistent form of stratification between status groups (Ultee et al. 1993). We thus expect high levels of intergenerational educational mobility to reduce the correlation between the status-related (net) effects of education on cultural participation (Ultee et al. 1993; Van Eijck 1999), especially when filtering out the cognitive aspects of education, here conceived as a person's literacy skills (Hypothesis 2).

2.3. Cultural participation from a cognitive perspective

Although the status-signaling motive for cultural consumption is widely acknowledged, there are also scholars who argue that cultural participation is primarily a function of a person's cognitive capacity, mostly represented by education (Farkas, 1996; Ganzeboom 1984; Scitovsky 1976). This view is in line with the neoclassical economic understanding of education (Becker 1996). In particular, information-processing theory (Ganzeboom 1984; Scitovsky 1976) conceptualizes educational level as a proxy for a person's intellectual capacities. People with greater information-processing competency are said to seek cultural activities that offer more (complex) information in order to satisfy their cognitive needs and derive pleasure and fulfillment (Farkas 1996; Ganzeboom 1984). If education is a proxy for a person's information-processing abilities, people with higher levels of education will participate more in highbrow cultural events. Thus, from the cognitive perspective, a person's educational level relates to a specific form of cultural participation not because of the status benefits that such participation may generate or express, but merely because of the information-processing competencies it requires (e.g. Farkas 1996; Purhonen et al. 2011).

We further test the information-processing theory by including a concrete measure of cognitive skills into our models, next to a person's educational attainment. Previous work demonstrates that including literacy skills captures the cognitive skills embedded in one's educational degree very well (see, e.g., Barone and Van de Werfhorst 2011; Catell, 1971; Gesthuizen, Solga and Künster 2011). Research on the association between education and



earnings uses a similar tactic to disentangle cognitive and non-cognitive aspects of schooling (see, e.g., Bowles and Gintis 2002; Farkas, 1996). We argue that by including a concrete measure of cognitive skills we are able to better test the cognitive hypothesis, compared to previous work that uses only educational attainment as a proxy for cognitive capacity. The remainder of the education effect, we argue, is due to social factors unrelated to cognitive capacity. Following information processing theory, we thus expect a person's literacy skills to capture a large share of education's effect on cultural participation (Hypothesis 3).

At the societal level, and reasoning from information-processing theory, cultural participation is more widespread in nations with a higher proportion of highly educated citizens. Put differently, in these nations there are more people with the cognitive competencies to enjoy cultural activities. However, from a cognitive perspective, cultural participation as such is not dependent on the social context. That is, if a person's cultural participation is explained by cognitive competency, the relation between a person's educational level and his/her cultural participation will not be affected by the distribution of educational attainment within a society. Although inequality on the societal level may stimulate status-signaling, it is highly unlikely to affect cognitive needs. Consequently, cognitive capacity affects the enjoyment of culture, but this is independent of the number of highly qualified or mobile persons in a country. We therefore expect that the level of educational expansion and level of intergenerational educational mobility in a society do not affect the relation between literacy skills and cultural participation (Hypothesis 4).

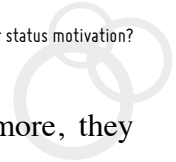
3. Data and measurement

3.1. Data

We derived our data from the International Adult Literacy Survey (IALS) 1994 and 1998. This large-scale, cooperative project involves governments, national research institutions, and the Organisation for Economic Co-operation and Development (OECD), in collaboration with and coordinated by Statistics Canada and the Educational Testing Service at Princeton University. The goal of the IALS is to fill a widespread need for information about literacy. Large international samples of adults were given the same test of their literacy skills between 1994 and 1998. The survey provides details on levels of adult literacy across nations and the relationship between literacy levels and a range of background and demographic characteristics (Microdata User's Guide, Statistics Canada). The IALS perfectly matches our research question since it contains international comparative measures of individual participation in cultural activities, educational attainment, and literacy skills, as well as relevant control variables such as parents' education. We used information from 18 countries ($N_2=18$) and included respondents aged 26 and older, since these are likely to have finished their educational careers.¹ Furthermore, we selected respondents with valid scores on all relevant individual variables ($N_1= 43,981$).

3.2. Measurement of cultural participation

We measured highbrow cultural participation as the frequency with which respondents reported *attending cultural performances* (movies, plays, or concerts) and *reading books*. Respondents were asked the frequency of their participation in these two highbrow leisure activities by the following questions: "How often do you attend a movie, play or concert?" and "How often do you read a book?" Answer categories were (0) never, (1) several times a year, (2) monthly, (3) weekly, and (4) daily. Attendance of cultural performances and book reading are commonly used as indicators of a person's highbrow cultural participation in cultural



stratification research (Katz-Gerro & Jaeger 2011; Purhonen et al. 2011). Furthermore, they match the objectified state of cultural capital usually elaborated in empirical research in this field (see, e.g., Kraaykamp and Van Eijck 2010). Unfortunately, our single-item measure of cultural participation also includes movies, which might contain lowbrow elements as well.² However, if we find support for our hypotheses regarding attending cultural performances, the effects are likely to be underestimated due to the downward influence of potential lowbrow activities.

3.3. Individual-level variables

IALS respondents were asked about the duration of their formal education: “In your lifetime, how many years of formal education have you completed beginning with grade one and not counting repeating years at the same level”. Thus, the current study measures *respondents’ educational level* by a variable indicating the duration of education in years, not counting repeated years at the same level (standardized between 0 and 1).³

To separate the non-cognitive (status) aspect of education from the cognitive ability aspect, we included the respondents’ cognitive competence as measured by their *literacy skills*. Literacy measures are a widely accepted proxy for a person’s cognitive ability (see, for example, Catell 1971; Green 2001). The IALS defines literacy as “the ability to use printed and written information to function in society, to achieve one’s goals, and to develop one’s knowledge and potential.” The IALS measures three types of literacy: prose, document, and quantitative literacy. In each of these three domains, respondents performed tasks of different levels of difficulty, which were then constructed into scales ranging from 0 to 500.⁴ Factor analyses, both explorative and confirmatory, including all three domains showed only one dimension with an eigenvalue greater than 1, explaining 88% of the variance. Therefore, and in line with previous research using the IALS data (e.g., Gesthuizen, Solga and Künster 2011; Van de Werfhorst 2011), we constructed a single-scale measure for overall literacy. Our scale uses the mean score of all scales reflecting respondents’ prose, document, and quantitative literacy skills (z-standardized). The index has a high degree of measurement reliability, both within and across countries (Cronbach’s alphas are around .98). We also estimated all models with the separate domains of literacy, but this did not yield different results.

We included several individual-level control variables, shown to affect both a person's educational level and their cultural participation (see, e.g., Yaish and Katz-Gerro 2011; Kraaykamp and Van Eijck 2010). First of all, we included the parental educational level, which prior research has used to indicate the non-cognitive aspect of a person's educational attainment (Bowles et al. 2001; Gesthuizen et al. 2011). Parental education has also proven to be a reliable predictor of a person's cultural participation. Hence, including it makes our analyses more accurate and less biased towards the status mechanism. We measured parental educational level as the highest of the father's and mother's education based on ISCED qualifications: (0) no education or only primary education, (1) lower secondary education, (2) higher secondary education, and (3) tertiary education.

We also included respondents' *age* in four categories: 26–35, 36–45, 46–55 and 56 years and older. Furthermore, we controlled for respondents' *gender* (1=female) and whether the respondent was born in the country of interview or *born abroad* (1= born abroad). Table 1 presents the descriptive statistics for all variables.

3.4. Country-level variables

A country's share of higher educated people, also referred to as *a nation's level of educational expansion*, was measured as the gross enrolment ratio in tertiary education (ISCED 5 and 6) in 1996. It thus represents the general level of participation in tertiary education in a given country (UNESCO 2012).⁵ *Educational mobility* was measured as the country-specific association between parents' and children's educational attainment. We constructed this based on the IALS data. For each country, the measure consists of the coefficient of parental educational level when predicting the respondents' educational attainment (both standardized in a range of 0–1 within countries). We coded the variable educational mobility so (multiplying by –1) that a higher score represents a higher level of educational mobility, thus corresponding with a *lower* correlation between parents' and children's educational attainment (ranging from –0.25 to –0.07).

We measured a country's economic prosperity by *GDP per capita* in 1996, in PPP, current international dollars (World Bank 2011). GDP per capita is a common indicator of a country's

economic development; furthermore, it likely captures part of the national spread and accessibility of cultural supply (OECD 2006). Appendix A presents the country variables. For reasons of presentation and interpretation, all country-level variables are centered to their means and divided by 1000 (GDP per capita) or 10 (educational expansion) when included in the multilevel analyses.

4. Empirical strategy

To analyze differences between countries in stratification of cultural participation we estimate multilevel models. This method enables us to simultaneously estimate differences between countries and between individual respondents (Snijders and Bosker 1999). We first estimated a model with a random intercept and individual level predictors (not presented). The estimated variance component at the country level is small but statistically significant (ICC books = 0.04; ICC cultural performance attendance = 0.06). Hence, there is significant variation between the countries in cultural participation, even after adjusting for differences in individual characteristics.

Next, we estimated models with a random intercept and random as well as fixed slopes. Model 1 assumes cultural participation to differ among countries. In this model, the effect of educational level is allowed to vary between countries (random slope), but the effects of all other variables are assumed to be stable (fixed). Model 2 includes a person's literacy score, the effect of which we also allowed to vary in the different countries (random slope). Model 3 estimates interaction effects of the individual-level measure of education and the country-level measures of educational expansion and educational mobility. In model 4, we estimate cross-level interactions with literacy.⁶ Note that we controlled for parental educational level in all models.

To assess the potential effect of influential cases on our findings, we carried out an outlier analysis for all of the models, following the procedure suggested by Van der Meer, Te Grotenhuis and Pelzer (2010). Outliers affected none of the findings presented below.



5. Results

5.1. Descriptive analyses

Before estimating our multilevel models, we present some descriptive analyses of cross-national differences in the status-related effects of education. Figure 1 displays the proportion of the effect of education on cultural participation that remains after controlling for literacy, in relation to a country's level of educational expansion.⁷ The data points represent the status-related effects of education on cultural participation, construed as cultural performance attendance and book reading. Overall, Figure 1 indicates that education becomes less of a status marker where educational expansion is higher. That is, where a country's share of higher educated is larger, education has less of an effect on cultural participation, after controlling for literacy. Note that there are outliers, especially for book reading. In Hungary and Germany, the proportional effect of education, that is, the part that remains after controlling for literacy, is rather high. In these countries, educational stratification in book reading highly correlates with status incentives. In contrast, in Ireland, Great Britain, and especially Canada, status-driven motives hardly seem to play a role in cultural performance attendance and, particularly, book reading.

Figure 2 plots the relation between educational mobility and the proportion of the education effect that remains after controlling for people's literacy scores. Although less clear, the figure shows a negative relation. Thus, in countries with higher levels of educational mobility, a person's educational level has a less pronounced effect on his or her cultural participation. This suggests that the status element of education is less important in countries where educational mobility is higher.

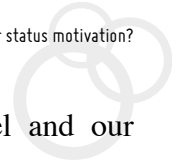
Figure 2 shows outliers as well, quite similar to Figure 1. In Hungary and Germany, particularly concerning reading books and taking educational mobility into account, education exhibits more status aspects than in the other countries analyzed. Again, in Canada, Great

Britain, and Ireland, the status aspect of education hardly affects cultural participation, and especially book reading, along the lines of the countries' educational mobility.

5.2. Multilevel models on cultural performance attendance

Table 2 shows the multilevel models for attending cultural performances. In line with previous cultural participation research, the estimates for model 1 show that more highly educated individuals attend cultural performances more frequently than their lower educated counterparts. Model 1 also shows that parents' educational level is highly predictive of a person's cultural participation, confirming prior studies on cultural consumption. Cultural participation is more common among women than men, and we find younger people to be more frequent visitors of cultural events. This may be because younger people are generally more active consumers of culture, though our youngest group is not that young (between 26–35). Respondents who are born abroad attend cultural performances significantly less often than natives. A country's level of educational inequality, as measured by educational expansion and mobility, has no statistically significant effect on a person's frequency of cultural performance attendance. Also, a country's GDP seems to be irrelevant concerning the frequency of visiting cultural events.

Model 2 adds literacy. It shows that a person's literacy skills are strongly associated with their cultural performance attendance, reducing the coefficient of education by about 30%. This was predicted by Hypothesis 3. In model 2, where the effect of education is controlled for a person's literacy skills, the observed effect of education refers to the status-related aspects of educational achievement. Hence, model 2 shows that both status-related and cognitive aspects of education are relevant in predicting a person's frequency of visiting cultural events, as we would expect based on the cognitive and status hypotheses. However, status incentives related to education seem to be somewhat more decisive when it comes to cultural participation. Note that including literacy also significantly reduces the effect of parental education. Being born abroad no longer has a significant effect once controlling for literacy skills.



Model 3 includes the cross-level interactions with a person's educational level and our measures of a country's educational inequality. In countries with a higher level of educational expansion, education has a significantly smaller effect on cultural performance attendance. This model also controls for a person's literacy skills, implying that status is a less important predictor of cultural participation in countries where educational attainment is more uniform. This is in line with the status hypothesis (Hypothesis 1). In countries with a larger proportion of highly educated individuals, attendance at cultural performances functions less as a status marker. Although the direction of the effect is as we expected (Hypothesis 2), we do not find educational mobility to significantly affect the relation between the status aspect of education and cultural performance attendance. Hence, regardless of the level of social mobility or "openness" of a country, the status-related or net effects of education on cultural performance attendance remain important. This might also indicate that in countries with more social mobility, early (within-family) cultural socialization is not equally spread (yet).

Model 4 includes cross-level interactions with a person's literacy skills. Neither the interaction term with educational expansion nor the interaction with mobility is statistically significant. In other words, the association between people's literacy skills and their attending cultural performances is not dependent on a country's level of educational expansion and mobility. This supports the cognitive hypothesis (Hypothesis 4): a person's literacy skills are relevant for participation in cultural events because of the cognitive abilities that these activities require. As expected, country-level educational inequalities do not moderate the relation between cognitive capacities, measured as literacy skills, and cultural participation.

5.3. Multilevel models on reading books

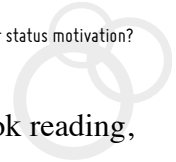
Table 3 presents estimates of status-related and cognitive aspects of education's effect on book reading. Model 1 reveals a positive and statistically significant effect of a person's educational level on book reading, in line with previous cultural capital research. Model 1 also shows a positive and significant effect of parents' educational level on book reading.

Furthermore, the intensity of book reading increases with age, women tend to read more frequently than men and respondents who were born abroad read more books than natives. A country's level of educational expansion and GDP are not relevant for book reading, but educational mobility is associated positively with an individual's book-reading frequency. In countries where educational mobility is higher, people tend to read more than in closed societies. This is perhaps because in more open and modern societies, information and knowledge are highly relevant or even inevitable in everyday life. This likely stimulates people to read and to develop their information-processing skills.

Model 2 includes a person's literacy skills, which are highly statistically significant in shaping reading behaviour. Thus, at the individual level, both status-signaling motives and cognitive aspects of education are relevant predictors of book reading, with the effect sizes in favor of the status-signaling motivation for reading. In line with Hypothesis 3, the effect of education is substantially reduced once an individual's literacy skills are controlled for (the reduction is about 30%). Note that there is also a substantial decline in the impact of parents' educational level.

Model 3, again, includes cross-level interactions. In line with Hypothesis 1, we find a negative and statistically significant cross-level interaction between educational expansion and educational attainment. This implies that the status-related aspect of education's effect on book reading is less relevant in countries with a large proportion of highly educated people. In line with Hypothesis 2, the positive effect of educational attainment on reading is smaller in countries with more educational mobility. Hence, in countries where educational mobility is greater, the status-related aspects of a person's educational level are less relevant in deciding to read books. Overall, and in line with Bourdieu's cultural capital theory, our findings support the hypotheses regarding the status aspects of education when it comes to book reading. In countries with a greater share of highly educated individuals and greater educational mobility, a person's educational level becomes less relevant for book reading. In other words, cultural participation – conceived of as book reading – functions as a significant marker of a person's social status, but this marker is less relevant in more egalitarian societies.

Model 4 presents estimates of the interactions with literacy score. The results clearly support the cognitive hypothesis regarding book reading (Hypothesis 4): the relation between a person's literacy skills and book reading is independent of a country's level of educational mobility and



educational expansion. Thus, cognitive aspects of education are highly relevant for book reading, regardless of a country's educational distributions, whereas the status-related (net) effects of education are lower in countries with less educational disparity.

5.4. Discussion and conclusions

The main question motivating this study was to what extent educational stratification in cultural participation is an expression of one's social status and to what extent does it reflect a person's cognitive capacity. Cultural participation is a significant driver of the transmission of inequality over generations. However, the question remains to what extent this has to do with status incentives or intellectual competencies. To answer this question we examined individual educational differentiation in cultural participation, at the same time asking how this differentiation is affected by educational disparity at the national level. Two theories were drawn upon to explain highbrow cultural participation. Educational stratification in cultural participation can be understood as a result of differences in the amount of social status confirmation that is achieved by participation (Bourdieu 1984), or as a result of social differences in the intellectual competencies by cultural consumers (Ganzeboom 1984, 1989). We disentangled these status and cognitive aspects of cultural participation by including in our analyses a person's literacy skills, representing a person's cognitive abilities, alongside a person's educational level, which then represents the net status-related (non-cognitive) part of education's effect.

Our findings, using IALS data from 18 countries, show that both cognitive skills and status incentives explain the relation between education and cultural participation. Moreover, in countries with lower levels of educational inequality (i.e., higher levels of educational expansion and mobility), cultural participation generates less status for the higher educated, confirming the reduced status incentives for cultural participation. By contrast, the relation between a person's literacy skills (i.e., the cognitive aspect of education) and cultural participation is stable, regardless of a country's educational inequality. This corroborates the cognitive aspect of the relation between educational level and cultural participation. However, there is also a status-related aspect of educational inequality in cultural participation. Our findings suggest that the

intergenerational transmission of status-related benefits, as in more elite cultural preferences and behaviours, is less relevant in more equal societies. This is highly relevant for governments and policy makers, since this study suggests that reducing educational inequality results in less inequality in other domains.

In this study, we interpreted the non-cognitive aspect of education's effect on cultural participation as the net status effect. However, this may be disputed. For instance, part of this effect could relate to income, or may run via social networks such as peers and partners. Cultural participation is found to affect a person's network and vice versa (see, e.g., Lizardo 2006). Income appears less relevant according to cultural capital research, especially when taking educational level or social status into account (Chan & Goldthorpe 2007a; Van Eijck 1999). We certainly acknowledge these influences, however, since we controlled for a person's cognitive skills, such network influences are most likely related to group identity and group inclusion (or exclusion), and thus to be a form of status expression.

This study also encountered some data limitations. First, our measurement of cultural performance attendance covers multiple genres, some of which are not conceptually defined as highbrow. Classical concerts, after all, are significantly different from pop concerts and movie-going. Due to this more general measure of cultural consumption, our analysis may even underestimate educational stratification in cultural participation. A more detailed measurement of cultural activities would be informative. Second, while the IALS is at present the most suitable cross-national dataset to answer our research question, it dates from the late 1990s and its coverage of cultural participation is restricted to rather traditional areas. Since social cleavages are also found in "new" culture and media consumption patterns (e.g., DiMaggio et al. 2004; Notten and Kraaykamp 2009), it would be interesting to unravel status and cognitive motivations for contemporary forms of cultural participation, using more recent data as well. In highly educated societies, other social boundaries or distinctions may arise, which may be no longer or significantly less related to the traditional social and educational hierarchy (Beck 1992; Castells 1996; Katz-Gerro and Jaeger 2011; Peterson and Kern 1996).

Above all, this study shows that the status-based explanation of educational inequality in cultural participation is strongly dependent on distributional aspects of education, while the cognitive explanation does not significantly depend on distributional characteristics. Educational expansion and intergenerational social mobility reduce education's function as a status marker.

This finding is commensurate with the arguments of Wilkinson and Pickett (2009) on effects of social inequality. Although their work is about income inequality, we also find that if distributions change so too does the status element of stratifying variables, such as education. Cultural consumption strongly depends on a person's intellectual abilities, in addition to status-related incentives. However, when the social context becomes less stratified, highbrow cultural consumption seems to lose its function as a marker of the status elite and, subsequently, plays a less dominant relevant role within the intergenerational transmission of inequality.

Notes

From the originally 19 participating countries in the IALS, Chile was removed because of poor model fit, probably due to being the only non-Western country in the dataset.

Additional factor analyses using 2006 EU Statistics on Income and Living Conditions (SILC) clearly show that the three included activities (visiting cultural events, cultural sites, and the cinema) positively correlate and form a reliable scale ($\alpha = 0.69$).

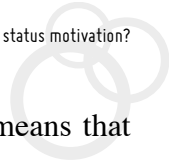
The IALS offers educational level data both in years and in ISCED qualifications. Both qualifications and durations are acceptable measures of educational attainment, but neither is perfect. Besides conceptual differences, both measures will have been obtained with some degree of random measurement error. In all 18 included countries the two measures correlate strongly (around .85), indicating that both measures are good indicators of level of education. We chose educational level in years because of its better model fit. However, when estimating our models using ISCED qualifications the substantive findings are very similar.

The IALS Microdata User's Guide, by Statistics Canada, defines the following dimensions: "a) Prose literacy: the knowledge and skills needed to understand and use information from texts including editorials, news stories, poems, and fiction, b) Document literacy: the knowledge and skills required to locate and use information contained in various formats, including job applications, payroll forms, transportation schedules, maps, tables, and graphics, and c) Quantitative literacy: the knowledge and skills required to apply arithmetic operations, either alone or sequentially, to numbers embedded in printed materials, such as balancing a checkbook, calculating a tip, completing an order form, or determining the amount of interest on a loan from an advertisement." For more information see the IALS Microdata User's Guide, Statistics Canada (see also Kirsch 2003).

Since the IALS data was gathered between 1994 and 1998; we chose 1996 as the reference year for the country statistics.

For reasons of collinearity we were unable to include all four cross-level interactions simultaneously.

The data points are obtained from separate country regressions and refer to the coefficient of education that remains after controlling for literacy, divided by the coefficient of education



without controlling for literacy. In line with our theoretical arguments, a value of 1 means that education represents only status aspects; 0 indicates no status-related (but only cognitive) effects of education on cultural participation.

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Table 1. Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max
<i>Dependent variables</i>				
Book reading	2.24	1.48	0	4
Attending cultural performances	0.93	0.83	0	4
<i>Individual-level variables</i>				
Years of education	0.37	0.11	0	1
Literacy skills	0.59	0.14	0	1
	Percentage			
Parents' education: no or primary	31		0	1
Parents' education: lower secondary	31		0	1
Parents' education: higher secondary	24		0	1
Parents' education: tertiary education	14		0	1
Gender (female=1)	54		0	1
Age 26-35	29		0	1
Age 36-45	28		0	1
Age 46-55	22		0	1
Age 56 and older	21		0	1
Born abroad	8		0	1
<i>Country-level variables</i>				
Educational mobility	-0.17	0.04	-0.25	-0.07
Educational expansion	49.4	14.16	22	89
GDP per capita PPP	20573	5593.53	8050	28772

Source: IALS 1994-1998

N1=43.981

N2=18

Table 2. Multilevel models on cultural performance attendance

	Model 1		Model 2		Model 3		Model 4	
	b	se	b	se	b	se	b	se
Years of education	2.159***	(.103)	1.580***	(.093)	1.556***	(.076)	1.581***	(.094)
Literacy			1.072***	(.060)	1.072***	(.060)	1.075***	(.060)
Educational expansion/10 x education					-.109*	(.043)		
Educational mobility x education					-2.726	(1.742)		
Educational expansion/10 x literacy							.007	(.033)
Educational mobility x literacy							.562	(1.357)
Educational expansion/10	-.010	(.033)	.023	(.030)	.026	(.029)	.023	(.030)
Educational mobility	2.177	(1.124)	1.178	(1.029)	1.279	(1.019)	1.111	(1.040)
GDP per capita ppp/1000	.019	(.010)	.005	(.009)	.005	(.009)	.005	(.009)
Parents' education: no or primary	Ref.		Ref.		Ref.		Ref.	
Parents' education: lower secondary	.087***	(.010)	.061***	(.010)	.060***	(.010)	.061***	(.010)
Parents' education: higher secondary	.195***	(.011)	.155***	(.011)	.154***	(.011)	.155***	(.011)
Parents' education: tertiary education	.279***	(.013)	.233***	(.013)	.233***	(.013)	.233***	(.013)
Age 26-35	Ref.		Ref.		Ref.		Ref.	
Age 36-45	-.166***	(.009)	-.162***	(.009)	-.162***	(.009)	-.162***	(.009)
Age 46-55	-.209***	(.010)	-.191***	(.010)	-.192***	(.010)	-.191***	(.010)
Age 56 and older	-.300***	(.011)	-.250***	(.011)	-.250***	(.011)	-.250***	(.011)
Gender (female=1)	.035***	(.007)	.043***	(.007)	.043***	(.007)	.043***	(.007)
Born abroad	-.046***	(.013)	.024	(.013)	.025	(.013)	.024	(.013)
Constant	.192***	(.049)	-.253***	(.046)	-.251***	(.046)	-.253***	(.046)
Variance components (a)								
Variance literacy slope			.041		.041		.040	
Variance education slope	.166		.124		.068		.127	
Country-level variance	.037		.029		.028		.029	
Individual-level variance	.531		.518		.518		.519	
Log-likelihood	-48578.2		-48092.3		-48088.0		-48092.1	

* p<0.05, ** p<0.01, *** p<0.001, two-tailed tests.

(a) All variances significant at p <0.05

Source: IALS 1994-1998

Table 3. Multilevel models on book reading

	Model 1		Model 2		Model 3		Model 4	
	b	se	b	se	b	se	b	se
Years of education	3.981***	(.280)	2.824***	(.252)	2.722***	(.169)	2.818***	(.250)
Literacy			2.093***	(.120)	2.092***	(.117)	2.080***	(.116)
Educational expansion/10 x education					-.279**	(.097)		
Educational mobility x education					-12.720**	(3.903)		
Educational expansion/10 x literacy							.042	(.066)
Educational mobility x literacy							-3.321	(2.658)
Educational expansion/10	-.026	(.050)	.020	(.050)	.025	(.049)	.017	(.051)
Educational mobility	9.439***	(1.744)	8.649***	(1.743)	8.799***	(1.702)	8.960***	(1.776)
GDP per capita ppp/1000	.025	(.016)	.005	(.016)	.005	(.015)	.005	(.016)
Parents' education: no or primary	Ref.		Ref.		Ref.		Ref.	
Parents' education: lower secondary	.148***	(.019)	.095***	(.018)	.095***	(.018)	.095***	(.018)
Parents' education: higher secondary	.305***	(.020)	.227***	(.020)	.226***	(.020)	.227***	(.020)
Parents' education: tertiary education	.432***	(.024)	.341***	(.024)	.341***	(.024)	.341***	(.024)
Age 26-35	Ref.		Ref.		Ref.		Ref.	
Age 36-45	.133***	(.017)	.140***	(.017)	.140***	(.017)	.140***	(.017)
Age 46-55	.204***	(.018)	.238***	(.018)	.238***	(.018)	.238***	(.018)
Age 56 and older	.320***	(.020)	.421***	(.019)	.421***	(.019)	.421***	(.020)
Gender (female=1)	.605***	(.013)	.623***	(.013)	.623***	(.013)	.623***	(.013)
Born abroad	.057*	(.024)	.185***	(.025)	.186***	(.025)	.185***	(.025)
Constant	.192*	(.076)	-.650***	(.079)	-.647***	(.077)	-.648***	(.079)
Variance components (a)								
Variance literacy slope			.178		.168		.161	
Variance education slope	1.316		1.03		.379		1.016	
Country-level variance	.0856		.0788		.074		.080	
Individual-level variance	1.804		1.753		1.753		1.753	
Log-likelihood	-75455.4		-74830.0		-74822.5		-74829.2	

* p<0.05, ** p<0.01, *** p<0.001, two-tailed tests.

(a) All variances significant at p <0.05

Source: IALS 1994-1998

Appendix A: Country level variables

Country	Educational mobility (a)	GDP per capita ppp (b)	Educational expansion (c)
Canada (CA)	-0.20	23,253	89
Switzerland (CH)	-0.12	27,438	32
Germany (DE)	-0.18	23,049	47
United States (US)	-0.14	28,772	79
Ireland (IR)	-0.19	19,510	40
Netherlands (NL)	-0.16	22,652	47
Poland (PL)	-0.20	8,050	36
Sweden (SE)	-0.14	22,647	46
New Zealand (NZ)	-0.07	18,076	59
Great Britain (GB)	-0.14	20,936	50
Belgium (BE)	-0.20	22,790	54
Italy (IT)	-0.25	21,799	41
Norway (NO)	-0.21	26,039	58
Slovenia (SI)	-0.24	13,715	33
Czech Republic (CZ)	-0.16	13,643	22
Denmark (DK)	-0.18	24,049	48
Finland (FI)	-0.13	19,242	70
Hungary (HU)	-0.18	9,134	24

(a) Source: IALS 1994/1998 (own calculations)

(b) Source: Worldbank, 2011

(c) Source: UNE\$CO, 2012

Figure 1. Proportion of education effect that remains after controlling for literacy skills, by educational expansion.

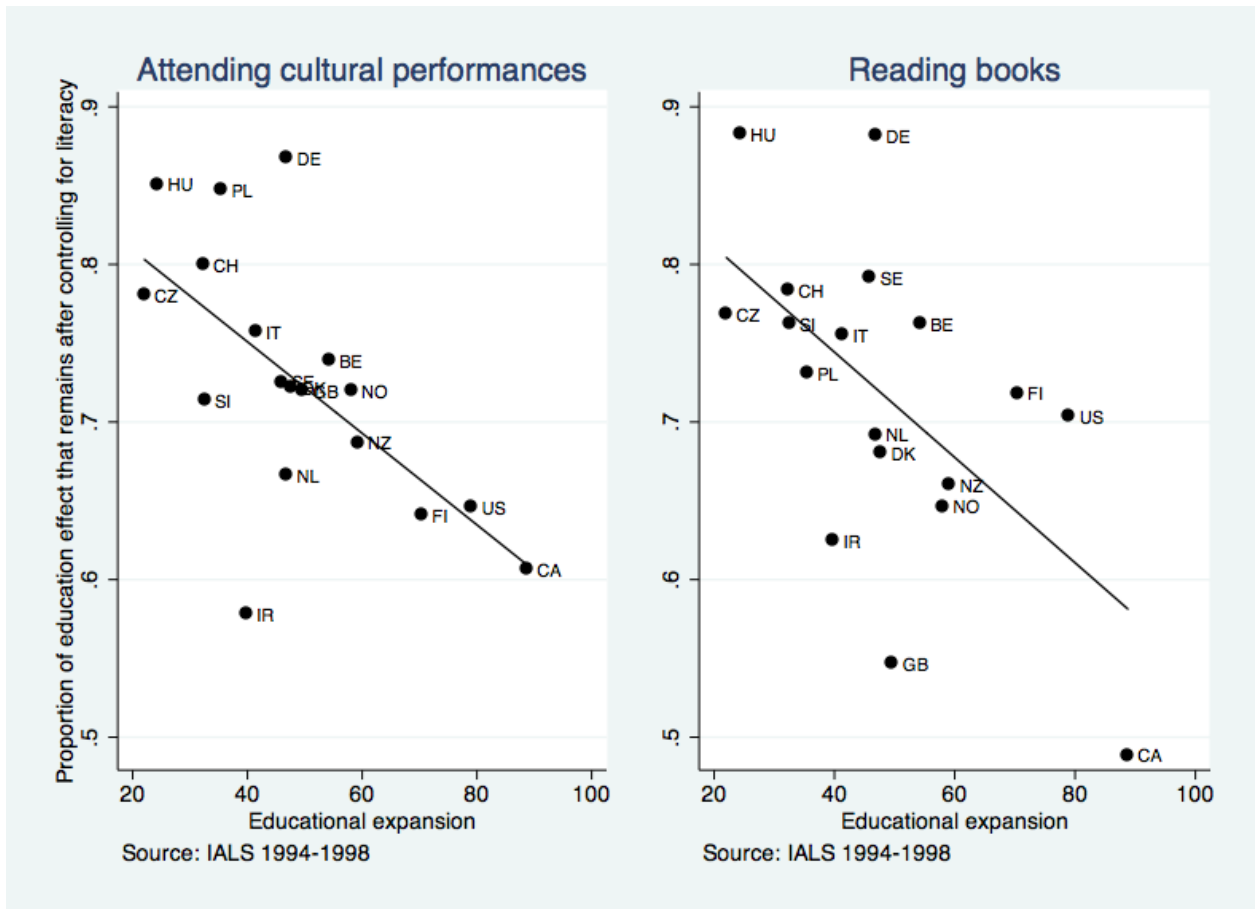
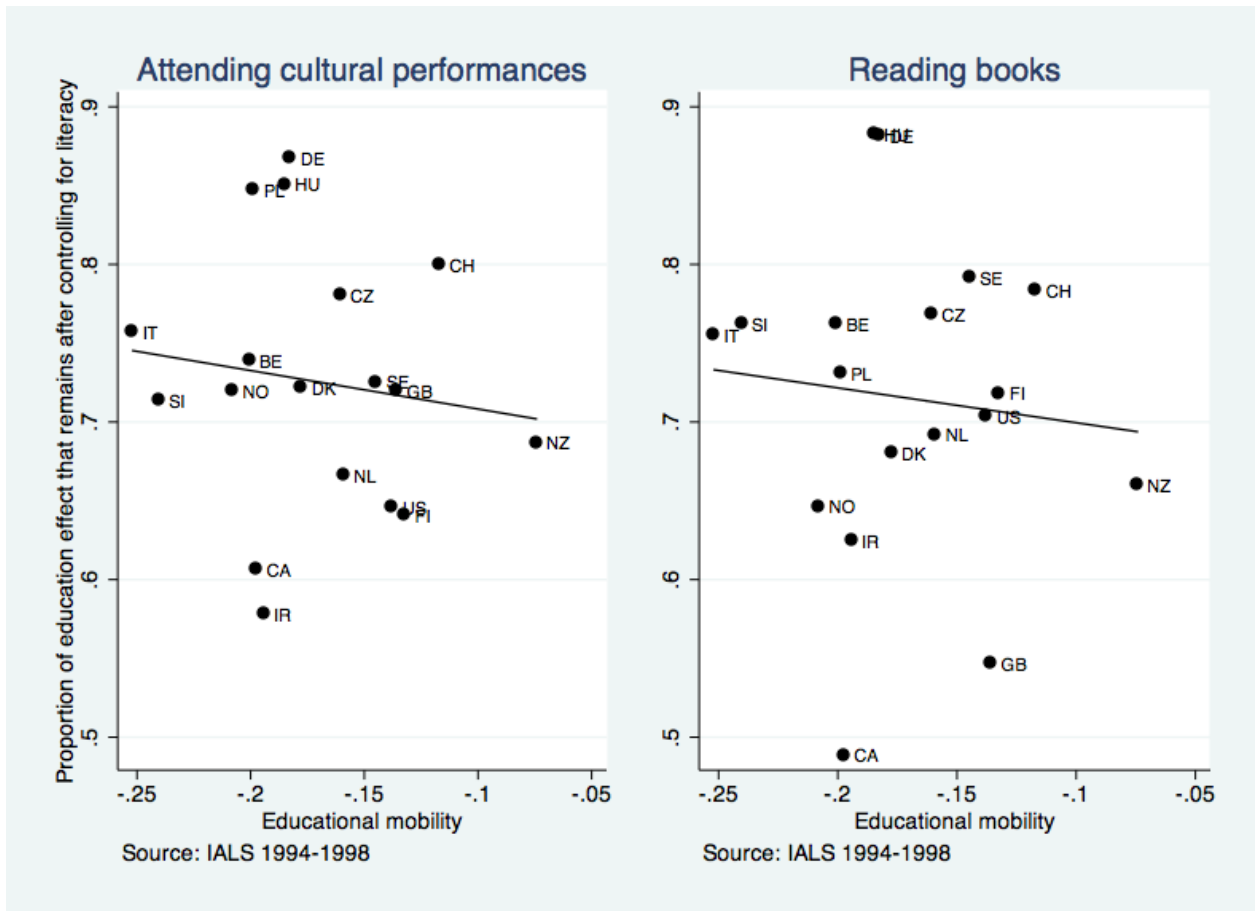


Figure 2. Proportion of education effect that remains after controlling for literacy skills, by educational mobility.



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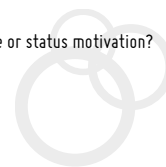
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Information on the GINI project

Aims

The core objective of GINI is to deliver important new answers to questions of great interest to European societies: What are the social, cultural and political impacts that increasing inequalities in income, wealth and education may have? For the answers, GINI combines an interdisciplinary analysis that draws on economics, sociology, political science and health studies, with improved methodologies, uniform measurement, wide country coverage, a clear policy dimension and broad dissemination.

Methodologically, GINI aims to:

- exploit differences between and within 29 countries in inequality levels and trends for understanding the impacts and teasing out implications for policy and institutions,
- elaborate on the effects of both individual distributional positions and aggregate inequalities, and
- allow for feedback from impacts to inequality in a two-way causality approach.

The project operates in a framework of policy-oriented debate and international comparisons across all EU countries (except Cyprus and Malta), the USA, Japan, Canada and Australia.

Inequality Impacts and Analysis

Social impacts of inequality include educational access and achievement, individual employment opportunities and labour market behaviour, household joblessness, living standards and deprivation, family and household formation/breakdown, housing and intergenerational social mobility, individual health and life expectancy, and social cohesion versus polarisation. Underlying long-term trends, the economic cycle and the current financial and economic crisis will be incorporated. Politico-cultural impacts investigated are: Do increasing income/educational inequalities widen cultural and political 'distances', alienating people from politics, globalisation and European integration? Do they affect individuals' participation and general social trust? Is acceptance of inequality and policies of redistribution affected by inequality itself? What effects do political systems (coalitions/winner-takes-all) have? Finally, it focuses on costs and benefits of policies limiting income inequality and its efficiency for mitigating other inequalities (health, housing, education and opportunity), and addresses the question what contributions policy making itself may have made to the growth of inequalities.

Support and Activities

The project receives EU research support to the amount of Euro 2.7 million. The work will result in four main reports and a final report, some 70 discussion papers and 29 country reports. The start of the project is 1 February 2010 for a three-year period. Detailed information can be found on the website.

www.gini-research.org





GINI GROWING INEQUALITIES' IMPACTS

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