

This is a draft chapter. The final version is available in *Social Inequality Across the Generations: The Role of Compensation and Multiplication in Resource Accumulation* edited by Erola, Jani & Kilpi-Jakonen, Elina (2017) published in 2017, Edward Elgar Publishing Ltd. The material cannot be used for any other purpose without further permission of the publisher, and is for private use only.

## **The impact of education and family policies on intergenerational transmission of socioeconomic status in Europe**

**Heta Pöyliö** (heta.poylio@utu.fi, University of Turku)

**Johanna Kallio** (University of Turku)

### **INTRODUCTION**

Previous social mobility literature has demonstrated that most European countries have achieved a rather high level of openness, and despite the countries' different policy processes, the cross-national differences in overall mobility have diminished over time (Breen and Luijkx 2004; Pfeffer 2008). Although some previous studies have demonstrated cross-national variation in the strength of socioeconomic or educational inheritance (Pfeffer 2008; Yaish and Andersen 2012), the patterns of origin-destination association are similar among nations (Beller and Hout 2006). The interesting question arises: if the policies have evolved along different paths, but the overall outcomes are similar between countries, how do these institutions influence intergenerational transmissions? Social investment policies have obtained great attention in recent literature focusing on the opportunities of individuals (see Kangas et al. this volume) but we take this further by looking at the intergenerational influence of welfare state policies. Comparative social mobility research has acknowledged the influence of institutions and policies on intergenerational social mobility, and they are found to have a particularly strong effect on cross-sectional inequalities (Beller and Hout 2006; Birkelund 2006; Crettaz and Jacot 2014; Mayer and Lopoo, 2008; Nolan et al., 2010; Pfeffer 2008).

Educational policies have obtained a great deal of institutional attention in social mobility research, most likely because education has long been considered one of the essential channels of intergenerational transfers (Breen 2010; Brunello et al. 2009; Schlicht et al. 2010; Stadelmann-Steffen 2012). Family policies have only barely been studied in this regard, but their positive

influence on the opportunities of disadvantaged families have been introduced (Esping-Andersen 2002; Fagnani and Math 2008; Gauthier 1999). However, there is a shortage of empirical evidence on the relations between family policies and intergenerational transfers.

This brings us to another important argument of the previous literature – that there are persistent inequalities between families with different socioeconomic backgrounds; thus looking only at the overall mobility leaves the inequality of outcomes uncovered (Ballarino et al. 2009; Pfeffer, 2008; Shavit and Blossfeld 1993). Socioeconomic inheritance is especially strong and persistent at the top and bottom of the social strata, compared to the middle class (Esping-Andersen and Wagner 2012). According to Breen and Luijkx (2004), upward mobility has increased in most European countries whereas downward mobility has had the opposite trend. In this sense, the importance of looking at the institutional context and national policies is even higher when comparing welfare states: In some cases, policies are targeted to increase the equality of opportunity and diminish cross-sectional inequality by compensating for the loss or lack of resources of individuals and families, whereas other policies may have broader goals of supporting employment and improving the well-being of the population. These policy goals will evidently provide different outcomes on educational and occupational opportunities and thus on the intergenerational transmission of socioeconomic status.

This chapter investigates how family and education policies have impacted the transfer of socioeconomic attainment between generations in Europe among birth cohorts 1956–80. We have selected a set of educational policies because they have been found to influence social mobility in various countries but also a set of family policies that have not yet been broadly tested empirically in relation to intergenerational social mobility. The policies on which we focus in this chapter are *maternity leave, family allowances, pre-primary education, school leaving age and proportion completed tertiary education* (see also Brunello et al. 2009; Crettaz and Jacot 2014; Dustmann and Schönberg 2012; Schlicht et al. 2010). The aim is to explore whether these policies influence socioeconomic inheritance through different processes of resource transfer (see chapter 1) measured as the changes in intergenerational transmission of occupational status. We aim to answer two questions:

1. Do education and family policies have an impact on the intergenerational transmission of socioeconomic status in European welfare states?
2. If they do, is the influence of these policies multiplicative, accumulative, equalizing or compensatory?

This chapter investigates the issue as follows: The next section addresses how policies are found to influence the resources of the families and ergo intergenerational transmissions in previous research. Then, we describe the data and methods, and the fourth section presents the empirical results of the policy impacts, describing separately the mean impacts and the impacts by origin.

Finally, we discuss the reasons and mechanisms behind the significant policy impacts and put forward some aspects for further research.

## POLICIES AND INTERGENERATIONAL TRANSMISSION OF RESOURCES

Equality of opportunity has been one of the main focuses in social mobility literature when discussing institutional context and how (if at all) policies can promote greater mobility (Brunello and Checchi 2007; Bruning and Plantenga 1999; Schütz et al. 2008; Sorensen 2006). Public institutions and government expenditure have the opportunity to neutralize the inequalities in parental investment and reduce the influence of family background shaping the outcomes of children (Mayer and Lopoo, 2008; Nolan et al. 2010).

In relation to education, previous research has focused, for example, on how dead-end educational pathways, access to education, an all-day school tradition, the availability of preschool education, school leaving age and public investments in education are connected to social mobility and found a positive link to decreasing inequality (Beller and Hout 2006; Pfeffer 2008; Schlicht et al. 2010; Stadelmann-Steffen 2012). In regard to family policies, previous literature has highlighted the importance of family support, i.e., early pre-primary education, in influencing socioeconomic inheritance by equalizing opportunities between families (Barnett and Belfield 2006; Esping-Andersen and Wagner 2012; Havnes and Mogstad 2015). Previous research that has studied policies and social mobility argues for their influence in equalizing opportunities, whether the influence was to increase the opportunities at the bottom of the social strata or those of the entire population (Brunello et al. 2009; Crettaz and Jacot 2014). However, there is a shortage of previous research regarding the empirical evaluation of the influence of specific policies on parental investment and how this relationship impacts the intergenerational transmission of education and occupation. For example, family policies have been discussed in social mobility research only very recently; thus, there is a lack of strong empirical evidence on how the policies promote equality through their influence on disadvantaged families (Barnett and Belfield 2006; Esping-Andersen 2014).

We argue that the influence of distinct education and family policies on intergenerational transmission of education and occupation varies between families with different socioeconomic backgrounds. We are not looking at the association between institutions and inequality of opportunity but are considering institutions and policies designed to influence children's outcomes by providing societal investments for families. Therefore, we assume that they operate through different processes of resource transfers (see Erola and Kilpi-Jakonen this volume): accumulation, multiplication, compensation and equalization.

The social mobility research on policies and equality of opportunity often encloses the discussion around equalization when they are actually talking about policies that are targeted to promote

opportunities for specific vulnerable groups. The ‘bottom-up equalization’, that is when policies promote the upward mobility of the disadvantaged but do not change the advantaged position of the upper class (Esping-Andersen 2014; Esping-Andersen and Wagner 2012), is here considered as institutional *compensation*. Previous social mobility research on family policies has had a special focus on this bottom-up effect: Mayer and Lopoo (2008) studied government spending and intergenerational income mobility in the US and concluded that government spending reduces the importance of parental income on children’s’ economic outcomes with the influence being much greater for children from the poorest families. Additionally, paid job-secured maternity leave and cash benefits are found to decrease child poverty and increase equal parental investment, thus being particularly effective for low-income households (Esping-Andersen 2009; Fagnani and Math 2008; Nolan et al. 2010). Further, the positive effects of pre-primary education on learning, development and school success have been found to be especially strong among disadvantaged families (Barnett 2008; Barnett and Belfield 2006).

Institutional *equalization*, in this chapter, is considered to occur when a policy influences the effect of origin on children’s educational and occupational attainment decline throughout the social strata – being the strongest at the bottom and the top. A good example of institutional equalization can be found in the changes of educational systems: Educational expansion is considered to have positive effect on equality of educational opportunity by increasing enrolment in higher education among children from disadvantaged origins (Ballarino et al. 2009; Breen 2010; Pfeffer and Hertel 2015). Educational inflation, on the other hand, has weakened the position of advantaged families in the labour market because their quantitative educational advantages have diminished due to educational expansion (Van de Werfhorst 2009; Wolbers et al. 2001). As a result, the policy reforms that have promoted educational expansion, such as cutting tuition fees, decreasing educational dead-ends and increasing the length of compulsory education, have influenced families throughout the entire social strata but are the strongest for the bottom and top - promoting institutional equalization (Brunello et al. 2009; Björklund and Salvanes 2011; Pfeffer 2008). In conclusion, institutional equalization decreases overall inequality in society by weakening the influence of origin, i.e., reducing the advantaged position of those in the higher class and increasing the resources and opportunities of lower class families.

Sometimes, even if the aim of the policy is to increase the resources and to promote the wellbeing of disadvantaged families, the implementation of the policy may produce other outcomes in addition to (or instead of) compensation or equalization. For example, universal or subsidized childcare and early childhood education are argued to support maternal employment by increasing the resources of the families, no matter the socioeconomic background of the family (Esping-Andersen 2002; 2004). In other words, universal childcare enhances the mobility opportunities of women in all classes, resulting in the gap in equality of opportunities remaining the same. In this case, the policy influence on the resources of families is an *accumulative* process. We can derive another example from the educational system: Increasing the length of

compulsory education can be considered to have an accumulative effect in countries where education has a strong role in determining labour market position because compulsory education ought to provide the same level of basic educational attainment for all (Bol 2015; Brunello and Checchi 2007). Institutional accumulation, therefore, is not an equalizing process; it promotes the general wellbeing of the population by increasing the resources of everyone, thus maintaining the degree of the inequalities.

We have demonstrated examples of processes where the policies improve the resources and opportunities of children from disadvantaged backgrounds with either increased, decreased or maintained resources for advantaged families. However, this might not always be the case. For example, tuition fees in higher education set barriers for low-income families to proceed to tertiary education, while the resources of children from advantaged backgrounds multiply and their mobility opportunities increase (Frenette 2007). This process is called institutional *multiplication*, i.e., cumulative advantage (see DiPrete and Eirich 2006), which increases the inequality of opportunity. For example, Van Lancker (2013) found that the enrolment in childcare services is very unequal in Europe, and especially low-income families use childcare services much less than high-income families in which case advantaged families gain greater benefit from the institution. However, this process is mostly an unwanted outcome of any education or family policy because it widens the gap of educational and occupational opportunities for children with different backgrounds.

## DATA AND METHODS

This research uses data from the European Social Survey (ESS), which covers information on education and occupation for respondents and their parents. In addition to ESS, secondary data on parental ISCO-88 (The International Standard Classification of Occupations) for the respondents of ESS provided by Ganzeboom (2013) has been used to obtain ISEI calculations for parents. However, this data was available only for the first five rounds (2002–2010) of ESS, which limited the number of observations. ESS provides information on almost all European countries. We decided to include the countries that have participated in the ESS in at least three of the five first rounds, which resulted in 26 countries. Unfortunately, it was extremely difficult, and in some cases impossible, to find information on family policies for Eastern European countries as far back in time as was needed for the earliest cohorts. As a result, our analyses include 15 European countries: Austria, Belgium, Switzerland, Denmark, Germany, Spain, Finland, France, UK, Greece, Ireland, Netherlands, Norway, Portugal and Sweden, and the total number of observations reaches almost fifty thousand (n=46 731).

### **Dependent variable**

The respondents' outcome, socioeconomic status, is measured by their International Socio-Economic Index of Occupational Status (ISEI). The variable is recoded from the ISCO 1988 categories of the respondents. For analysis purposes the variable has been centred to its mean.

## **Independent variables**

The main individual-level independent variable is the parents' socioeconomic status. Harry Ganzeboom (2013) provides data on parental ISCO 1988 for the ESS rounds 1–5, which has been recoded into ISEI values. We have chosen to use the highest level of parents' ISEI to represent the parental socioeconomic status and have centred it in the first set of analyses. In addition to studying parental status as linear, in the second set of analyses we have divided family background into three categories: low, middle and high parental socioeconomic status to look beyond the mean impacts of the policies (see also Couch and Lillard 2004; Havnes and Mogstad 2015). Categories are formed from five (5) quintiles: the lowest quintile of parental ISEI represents the "Low parental status", highest quintile the "High parental status" and the three middle quintiles form the "Middle parental status", which acts as a reference category in the analyses. Our statistical models also control for various respondent-related variables: gender, birth cohort, ESS round, whether born in the country, whether children living/lived in the household, and whether the respondent had ever been in legally defined relationship. Unfortunately, we are not able to control for any childhood circumstances, such as single-parenthood.

## **Cohort**

By including cohort in the analyses, we are able to not only control the differences in the estimates related to age and birth year but also to acknowledge the development of societies over time. Observations have been pooled into five-year birth cohorts between the years 1956–80. This range has been chosen as a result of the available data for the policies. We have restricted the minimum age of respondents to 30 years, which is considered to be near the age when respondents have obtained the highest level of education and accessed the labour market (Härkönen and Bihagen, 2011).

## **Policies**

We have chosen five cohort-level variables that measure different family and education policies: *the school leaving age, pre-primary education, proportion completed tertiary education, maternity leave and family allowances* (see appendix for descriptions and the sources of the variables). The policies influence families at different times in their child's early life course: from the few weeks before the birth (maternity leave) to early adulthood (proportion completed tertiary education). All policy variables are continuous except pre-primary education, which is a dummy

variable. Variables are coded accordingly to the appropriate birth cohort; the proportion completed tertiary education is a five-year average, whereas other policies have been coded according to the year of the policy's implementation. For example, if school leaving age had changed from 14 to 15 in 1982, the new school leaving age is coded from the cohort 1966–70 onwards until there was another change in the policy.

## **Methods**

A series of multilevel regression models are fit to assess the relationship between respondents' and parents' ISEI at the individual level and how the education and family policies – in other words the cohort-level events – influence this association. The hierarchical nature of the data requires analysis that considers individuals as part of a specific group, here the cohort and the country (Hox 2010; Gelman 2006). Further, to address the possibility that other simultaneous country-specific effects might influence the results, we have included fixed effects on the country-level in the multilevel regression models. This results in leaving only within-country effects that are explained by the covariates (Rabe-Hesketh and Skrondal 2008). Because the changes in policies between cohorts follow roughly a similar trend between countries, country fixed-effects allows us to examine the impact of the policies within the countries. We do not aim to compare the effects between countries but want to determine whether there are similar trends of policy impacts among the Western European countries. To look at the policy impacts on children's socioeconomic status through parents, we include an interaction between parental socioeconomic status and policy variables (see also e.g., Brunello and Checchi 2007). This design reveals whether the policy impact on children's mobility opportunities varies between the different levels of parental socioeconomic attainment.

## **RESULTS**

There are two different sets of multilevel fixed-effects regression models. The first set (mean impact models) use centred parental background to set the mean to zero to obtain the mean impacts of the policies on children's occupational status through parental background (interaction coefficients). In the second set of models (impact by origin), we acknowledge the intra-group variation and hence parental background (parents' highest ISEI) has been divided into three categories: low, middle and high parental socioeconomic status.

### **Mean impacts**

With fixed effects multilevel regression models, we tested the relations between respondents' and the linear parental ISEI and how different policies affected this relation (Table 10.1). Because parental background is linear we view the results as the mean impacts of education and family policies. Model 1 (the control model) expresses the association of intergenerational socioeconomic status controlling only for individual-level control variables, not any of the policy

variables. In the policy models (models 2–6), the cohort-level policy variables have been controlled separately and as an interaction with parental background, resulting in each model expressing the mean impact of an individual policy on respondents' occupational status through parental background. In model 7 (full model), we have included all of the policies.

The control model shows a rather strong relation between the socioeconomic status of children and parents, which itself is not surprising but gives us an overall idea of the relation within the countries. If the main effects of the policies on children's socioeconomic attainment showed positive significant results, it would demonstrate a positive influence of the policy on all of the children (when parental ISEI is at its mean), suggesting institutional accumulation. However, because all the main effects are insignificant, we can conclude that these policies do not have an accumulative impact on intergenerational transmission of socioeconomic status.

The interaction coefficients between policy and parental ISEI in the policy models show statistically significant results for three of the five policies: maternity leave (model 2), school leaving age (model 5) and proportion completed tertiary education (model 6). Although all of these interaction effects are rather small, they are all negative, meaning that the policies have weakened the intergenerational transmission of occupational status. That is, the policies decrease the overall socioeconomic inequality by increasing social mobility, which is in line with findings of previous studies (Brunello et al. 2009). This could suggest institutional equalization, but because we cannot determine whether the result is driven by a very strong negative policy impact among the advantaged families, a strong positive impact on the disadvantaged or both, we cannot yet conclude the process behind these policies.

In the full model, where all of the policies have been included, most of the policy impacts have changed, which is not highly surprising because the policies can be expected to correlate with each other. When looking at previously significant policies, we can see that maternity leave has become insignificant and the impact of proportion completed tertiary education has reduced to almost zero. Further analyses (not reported here) show that these changes are mostly due to including school leaving age in the model. Nevertheless, the policy impact of the school leaving age remains almost exactly the same, which demonstrates that the policy has a strong impact in weakening the intergenerational transmission of socioeconomic attainment in these countries, regardless of the other institutional changes.

In conclusion, surprisingly, only three of these five family and education policies – school leaving age, proportion completed tertiary education and maternity leave – have a statistically significant impact on the inheritance of socioeconomic status. All of these policies have a negative impact, meaning that the policies have weakened the association between parental background and children's outcomes. However, these results measure the mean impact of a policy for the whole sample without considering the nonlinear character of intergenerational social mobility – that the impact of a policy might be different depending on family background, especially at the



bottom and top of the social strata. Hence, we now turn to examine whether the impact of the policies vary according to the level of parental socioeconomic status.

*Table 10.1* Mean impacts of policies on children's SES, multilevel fixed effects regression

|  | Model 1             | Model 2             | Model 3             | Model 4             | Model 5              | Model 6              | Model 7              |
|--|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
| Birth cohort   | 0.155*<br>(0.063)   | 0.112<br>(0.070)    | 0.163*<br>(0.073)   | 0.190**<br>(0.070)  | 0.138*<br>(0.067)    | 0.073<br>(0.094)     | -0.039<br>(0.135)    |
| Parental SES (cnt)   | 0.328***<br>(0.004) | 0.360***<br>(0.014) | 0.339***<br>(0.007) | 0.327***<br>(0.005) | 0.735***<br>(0.064)  | 0.364***<br>(0.010)  | 0.737***<br>(0.068)  |
| Maternity leave  |                     | 0.046<br>(0.032)    |                     |                     |                      |                      | 0.046<br>(0.035)     |
| Maternity leave *<br>Parental SES (cnt)                            |                     | -0.003*<br>(0.001)  |                     |                     |                      |                      | 0.001<br>(0.001)     |
| Family allowances  |                     |                     | -0.015<br>(0.094)   |                     |                      |                      | 0.034<br>(0.100)     |
| Family allowances *<br>Parental SES (cnt)                          |                     |                     | -0.002<br>(0.001)   |                     |                      |                      | -0.000<br>(0.001)    |
| Pre-primary education  |                     |                     |                     | -0.391<br>(0.323)   |                      |                      | -0.230<br>(0.341)    |
| Pre-primary education *<br>Parental SES (cnt)                      |                     |                     |                     | 0.005<br>(0.010)    |                      |                      | 0.011<br>(0.010)     |
| School leaving age   |                     |                     |                     |                     | 0.056<br>(0.122)     |                      | 0.088<br>(0.129)     |
| School leaving age *<br>Parental SES (cnt)                         |                     |                     |                     |                     | -0.027***<br>(0.004) |                      | -0.026***<br>(0.005) |
| Proportion completed<br>tertiary education                         |                     |                     |                     |                     |                      | 0.031<br>(0.028)     | 0.050<br>(0.031)     |
| Proportion completed<br>tertiary education *<br>Parental SES (cnt) |                     |                     |                     |                     |                      | -0.002***<br>(0.001) | -0.001*<br>(0.001)   |
| Constant   | -0.240<br>(0.324)   | -0.592<br>(0.409)   | -0.196<br>(0.402)   | -0.317<br>(0.330)   | -0.944<br>(1.776)    | -0.302<br>(0.330)    | -2.015<br>(1.862)    |

Notes: N = 46 731 for all models. The models control also gender, ESS round, immigrant status, whether have children and whether in legal relationship. Standard errors in parentheses \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

### Policy impact by origin

The same set of multilevel fixed effects regression models (control, policy and full models) were run, but to examine the impact of policies at the ends of the social strata – at the bottom and top – family background was broken down into low, middle and high parental ISEI (see also Havnes and Mogstad 2015). Middle parental socioeconomic status is a reference category. Multilevel regression models (not reported) show that the interaction between parental background and the policies is significant only in the same three policy models that also had significant mean impacts: school leaving age, proportion completed tertiary education and maternity leave. Therefore, we are focusing on these three policies and their impact on the intergenerational transmission of socioeconomic status. The results of the policy models are reported as graphs of the marginal effects of the models, but we occasionally refer to the original models as well. Overall, the results (Figures 10.1–3) show a clear nonlinearity among all of the policies – the impacts of the policies are different for families with low and high parental socioeconomic status.

Maternity leave is the only policy for which the policy impact is statistically significant only among families with low parental socioeconomic attainment while not influencing the advantaged families, as we can see in Figure 10.1. That said, the negative mean impact was completely due to the weakening of intergenerational transmission of occupational status among children from disadvantaged families. This means that when the length of maternity leave increases, the association between parents’ and children’s ISEI weakens among families with low parental resources, and the probability for children to obtain higher ISEI increases. This is almost a perfect example of institutional compensation.

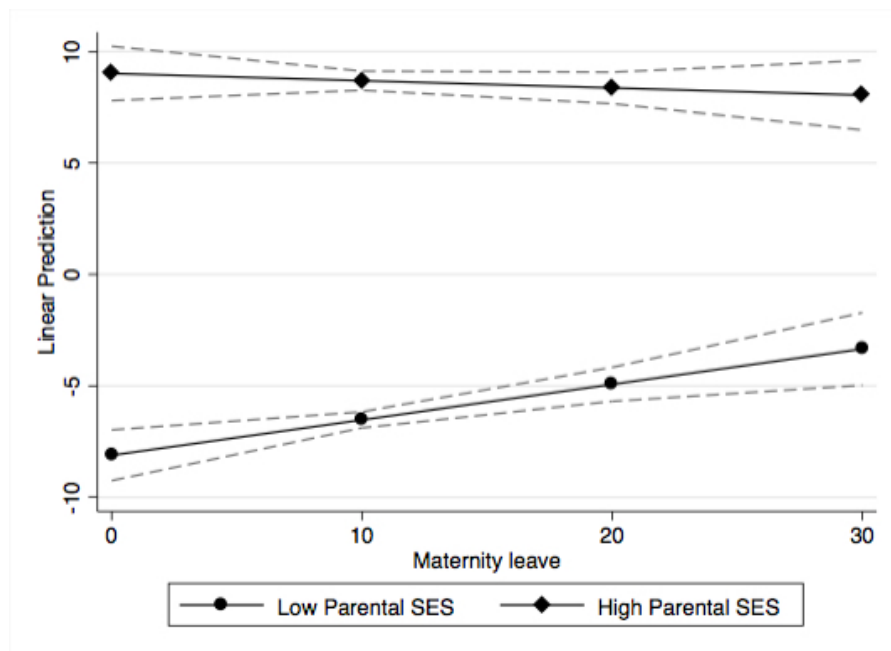


Figure 10.1 The impact of maternity leave on children’s SES by origin

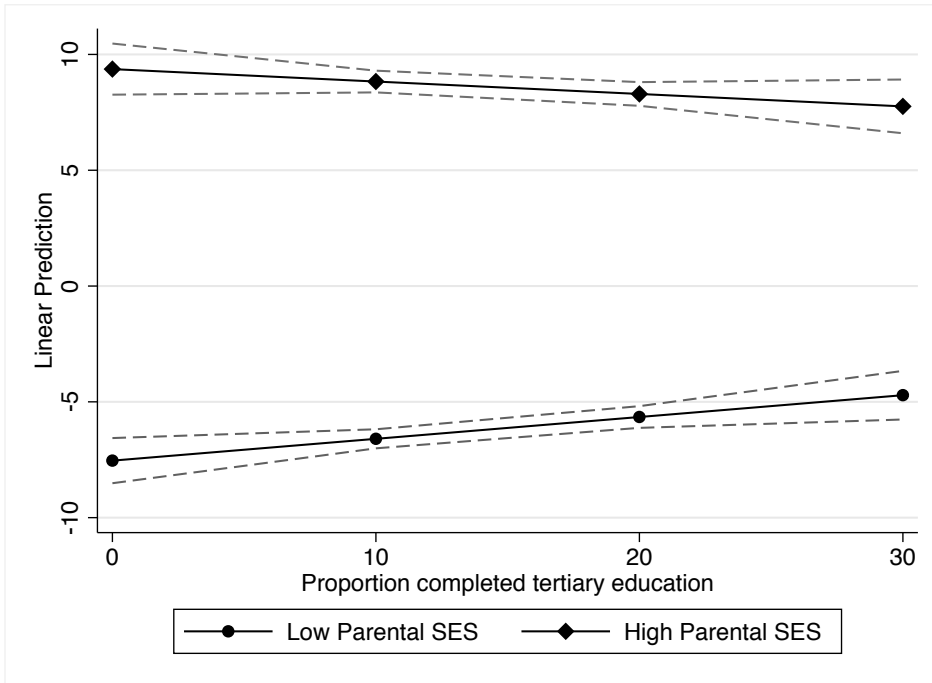


Figure 10.2 The impact of proportion completed tertiary education on children's SES by origin

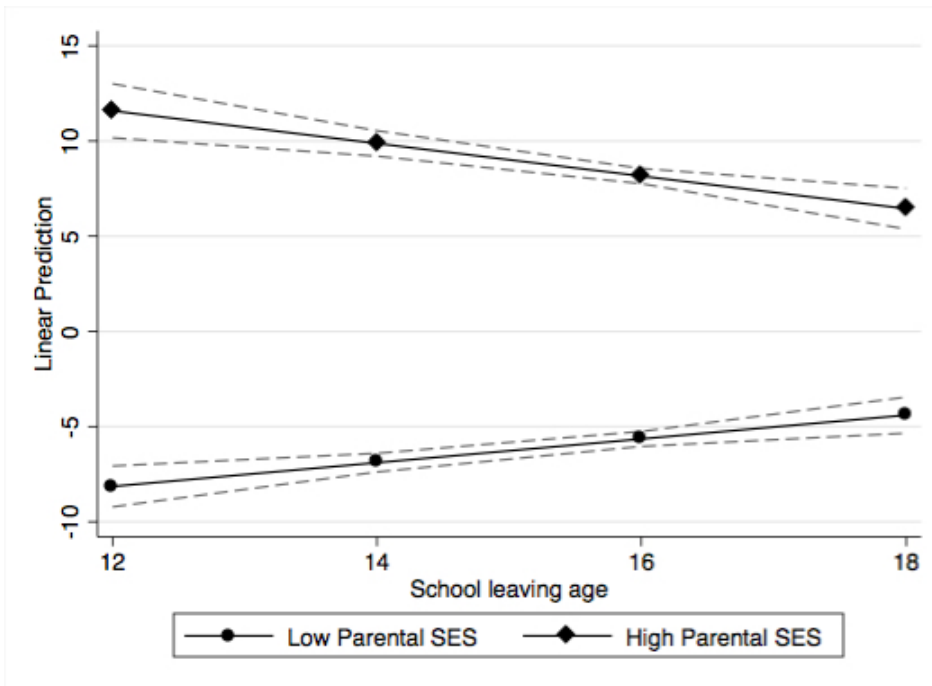


Figure 10.3 The impact of school leaving age on children's SES by origin

The other two policies – proportion completed tertiary education (Figure 10.2) and school leaving age (Figure 10.3) – have interaction coefficients that are statistically significant on both low and high parental socioeconomic status. However, the impacts on the ends are opposite to one another: the policy has a positive impact on children with low parental occupational attainment but a negative impact on children with high parental socioeconomic resources. This means that when the proportion completed tertiary education increased, or when the school leaving age increased, the intergenerational transmission of socioeconomic status weakened at both ends – the probability of obtaining higher ISEI for children with low parental ISEI strengthens, whereas the probability decreases for children with high parental ISEI. The impacts of these two policies are good examples of institutional equalization.

If we take a closer look at the policy impacts of school leaving age and proportion completed tertiary education, there are some differences in the results. As we can see from the Figures 10.2 and 10.3, the equalizing impact of school leaving age is more evident and the negative impact on children with high parental socioeconomic status is clearly stronger. Further, according to the regression results (not reported), the negative impact of the school leaving age on families with high parental resources is almost twice as large as the positive impact on the families with low parental resources. Additionally, the positive impact of school leaving age on low parental socioeconomic status families diminishes after including the other policies in the model, meaning that the impact of school leaving age for children with low parental resources might be due to some other simultaneous institutional changes. Similar results are found in relation to maternity leave and proportion completed tertiary education; the impact disappears when other institutional variables, especially the school leaving age, are included. As a result, because the negative impact of school leaving age on families with high socioeconomic status is the only policy impact remaining after including the other policies in the model, it can be considered as the most robust result.

### **Robustness checks**

We have controlled the immigrant status of the respondents, i.e., whether the respondent was born in the country, but wanted to check whether dropping these respondents (13 per cent of the sample) would change the results. The results are very similar to the original ones with only minor changes: the mean impacts remain the same, but maternity leave becomes statistically significant (95 per cent level) also for high origin, and the significance of proportion completed tertiary education for families with low socioeconomic resources disappears. Another set of robustness checks were run related to the time/period/cohort dilemma. We controlled age instead of ESS round and the results remained the same. Further, we replaced cohort with age in the models, and the results still hold, with only tiny differences in some of the policy interaction coefficients. All in all, because the changes in the models are very minor, we consider our original models and the results to be robust.

## DISCUSSION

Our results support the theory of the 'bottom-up effect' (Esping-Andersen and Wagner 2012): all three policies that have statistically significant results – maternity leave, school leaving age and proportion completed tertiary education – decrease the intergenerational transmission of socioeconomic status at the 'bottom'. This finding strengthens the argument that the setting and circumstances during childhood and youth are crucial in advancing the social mobility of children from disadvantaged backgrounds (Baum II 2003; Carvalho 2012) and calls attention to the importance of education and family policies in promoting greater upward mobility. Although all of these policies are universal and not targeted, only the disadvantaged families seem to benefit from them when looking at social mobility opportunities. However, maternity leave is the only policy that leaves the advantaged families untouched, resulting in institutional compensation.

The school leaving age and the proportion completed tertiary education have a negative influence on the families with high parental socioeconomic attainment in addition to the compensatory bottom-up effect, indicating institutional equalization. Previous research has raised the issue of persistent inequalities and especially the persistence of intergenerational transmissions at the higher ends of the social strata (Boliver 2011; Lucas 2001; Raftery and Hout 1993), and only very recently has the equalizing effect of policies by weakening the advantaged position of families been raised (see Havnes and Mogstad 2015). In our results, the negative impact of school leaving age in particular had a strong and robust negative impact on the advantaged families.

One explanation for the negative influence of the policies on the advantaged can be drawn from educational inflation: better access to tertiary education has resulted in educational expansion and further credential inflation (Breen 2010; Van de Werfhorst 2009), which may be especially harmful on children from advantaged backgrounds. Nevertheless, credential inflation can be the background indicator for the results of proportion completed tertiary education, but it can only partially explain the strong results of longer compulsory education; providing better basic knowledge to all children may decrease the value of higher credentials, but it will likely have influence on the transition to secondary education and not the higher educational levels (Wolbers et al. 2001).

The compensatory impact of maternity leave and the equalizing impact of higher school leaving age may raise the question of whether the time spent at home matters for long-term outcomes of children more than expected. Longer maternity leave might mean longer time at home because the child is not put in childcare as early, whereas longer compulsory education indicates longer time at home, postponing the child's educational decisions to an older age. These results suggest that, no matter what age, the time spent at home decreases the influence of family background on children's ISEI. However, we cannot argue that longer time spent with parents at home in early

childhood results to higher social mobility because we have no information as to whether parents stay home after maternity leave. Moreover, the financial benefit of maternity leave might be more important for the disadvantaged families than the time spent at home.

Previous research has highlighted the positive influence of family policies and especially the importance of universal preschool in increasing equality of opportunity by improving the mobility of disadvantaged families (Esping-Andersen 2004; 2009; Nolan et al. 2010), though the arguments that these policies are diminishing inequalities are mixed (Pfeffer 2008; Beller and Hout 2006; Dustmann and Schönberg 2012; Shavit and Blossfeld 1993). Our analyses do not find any significant association between pre-primary education or family allowances and socioeconomic mobility. This might be partly because we have measured pre-primary education plainly as whether it existed for a specific birth cohort or not and not as the number of children attending preschool (which varies largely between cohorts and countries). However, the information on the enrolment rates, or any other measure for early childhood education and care, is highly limited for the decades following the Second World War until the rise of the welfare state in the 1970s and 1980s.

More detailed and specific policy measures are needed for studying the policy impacts on inequality and stratification. For example, in addition to the above mentioned degree of children attending preschool, studying the average years in pre-primary education, the public expenditure on early childhood education and care or specific family policies, such as poverty targeted family benefits, would provide more insight and understanding of how the policies influence families and the unequal distribution of resources in different societies. Further, more research on the changes over time, or how the policy reforms are related to the changes in intergenerational transmissions, would bring to light the ways that the changes in different policies have shaped the equality of opportunity and the intergenerational transmissions more broadly. In particular, the family policies are very much understudied in these two areas.

Because our study has aimed to find similar patterns of policy impacts within multiple countries, if the influence of a policy varies significantly between countries, it would not be visible in the results. In other words, this mechanism could be partly behind the null results of pre-primary education and family allowances. Therefore, it would be highly interesting and beneficial for both sociological and policy research to conduct a more detailed analysis of the processes within each country – whether in some countries compensation occurs more strongly, or whether the equalizing policies actually have a more compensatory impact.

## ACKNOWLEDGEMENTS

The authors thank Laura Salonen for her persistent contribution in reviewing hundreds of documents and constructing the policy variables. This research was funded by the European Research Council (ERC-2013-CoG-617965).

## BIBLIOGRAPHY

Ballarino, G., F. Bernardi, M. Requena and H. Schadee (2009), 'Persistent inequalities? Expansion of education and class inequality in Italy and Spain', *European Sociological Review*, **25** (1), 123–38.

Barnett, W. Steven (2008), 'Preschool education and its lasting effects: Research and policy implications', Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit, accessed 6 June 2016 at <http://epicpolicy.org/publication/preschooleducation>.

Barnett, W.S. and C.R. Belfield (2006), 'Early childhood development and social mobility', *The Future of Children*, **16** (02), 73–98.

Baum II, C.L. (2003). 'Does early maternal employment harm child development? An analysis of the potential benefits of leave taking', *Journal of Labor Economics*, **21** (2), 409–48.

Beller, E. and M. Hout (2006), 'Welfare states and social mobility: How educational and social policy may affect cross-national differences in the association between occupational origins and destinations', *Research in Social Stratification and Mobility*, **24**, 353–65.

Birkelund, G. (2006), 'Welfare states and social inequality: Key issues in contemporary cross-national research on social stratification and mobility', *Research in Social Stratification and Mobility*, **24**, 333–51.

Björklund, Anders and Kjell G. Salvanes (2011), 'Education and family background: Mechanisms and policies', in Eric A. Hanushek, Stephen Machin and Ludger Woessmann (eds), *Handbook of the Economics of Education, Volume 3*, Amsterdam: North Holland, pp. 201–47.

Bol, T. (2015), 'Has education become more positional? Educational expansion and labour market outcomes, 1985–2007', *Acta Sociologica*, **58** (2), 105–20.

Boliver, V. (2011), 'Expansion, differentiation, and the persistence of social class inequalities in British higher education', *Higher Education*, **61** (3), 229–42.

Breen, R. (2010), 'Educational expansion and social mobility in the 20<sup>th</sup> Century', *Social Forces*, **89** (2), 365–88.

Breen, Richard and Ruud Luijkx (2004), 'Social mobility in Europe between 1970 and 2000', in Breen, Richard (ed.), *Social Mobility in Europe*, Oxford: Oxford University Press, pp. 37–75.

Brunello, G. and D. Checchi (2007), 'Does school tracking affect equality of opportunity? New international evidence', *Economic policy*, **22** (52), 782–861.

Brunello, G., M. Fort and G. Weber (2009), 'Changes in compulsory schooling, education and the distribution of wages in Europe', *The Economic Journal*, **119** (536), 516–39.

- Bruning, G. and J. Plantenga (1999), 'Parental leave and equal opportunities: Experiences in eight European countries', *Journal of European Social Policy*, **9** (3), 195–209.
- Carvalho, L. (2012), 'Childhood circumstances and the intergenerational transmission of socioeconomic status', *Demography*, **49**, 913–38.
- Couch, Kenneth A. and Dean R. Lillard (2004), 'Non-linear patterns of intergenerational mobility in Germany and the United States', in Miles Corak (ed.), *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press, pp. 190–206.
- Crettaz, E. and C. Jacot (2014), 'Do family policies matter for educational outcomes? Patterns of educational mobility and family services in Europe', *European Societies*, **16** (5), 645–65.
- DiPrete, T. and G. Eirich (2006), 'Cumulative advantage as a mechanism for inequality: A review of theoretical and empirical developments', *Annual Review of Sociology*, **32**, 271–97.
- Dustmann, C. and U. Schönberg (2012), 'Expansions in maternity leave coverage and children's long-term outcomes', *American Economic Journal: Applied Economics*, **4** (3), 190–224.
- Esping-Andersen, Gøsta (2002), 'A child-centred social investment strategy', in Gøsta Esping-Andersen (ed.), *Why We Need a New Welfare State*, Oxford: Oxford University Press, pp. 26–67.
- Esping-Andersen, G. (2004), 'Untying the Gordian knot of social inheritance', *Research in Social Stratification and Mobility*, **21** (1), 115–38.
- Esping-Andersen, Gøsta (2009), *The Incomplete Revolution: Adapting to Women's New Roles*, Cambridge: Polity Press.
- Esping-Andersen, G. (2014), 'Welfare regimes and social stratification', *Journal of European Social Policy*, **25** (1), 124–34.
- Esping-Andersen, G. and S. Wagner (2012), 'Asymmetries in the opportunity structure. Intergenerational mobility trends in Europe', *Research in Social Stratification and Mobility*, **30**, 473–87.
- Fagnani, Jeanne and Antoine Math (2008), 'Policy packages for families with children in 11 European countries: Multiple approaches', in Arnlaug Leira and Chiara Saraceno (eds), *Childhood: Changing Contexts (Comparative Social Research, Volume 25)*, Bingley: Emerald Group Publishing Limited, pp. 55–78.
- Frenette, Marc (2007), *Why Are Youth from Lower-income Families Less Likely to Attend University? Evidence from Academic Abilities Parental Influences, and Financial Constraints*, Ottawa: Statistics Canada.
- Ganzeboom, H. (2013), 'ISCO-88 codes for parental occupations in the European social survey', Rounds 1-2-3-4-5[machine readable data file]. Amsterdam: VU-University [distributor]. Version 1



(July 18, 2013), accessed 16 March 2015 at [http://www.harryganzeboom.nl/ESS-DEVO/citation\\_fmisko.htm](http://www.harryganzeboom.nl/ESS-DEVO/citation_fmisko.htm)

Gauthier, A.H. (1999), 'Historical trends in state support for families in Europe (post-1945)', *Children and Youth Services Review*, **21** (11–12), 973–65.

Gelman, A. (2006), 'Multilevel (hierarchical) modeling: What it can and cannot do', *Technometrics*, **48** (3), 432–35.

Härkönen, J. and E. Bihagen (2011), 'Occupational attainment and career progression in Sweden', *European Societies*, **13** (3), 451–79.

Havnes, T. and M. Mogstad (2015), 'Is universal child care leveling the playing field?', *Journal of Public Economics*, **127**, 100–14.

Hox, Joop (2010), *Multilevel Analysis: Techniques and Applications*, 2nd edition, New York: Routledge.

Lucas, S.R. (2001), 'Effectively maintained inequality: Education transitions, track mobility, and social background effects', *American Journal of Sociology*, **106** (6), 1642–90.

Mayer, S. and L. Lopoo (2008), 'Government spending and intergenerational mobility', *Journal of Public Economics*, **92**, 139–58.

Nolan, B., G. Esping-Andersen, C.T. Whelan, B. Maitre and S. Wagner (2010), 'The role of social institutions in inter-generational mobility', *DemoSoc Working Paper*, 2010–36, Barcelona: Universitat Pompeu Fabra.

Pfeffer, F. (2008), 'Persistent inequality in educational attainment and its institutional context', *European Sociological Review*, **24** (5), 543–65.

Pfeffer, F.T. and F.R. Hertel (2015), 'How has educational expansion shaped social mobility trends in the United States?', *Social Forces*, **94** (1), 143–80.

Rabe-Hesketh, Sophia and Anders Skrondal (2008), *Multilevel and Longitudinal Modeling Using Stata*, 2nd edition, Texas: Stata Press.

Raftery, A. and M. Hout (1993), 'Maximally maintained inequality: Expansion, reform, and opportunity in Irish education, 1921–75', *Sociology of Education*, **66** (1), 41–62.

Schlicht R., I. Stadelmann-Steffen and M. Freitag (2010), 'Educational inequality in the EU. The effectiveness of the national education policy', *European Union Politics*, **11** (1), 29–59.

Schütz, G., H.W. Ursprung and L. Woessmann (2008), 'Education policy and equality of opportunity', *Kyklos*, **61** (2), 279–308.

Shavit, Yossi and Hans-Peter Blossfeld (1993), *Persistent Inequality: Changing Educational Attainment in Thirteen Countries*, Boulder: Westview Press.

Sorensen, A. (2006), 'Welfare states, family inequality, and equality of opportunity', *Research in Social Stratification and Mobility*, **24**, 367–75.

Stadelmann-Steffen, I. (2012), 'Education policy and educational inequality – Evidence from the Swiss laboratory', *European Sociological Review*, **28** (3), 379–93.

Van de Werfhorst, H.G. (2009), 'Credential inflation and educational strategies: A comparison of the United States and the Netherlands', *Research in Social Stratification and Mobility*, **27** (4), 269–84.

Van Lancker, W. (2013), 'Putting the child-centred investment strategy to the test: Evidence for the EU27', *European Journal of Social Security*, **15** (1), 4–27.

Wolbers, M.H., P.M. De Graaf and W.C. Ultee (2001), 'Trends in the occupational returns to educational credentials in the Dutch labor market: changes in structures and in the association?', *Acta Sociologica*, **44** (1), 5–19.

Yaish, M. and R. Andersen (2012), 'Social mobility in 20 modern societies: The role of economic and political context', *Social Science Research*, **41**, 527–38.

Table 10A.1 Description and the main sources of the policy variables

| Variable                                | Range      | Mean  | Description  | Main source  |
|---|------------|-------|--|--|
| Maternity leave                         | 0–33       | 12.54 | <i>ML_WKS</i> : The total number of weeks of paid maternity leave prior and after childbirth   | Gauthier (2011).                                       |
| Family allowances                       | 0.4–2.99   | 1.08  | <i>EXPFAI</i> : Total expenditures on family allowances as a percentage of the countries' gross domestic product (data for the first cohort of Greece not available) |  |
| Pre-primary education                   | 0 / 1      | 0.23  | Whether pre-primary education for children at least 3 years old (ISCED 0) takes place  | Brunello et al. (2009).<br>Garrouste (2010).           |
| School leaving age                      | 12–18      | 15.25 | The average age children finish compulsory education. Calculated with information on the age of starting school and the length of compulsory education.              | Gathmann et al. (2015).<br>Murtin and Viarengo (2011). |
| Proportion completed tertiary education | 3.03–37.17 | 14.46 | The percentage of 25–29-year-olds in the cohort with completed tertiary education  | Barro and Lee (2013).                                  |