

The intergenerational mobility of white working class boys: A quantitative analysis using UK data*

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Abstract.

This study examines the intergenerational economic mobility of British white working class boys and compares it to that of the ethnic working class and other non-working class groups. Our aim is to ascertain whether white working class boys face an unfavorable environment relative to other socio-ethnic groups. Most of the debate around this issue has been politically controversial and our research represents one of the few studies to shed light on this issue using data provided by the Understanding Society Survey from 2009 to 2014 for the UK. We measure intergenerational mobility using the Hope-Goldthorpe occupational scale and ascertain mobility via descriptive data, mobility matrices and by estimating intergenerational elasticities. We find that white working class boys perform the poorest in terms of educational attainment with a quarter having no qualifications and the lowest proportion of 17.6% having the highest qualifications. The overall differences in educational attainment at the degree level seem to be driven by class rather than ethnicity. We also find that white working class boys outperform the ethnic working class in terms of income and this we refer to as the "white working class paradox". Through a set of mobility matrices and measures of the index of association, we find the overall intergenerational persistence to be just under 27% with considerably higher persistence for those whose fathers were in managerial and professional occupations (60%). Upward mobility dominates downward mobility so that the share in the higher ranked occupations becomes higher over time. White working class boys have lower upward mobility and higher downward mobility. Ethnic working class boys do as badly as white working class boys when it comes to upward mobility but are significantly worse than all of our groups when it comes to downward mobility. Our intergenerational elasticity estimates are considerably smaller than previous studies at around 10 to 14% and indicate a lower degree of dependence between father and son socioeconomic status. Nevertheless, the estimates for whites (irrespective of class) are higher than that for ethnic group members. We also find strong household effects in the determination of the intergenerational elasticity of siblings. Those aged 65 or more have the highest intergenerational elasticities, suggesting possible increased mobility over time in the UK.

JEL Classification: D64, I24, J15

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1. Introduction

Theresa May, in her inaugural speech as the British Prime Minister in 2016 stated:

“If you’re a white, working-class boy, you’re less likely than anybody else in Britain to go to university” (May (2016))

Similarly, according to Diversity UK in 2015 (Treasury (2015))¹ :

“Being poor now has a far more negative impact on the education of white children than it does for any other ethnic group” and “Poor white boys suffer higher rates of exclusion from school and achieve the lowest academic results, making them less likely to enter higher education and therefore more likely to end up in the lower paid, insecure jobs.”

These are strong statements and do represent quite a departure from the long-standing debate on ethnic disadvantage in the UK and elsewhere. This has tended to focus on various ethnic groups saying little about whites and has tended to downplay class considerations. Indeed, the evidence base on the performance of working class whites is quite limited. Whilst we do have evidence pointing towards the educational disadvantage of white working class boys (Sammons, Toth, and Sylva (2015); Platt (2007); Bottero (2009); Rogaly and Taylor (2009); Blackaby et al. (1998); Heath and Ridge (1983)), there is little evidence with respect to their labour market outcomes and more generally with respect to their social mobility.

We add to this literature by examining the intergenerational mobility of white working class boys relative to other groups in the UK. Whilst economists have tended to focus on income or educational attainment as a measure of mobility, sociologists have used social class or prestige. We take the latter approach as we do not have full information on the income of parents and their offspring and also because we believe that a class indicator may be a better representation of lifetime income than restricted income data for each father-son pair.² In particular, we use the Hope-Goldthorpe (HGS) occupational scale as a representation of social and economic standing and argue that this represents a good measure of lifetime income. Differences in the HGS across generations are our attempt to capture intergenerational social mobility and our aim is to ascertain whether white working class boys face a higher intergenerational elasticity relative to other groups. A strong association between incomes across generations indicates that children from deprived backgrounds are likely to remain deprived as adults. Note that whilst there is a considerable amount of research on intergenerational mobility (Borjas (1992); Blanden and Macmillan (2011)), few studies focus on ethnic groups and class.

Using Understanding Society Survey (UsoC) data, we find an overall intergenerational persistence of 27% for males (using mobility matrices) and a corresponding intergenerational elasticity of 12% (using regression analysis). We find evidence of an increasing

¹ This is based on their reading of a report by the UK Equality and Human Rights Commission titled: *Is Britain Fairer?*

² We do not have complete income data for both parents and their offspring. This would imply that reported income might differ substantially from lifetime income, given the particular age-income window of each respondent. (e.g. We might only have one observation for a persons’ income at 40 and this figure might differ substantially from their income at 30 and both will differ from this person’s lifetime income.)

room at the top of the socioeconomic distribution, driven by shifts towards service class positions in the British occupational structure. This seems to favour primarily those who come from a white non-working class background. We failed to reject our main hypothesis of equality between the elasticity coefficient for the white working class and the overall male population. However, we rejected our secondary hypothesis of equality between the white working class and the “ethnic” working class in favour of a higher elasticity for the white working class.³ We find that the worst performing group in our analysis are ethnic working class boys. Whilst they are similar to white working class boys in terms of upward mobility they do display higher downward mobility relative to working class boys. They also have a significantly lower intergenerational elasticity estimates compared to whites irrespective of class.

The paper has the following structure. In Section 2., we provide a review of the literature on ethnic disadvantage focusing on intergenerational mobility. Here we also briefly discuss the research on working class whites. In Section 3., we set up our hypothesis, specify our measurement model and provide an overview of the Understanding Society survey dataset. In section 4. we presents our results, first as descriptive statistics and mobility matrices and then with regression estimates and robustness checks, considering several different specifications. In section 5. we summarise our findings and conclude.

2. A Review of the Literature

The background to this research is the vast literature on ethnic minority disadvantage in the UK (see Nazroo and Kapadia (2013), Catney and Sabater (2015)) and within this significant literature discussions of gender and graduate level disadvantage (Battu and Sloane (2004), Nandi and Platt (2010), Rafferty (2012), Lessard-Phillips, Fleischmann, and Elsas (2014)). Some of the most relevant findings from this research include that there are persistent ethnic inequalities in the labour market in terms of unemployment, earnings, labour force participation, occupational attainment, and hours worked. There is also considerable heterogeneity across ethnic groups in terms of the scale of disadvantage. For example, unemployment is particularly high for Pakistani, Bangladeshi and African populations. Though advances have been made in terms of educational attainment, there are still significant differences across gender and ethnicity. Whilst black African men and Chinese and Indian women are among the most likely to have a degree level or above qualifications, Pakistani and Bangladeshi men and women are among the most likely to have no formal qualifications (Heath and Cheung (2006)).

Most of this research says little or nothing about native whites and those at the lower end of the socio-economic distribution. They are usually the benchmark category. Nevertheless, there is plenty of literature documenting the educational underachievement of the white working class. In particular, the highest share of low achievers corresponds to white British males and those from a working class background were three times less likely to enter A-levels than those who are non-working class (Cassen and Kingdon (2007)). In addition, white students from a poorer socio-economic backgrounds underperformed

³ We use the term “ethnic” to refer to the non-white group. We will introduce the ethnicities included in the “ethnic” group in section 3.

relative to other non-white ethnic students with the same socio-economic background (Cassen and Kingdon (2007), Sammons, Toth, and Sylva (2015)). Indeed, Indian students outperform every other ethnicity and have almost double the achievement of the white British students within the same socio-economic status (Sammons, Toth, and Sylva (2015)). Strand (2014) finds that the educational disadvantage of white British boys disappears at higher levels of socio-economic status.

The literature on the broader economic and social outcomes for white working class boys is relatively scant. One finding seems to be that whilst white working class boys do fall behind in terms of educational attainment, they do manage to achieve relatively better labour market outcomes than other ethnic minorities, especially with regard to access to service class positions (e.g. employers in large establishments, higher managerial and administrative occupations, etc.) and other indicators of labour market success (Heath and Cheung (2006), Blackaby et al. (1998), Strand (2014)). For example, in a 2006 research report from the Department of Work and Pensions, the first key finding clearly states that:

“Overall a number of ethnic minority groups, notably Pakistani, Bangladeshi, Black Caribbean and Black African men continue to experience higher unemployment rates, greater concentrations in routine and semi-routine work and lower hourly earnings than do members of the comparison group of British and other whites.” (Heath and Cheung (2006))

We refer to these contradictory findings as the white working class paradox.

The literature on intergenerational mobility in the UK and elsewhere is long standing. There are two strands here. A narrow one focusing on estimating intergenerational elasticities and a broader strand looking at various aspects of social mobility. The focus in the former is on the relationship between parental income and the income of their offspring with estimates of intergenerational elasticity (IGE) calculated via the following equation:

$$\ln Y_i^{son} = \alpha + \hat{\beta} \ln X_i^{father} + \epsilon \quad (1)$$

Where, $\ln Y_i^{son}$, is the vector of son’s log-lifetime income and $\ln X_i^{father}$, is the vector of the respondent’s fathers log-lifetime income. $\hat{\beta}$ is the coefficient of intergenerational elasticity and $1 - \hat{\beta}$ is the coefficient of intergenerational economic mobility. A higher $\hat{\beta}$ implies that there is a greater dependence between father’s income and son’s income.

The main constraint here is that of measuring lifetime income, which is rarely available, especially when the theoretical requirement is to get a measure of lifetime income for both parents and children (Ermisch, Francesconi, and Siedler (2005), Chadwick and Solon (2002)). One option is to use multiple observations of income (in several years) for individual i , and to use the average value of income for individual i over a subset of years j , and consider this as a proxy for lifetime income:

$$\bar{y}_i = \frac{\sum_{j=n}^N y_{ij}}{N} \quad (2)$$

Where, \bar{y}_i is the average income of individual i over N years and $y_{i,j}$ is the income of individual i in year j . However, it may be difficult to get several years of income data for both parents and children. Even if this is available we are faced with the additional problem of non-linearities in income during their lifetime, which would affect average income. In particular, we require similar time-spans of income for both, parents and children (if we gather income for parents during their 30's then we would need a similar estimate for their children). This would require a very large dataset following a panel of families and this is rarely available.

Table 1 provides a summary of the estimates of intergenerational elasticity reported in previous UK studies. The reported estimates are based largely upon the IGE between father and son of all ethnic groups, with a few exceptions noted in the last column of Table 1. For the UK, we have a range of IGE estimates between father and son from 0.24 to 0.44. These results are mainly computed using either earnings or income. Comparable estimates are larger in the US (0.40 to 0.60) and lower in other industrialised European countries (i.e. for Sweden we have a range of 0.20 to 0.30 (Solon (1999); Björklund and Jäntti (2009); Black and Devereux (2010)).⁴ Studies that focused exclusively on the intergenerational mobility of ethnic minorities in the UK have typically lower estimates. For example, Bidisha, Das and McFarlane (2013) found an ethnic estimate of around 0.13 against an IGE of 0.34 for native whites using predicted earnings in a two stage least squares. This indicates greater social mobility for ethnic group members.

Another approach computes IGM estimates using socioeconomic classifications such as the HGS (Ermisch and Francesconi (2002); Ermisch, Francesconi, and Siedler (2005); Hadjar and Samuel (2015); Li, Zhang, and Kong (2015); Corrado and Corrado (2011)). The HGS in the mind of many sociologists (Evans (1992), Evans (1996), Birkelund, Goodman, and Rose (1996), O'Reilly and Rose (1998), Evans and Mills (2000)), is a better approximation of lifetime income compared to labour income data or even household income over a range of years. Though this is arguable, there is widespread use of the HGS in the literature albeit there are no studies focusing on ethnic groups in the UK (Clark and D'Angelo (2010); Ermisch and Francesconi (2002); Ermisch, Francesconi, and Siedler (2005); Hadjar and Samuel (2015); Li, Zhang, and Kong (2015); Corrado and Corrado (2011)).

More broadly there is a relatively small amount of research on the intergenerational mobility of different ethnic groups in the UK and as yet, no one has examined the social mobility of working class whites. Instead, studies have focused on the social mobility of minority ethnic groups and the effects of ethnicity and qualifications on intergenerational social class mobility (Platt (2005) and Platt (2007)). Both of Platt's studies support the notion that there are ethnic penalties affecting the socioeconomic mobility of minorities, with marked beneficial effects for the White non-migrant population and Indian immigrants.

Platt (2005), working with the ONS longitudinal survey, makes use of the 1971 and 1991 England and Wales census data to determine the mobility over generations as well as the relative odds of attaining a particular class destination. The analysis

⁴ Estimates for Denmark, Finland and Norway can be found in Jantti et al. (2006).

is limited to three ethnicities, Indians, Caribbean's and White non-migrants. Within these ethnicities, she differentiates between four classes of origin and destination, *service, intermediate, working and unemployed*. This follows the CASMIN educational classification and compares the social class distribution of two cohorts: parents (in 1971) and respondents (in 1991).⁵ Her findings indicate overall upward mobility but with differential effects across class and ethnicity. For example, Indians managed to maintain their higher class background while Caribbeans lose it over a twenty-year period.

In her 2007 paper, Platt includes educational background as an explanatory variable to account for some of the ethnicity and class effects. The influence of class background on children's subsequent class position still varies with ethnicity, even after controlling for education. For white non-migrants the effects of social-class background are strong and the effects for minority groups are weak, with education as a source of upward social mobility for some of the groups (i.e. Indians) (Platt (2007)). More support for the existence of ethnic penalties after controlling for education can be found in other studies (Heath and Ridge (1983); Heath and McMahon (2005)).

A more recent study by Zuccotti (2015) measures the class of origin through parental occupational status using the International Socio-Economic Index (ISEI) using the UK Housing Longitudinal Study (UKHLS). The paper gauges the extent to which class of origin, or parental social background, helps explain differences in occupational outcomes between ethnic minorities and the white British and whether intergenerational social reproduction processes vary across groups. After controlling for parental background, the advantage in access to service class positions for Indians, becomes higher than that for Caribbean's belonging to a service class family, provides them no advantage, confirming the findings from Platt (2005).⁶

An earlier study by Heath and McMahon (2005), focused on mobility patterns among ethnic minorities, finding substantial intergenerational persistence among the more privileged groups. At the same time they find substantial upward mobility for the working class as a result of what they call "increasing room at the top". Using the General Household Survey (GHS) for the years 1985-1992 and using an adapted version of the HGS, they find that, first generation, (born in the years between 1940 and 1959) minority groups experienced substantial disadvantages in the labour market compared to the non-immigrant white British from similar class origins. The second generation (born in 1960-69) ethnic minorities tended to have higher rates of upward mobility than the non-immigrant white British.⁷ Finally, they showed that ethnicity provided a substantial improvement in the fit of the model, suggesting significant differences between ethnic

⁵ The CASMIN (Comparative Study of Social Mobility in Industrial Nations) educational classification is compared with the HGS and EGP in Bergman and Joye (2001).

⁶ The HGS definition for service class includes professionals, administrators and managers; higher-grade technicians; supervisors or non-manual workers. A service-class family is any household with at least one of the parents belonging to a service class occupation (Bergman and Joye (2001))

⁷ The authors grouped the respondent and his father to form the following classes: *Higher salariat, Lower salariat, Routine non-manual, Petty bourgeoisie, Farmers and farm managers, Skilled manual, Less-skilled and Farm workers*.

groups in their chances of reaching service class positions. However, when including the interaction between class origin and ethnicity, there are no significant gains in the explanatory power of the model, suggesting that class of origin has the same strength of association with access to service class among the ethnic minorities as they do among the white British.

The overall consensus within the mobility literature in the UK suggests that father-son intergenerational elasticity is between 0.24 and 0.44. The equivalent figures seem to be larger in the US and smaller in other industrialised European countries. Rates of social mobility in the UK then tend to be between US and European levels. The studies that have analysed the mobility of ethnic minorities conclude that mobility tends to be higher for ethnic minorities and that labour market mobility has increased over time for ethnic minorities in the UK. The higher mobility of ethnic minorities could be beneficial or detrimental depending upon the socioeconomic status of origin.⁸ The higher intergenerational observed for native whites suggests that given the initial advantageous background of the native white, transmission of privilege is stronger among this group, despite the eventual convergence to the mean.⁹

⁸ Most migrants to the UK tend to be among those in the higher ranks of social stratification in their countries of origin, consequently, this larger elasticity may not be particularly beneficial.

⁹ Given that β is less than one, we will expect eventual convergence to the mean.

3. Data and Measurement Issues

3.1 Data and research design

We use data provided by the Understanding Society Survey (UsoC). This dataset is a panel of approximately 40,000 households in England, Scotland, Wales and Northern Ireland. The USoC Survey is an extension to the British Household Panel (BHPS). The BHPS lasted 18 waves, from 1991 until 2008. In 2009, the UsoC began its first wave, though there is a discontinuity with the collection of the BHPS sample only starting again in wave 2.¹⁰ Therefore the UsoC includes a larger number of households including those originally present in the BHPS. Household members aged 16 years or older are interviewed, with those aged 10 to 15 years old also completing a short self-completion questionnaire. Our analysis focuses on men.¹¹

The UsoC has sufficient numbers of ethnic group members identified via a self-reported ethnicity question. In particular, ethnicity was created using self-reported ethnicity in wave one.¹² We classified as “white” every respondent who reported to be from a British origin, which accounted for around 70% of respondents. We also included in the “white” category the Irish, and those from “Any other White background”. Conversely, we created the “ethnic” group which included Caribbeans, Africans, Indians, Pakistanis, Bangladeshis, Chinese, Arabs, “Any other Blacks” and “Any other Asians”.

Defining the working class is not easy. Is it based on occupation, income or individuals own self-assessment? Traditionally labeled “working class” occupations including routine and semi-routine work have become less important and have decreased to a fraction of their original level, partly due to the reduction of British manufacturing industry (Evans and Mellon (2016)).¹³ Indeed, only a quarter of British people work in routine or manual occupations. Nevertheless, almost 60% of the British population identify themselves as working class (Heath, Savage, and Senior (2013)), and this percentage has remained relatively stable for more than 30 years.¹⁴ This perhaps indicates what might be labeled as “the working class of the mind” whereby traditional occupational classifications do not

¹⁰ The BHPS sample is 13,079 of a total sample of 71,131 individuals identified across all waves, approximately 18%.

¹¹ There are several reasons for this. First, the discussions surrounding the underachievement of the white working class group focuses on males and says little or nothing about females, also, academic underachievement is notorious for white working class boys but not for girls. Second, due to assortative mating, it is possible to make the claim that some women adopt to some extent the socioeconomic status of their husbands and that their parental socioeconomic status might be less determinant than for males. Finally, given family roles and lower labour market participation, means we have less information on females social and economic status.

¹² We chose self-reported ethnicity in wave one due to the higher response rate to this question in this wave. Every other wave had a vast majority of the respondents absent given that they had already reported in wave 1

¹³ See Figure 2

¹⁴ The British Election Study (BES) reported that around 60% of the respondents identified themselves as working class between 1983 and 1997.

match with individuals own self assessments of where they stand in social and economic space. The majority of Britons identify as working class even if they have stereotypically middle-class jobs. Moreover, parental socioeconomic background has been shown to be an important determinant of class self-identity (Evans and Mellon (2016)).

We use income to delineate between the working class and the non-working class. Given that 57% of UK adults described themselves as “working class” (Gillborn (2009)), we decided to set the working class threshold at the median income of the sample using the monthly average net income per individual for the five available waves in the data. We use the median given that it is a good measure of center for the right skewed income distribution in the UK and it is fairly close to the self-reported 57%.¹⁵ The threshold was set at £1,131.¹⁶ Given this discussion, we end up with four groups and they are white working class boys (WWC), ethnic working class boys (EWC), white non-working class boys (WNWC) and ethnic non-working class boys (ENWC). The numbers in each are 5,637, 1,803, 9,993 and 2,267.

3.2 Model and measurement issues

We use the standard IGE model as represented in equation (1). Our main hypothesis is that white working class boys exhibit higher estimates of intergenerational income elasticity, which restricts their intergenerational economic mobility due to their parents socioeconomic and educational characteristics.¹⁷:

$$H_0 = \beta_{wvc} = \bar{\beta} \quad (3)$$

$$H_A = \beta_{wvc} > \bar{\beta} \quad (4)$$

This amounts to a comparison of the IGM estimate for the white working class boys (β_{wvc}) compared to that of the entire male population, ($\bar{\beta}$, the mean estimate). As noted earlier, previous research points to an average IGE across various studies in the UK of between 0.24 to 0.44.

¹⁵ We have also included two robustness checks. One using the mean of the income distribution as the working class threshold and the second one using the 57th percentile as the working class threshold.

¹⁶ A comparable figure in US dollars for the period 2009 – 2015 using an average exchange rate for the 7-year window is 1,75.

¹⁷ Consider a high coefficient of IGE for the white working class group. This would imply that their income variation is strongly explained by their parental background characteristics with the relatively lower income and educational attainment of this group imposing an anchor on the socioeconomic mobility of their children. Importantly, we are not entirely clear about the transmission mechanisms that may be at work here. We explore one possible explanation, the link between aspirations and achievement through educational achievement in latter research.

Our secondary hypothesis is that white working class boys exhibit larger estimates of intergenerational mobility than that of the other ethnic minorities within the low class cluster (i.e. ethnic working class boys):

$$H_0 = \beta_{wwc} = \beta_{ewc} \quad (5)$$

$$H_A = \beta_{wwc} > \beta_{ewc} \quad (6)$$

In line with most studies in the literature we do not have access to lifetime income for neither the respondent nor the father.¹⁸ As stated earlier we deal with this problem by using the Hope-Goldthorpe (HGS) score for occupational classifications. The UsoC has complete information on the HGS for every persons' parents in the survey, when the person was 14 years-old.

In particular, every respondent provides the details of their occupation, which is then used to assign a HGS score (Hope and Goldthorpe (1974)). The categories considered include Semi-routine, routine and never worked = I; Lower supervisory and technical = II; Small employers and own account = III; Intermediate = IV; Management and Professional = V. We kept the average score for each respondent for the five waves, that is, the score corresponding to the average of the occupational score reported by each individual, during the five waves. Also, each respondent is asked about their parent's occupation when they were fourteen years old. This allows for the possibility of a very large sample of paired data, where most respondents in the UsoC provide their own occupation (and consequently a HGS score) and the occupation of their parents, when they (the respondents) were fourteen years old.

Previous studies have used this schema for a similar purpose (see Table 1). There are several benefits in using the HGS. First, we have observations of the HGS for almost the entire sample, second, the HGS is highly correlated with earnings (Brown (1977); Nickell (1982)) and finally, the position of individuals in the occupational hierarchy is relatively stable over time. Ermisch and Francesconi (2002) reported a correlation between gross monthly earnings and the HG index with BHPS data of 0.70 for men. In an older study Brown (1977) report a strong relationship between the log of hourly earnings by occupation and the HGS. We report a correlation between log average net income for the five available waves of UsoC data and the HGS of 41.8% for men in our sample.

Given this we can rework equation (1) as:

$$\overline{\ln Rhgs}_i = \beta_0 + \beta_1 \ln Phgs_i + \beta_2 R_{it} + \varepsilon_i \quad (7)$$

where, $\overline{\ln Rhgs}_i$ is the respondent's 5-year average HGS score and $\ln Phgs_i$ is the parental HGS score (one observation per individual) and R_{it} is a vector of child characteristics.

¹⁸ Assuming that one generation lives approximately 33 years (which seems to be the consensus in the literature), we would need data on individuals for a minimum of 66 consecutive years.

There are three main issues that we must consider when estimating β_1 . First, there is only one HGS score per parent and as shown by Solon (1992) and Zimmerman (1992) this could produce a downward bias in the intergenerational elasticity estimate due to transitory fluctuation around the true parental long-run status due to measurement error. Second, each respondent is asked about their parent's occupation when they were fourteen years old and this may be subject to recall error. Plausibly, the older the respondent the higher the expected recall error. Third, when the overall social structure changes and some occupations shift in terms of status (Atkinson (1980)).¹⁹

The first two problems are directly addressed by the strategy of using the repeated observations of the HGS score of respondents, while the third issue is accounted by the HGS schema structure itself. Large shifts in the occupational structure could bias our estimates, both ways. In particular, the usage of median income as the threshold for the working/non-working class division instead of occupation should help address this issue in part. In addition, because the position of individuals in the occupational hierarchy is relatively stable over time, the HGS is likely to be an adequate measure of people's permanent socioeconomic status (Nickell (1982); Ermisch, Francesconi, and Siedler (2005)). In particular, we estimate the HGS score of the father using information on the child and then recover the original coefficient $\hat{\beta}_1$.

$$\ln Phgs_i = \alpha_0 + \hat{\gamma}_1 \overline{\ln Rhgs_i} + \mu_i \quad (8)$$

We can recover β_1 by estimating equation 8 and computing:

$$\hat{\gamma}_1 \frac{\tilde{\sigma}_y^2}{\tilde{\sigma}_x^2} = \hat{\beta}_1 \quad (9)$$

where, $\hat{\gamma}_1$ is the estimated coefficient from equation 8, $\tilde{\sigma}_y^2$ and $\tilde{\sigma}_x^2$ are the corresponding sample variances for respondent and parental socioeconomic status, respectively.²⁰ $\hat{\beta}_1$ is the recovered intergenerational elasticity estimate. Hence, we end up estimating:

$$\ln Phgs_i = \alpha + \hat{\gamma} \overline{\ln Rhgs_i} + \varphi R_{it} + \mu_i \quad (10)$$

where R is a vector of child characteristics. The vector of additional child characteristics includes, gender, age, age squared, ethnicity, educational achievement, region of residence, marital status, native language and religious affiliation. This methodology is adapted from Ermisch and Francesconi (2002).

The issues raised here (downward bias due to one HGS per parent, recall bias and shift of the occupational structure) rely mainly on $Phgs_i$ which is now the response variable. This switch allows us to access repeated observations on respondent status and our new observed explanatory variable will be theoretically closer to the true respondents' lifetime income coefficient. Also, since it is the respondents' status which now occupies the explanatory role, the "recall bias" is eliminated since the respondent reports his own

¹⁹ Other sources of bias include where respondents may falsify their answers for all sort of different reasons, including shame about their origins.

²⁰ If the population variances in socioeconomic status (σ_y^2 and σ_x^2 .) for respondents and their parents are the same, then $\beta = \gamma$

status.

Now we need to deal with the possible sources of bias for our new explanatory variable, $\overline{\ln Rhgs}_{it}$.²¹ The new estimator, $\hat{\gamma}_1$ is a more efficient estimator than $\hat{\beta}_1$ since it uses more information. However, we still need to reduce the error-in-variables bias embedded in the measurement of child status itself. Ideally, we would have the child's lifetime income, but since we only have a period-specific proxy, we should aim to reduce the difference between the true estimate γ and our measurement $\hat{\gamma}$. For this purpose we propose the use of two different strategies for measuring the respondents socioeconomic status.

The first approach requires an average of the available data points for the respondents' HGS. As this information is not always available for each respondent for all five years we can either take the average of the data points available or focus only on those for whom we have complete information across all five years. The former we term the "complete sample" and includes any available data point at any round.

As most respondents provided information on their fathers' HGS, then even one data point on the child HGS will suffice to generate one paired observation. The main benefit here is the large sample size, where every respondent, even those who were only present in one round were considered as part of the sample. The main problem is that we may end up with a downward biased estimate of $\hat{\beta}_1$.

Zimmerman (1992), Solon (1992) and Solon (1999) show that if the short-run proxy for son's socioeconomic status is given y_{1it} :

$$y_{1it} = y_{1i} + v_{it} \quad (11)$$

Where, y_{1i} represents the long-run (permanent) socioeconomic status for an individual in family i and v_{it} is a transitory fluctuation around long-run status, due to transitory movement and random measurement error. Then:

$$plim \hat{\beta} = \beta \frac{\sigma_y^2}{(\sigma_y^2 + \sigma_{v_0}^2)} < \beta \quad (12)$$

Where $\sigma_{v_0}^2$, represents the variance due to measurement error. Hence the coefficient we estimate using short-run proxies to both father's and son's socioeconomic status introduces a transitory fluctuation around the long-run status of both and we obtain a downward biased coefficient.²²

Alternatively, we consider only those who were present in all five rounds (we can call this the "restricted sample"). Here we obtain a more precise estimate of $\hat{\gamma}$, since averaging over five years should reduce the magnitude of the inconsistency because both

²¹ Notice that $\overline{\ln Rhgs}_{it}$ conveniently provides repeated observations of the respondents' own socioeconomic status, which help us address the first two concerns previously mentioned (downward bias and recall bias).

²² For a detailed explanation of the direction of bias due to measurement error, see Solon (1992).

the measurement error and transitory fluctuations in y_{1it} are averaged away. However, the downside is that our sample size reduces twofold.²³ We will present estimates for both approaches.

It needs to be noted that it is possible for our proposed strategy to produce downward biased estimates due to error-in-variables bias and data length limitations. For this reason, we will use our entire sample to set the average elasticity and then compare that result with the elasticities of each of the socioeconomic groups. As long as the bias is consistent, comparisons across groups should be reliable.

The second approach to reduce the error-in-variables bias is to estimate the permanent socioeconomic status of the respondent using a fixed effects prediction equation of child HGS:

$$Y_{it} = \delta Z_{it} + \alpha_i + \nu_{it} \quad (13)$$

$$\hat{\alpha} = \bar{Y} - \hat{\delta} \bar{Z} \quad (14)$$

where, Z_{it} is a vector of time-varying child characteristics that are assumed to influence child social status, α_i is the child-specific fixed effect and ν_{it} is a transitory white noise. Ideally, we would be able to use z-variables that are arguably exogenous to the child social status, i.e., age. We expect this strategy to produce better (lower variance) estimates. Despite the apparent benefits of this strategy, the calculation depends on the extent of the within-group variation over time and as we only have five waves, the fixed effects strategy fails to capture any variation at all. This is due to the type of transformation that is required when using the fixed effects estimator, which cancels out all the non-time varying variables in the model.²⁴

3.3 Sample characteristics

In Tables 2 and 3 (Appendix) we present a summary of the main variables by each group of analysis. Table 2 reveals noticeable differences in age across groups, where both white groups are closer to their fifties and ethnic groups are younger at under forty. In addition and unlike the age profiles, the differences in income reflect the class disparity we introduced when making the distinction between working class and non-working class and

²³ The sample size when we include any males present in at least one wave is 10,879, while when we restrict the sample to those present in all five waves it is 5,508

²⁴ Consider the fixed effects within transformation:

$$y_{it} - \bar{y}_i = (x_{it} - \bar{x}_i)' \beta + (\varepsilon_{it} - \bar{\varepsilon}_i) \quad (15)$$

When comparing x_{it} with \bar{x}_i (the components of the vector Z_{it}) the figures are almost identical since every person has only 5 periods of data and most (x 's) do not change in that time (e.g. gender, ethnicity) so when subtracting $x_{it} - \bar{x}_i$ we will obtain 0. In consequence, we fail to use the fully extent of the panel structure and the fixed effects strategy fails.

this holds at all educational levels (See Table 3, column 3, for the income breakdown by educational level.). As expected, both white groups display a higher income than their ethnic counterparts.

The average educational attainment is higher for the non-working class groups. The white working class group (column 1, Table 1) has the lowest educational attainment among all groups. Examining the differences in average parental and respondents' HGS, we observe upward social mobility for every group except the ethnic working class. The sample is heavily concentrated in England. As one would expect more than 90% of both white groups identified themselves as native English speakers, compared to less than 50% for both ethnic groups. Religious affiliation seems to be much more prominent among the ethnic groups, while marriage is higher among non working class groups.

In Table 3 we group the sample by educational levels, and we find that the white working class boys dominate the ethnic working class in terms of mean income (column 3), at every educational level, but the differences shorten quite considerably when both individuals hold a degree (panel B). Something similar happens with the non-working class groups where the white group dominates the ethnic group's mean income at every educational level, except in "Others" (panel E). The difference between both groups remains somewhat stable across educational levels.

Social mobility also seems to differ across different education levels. One thing is clear and that is that white non-working class boys (on average) are immune to any downward mobility irrespective of education.²⁵ At the degree level, three out of the four groups achieve upwards social mobility, the exception being ethnic working class boys. Both working class groups with A-levels (Panel C) are likely to display downward social mobility while the non-working class groups experience upward mobility. For those with lower GCSE level qualifications (Panel D), every group except the white non-working class experience downwards mobility. Having other qualifications (Panel E) is associated with upward mobility but only for the two white groups.

It is difficult to draw conclusions about mobility by simply examining the descriptive statistics. Nevertheless, some regularities are evident. Whilst there is overall upward social mobility this seems to be strongest for non-working class whites with ethnic working class boys more likely to experience downward social mobility.

²⁵ We analyse social mobility by comparing the mean parental HGS (column 4) and the mean respondent HGS (column 5) in Table 3.

4. Results

Here we present our empirical results. First, we provide an overview of educational attainment and income across our four groups. Second, and in the spirit of Heath (1981), we present a set of mobility matrices to explore absolute social mobility, social mobility across groups and indexes of association. Finally, given our discussion in Section 3, we provide estimates of intergenerational mobility for our four groups of interest.

4.0.1 Educational Achievement

White working class boys are the lowest performing group in terms of educational attainment. In particular, they are less likely to possess a degree qualification and are more likely to have no qualifications (Table 4). In terms of the three intermediate qualifications (A-level, GCSE and Other), the white working class do better, although the differences across the four groups are relatively small.

A key question here is, what seems to be driving these differences? Is it class or ethnicity? In Table 5, we attempt to disentangle the importance of each effect, by comparing the absolute differences in educational attainment by class (columns 1 and 2) against the absolute differences by ethnicity (columns 3 and 4). Here we observe that in terms of degree attainment the differences are mainly driven by class (column 5). 41.8% of white non-working class boys reported holding a degree while only 17.6% of the white working class boys did. The percentage point difference then in degree attainment between the white groups due to class is 24.2 (column 1). We do the same exercise for both ethnic groups. Here 53.8% of ethnic non-working class boys have a degree while only 36.6% of the ethnic working class did, which gives us a difference of 17.2 (column 2). In total, the absolute differences due to class, amount to 41.4%, which is the sum of 24.2% and 17.2%. The corresponding figure due to ethnicity (for degree) is 31.0%.²⁶ Differences in class then seem to be driving the overall differences in degree attainment. For each of the other educational levels, what seems to matter more is ethnicity, though the differences here are relatively small, when compared to degree level qualifications.

4.0.2 Income

In Figure 1, we examine the differences in income between socioeconomic groups across different age cohorts. Income was captured using the total monthly net personal income with no deductions.²⁷ In general, the differences are in line with our prior expectations. The non-working class earns around 207% more on average than the working class. Within each class group the whites outperform non-whites and this is also evident across most age groups.

One interesting finding here is that despite the lower degree attainment of white working class boys they do outperform the ethnic working class in terms of income (by 12% on

²⁶ Notice that although the differences are negative for ethnic in the ethnic degree attainment, we are using absolute values, so the direction of the effect does not affect the overall calculation of the variation.

²⁷ This is calculated using the `fimnet` dv variable. In particular, we generated a variable that captured the mean of total monthly net personal income (with no deductions) for all the available observations per individual ($max = 5$) and kept all positive values.

average) and also outperform them in every age bracket, except the “33 to 50” age bracket, where both groups have similar income. In addition, the largest difference is evident for the oldest cohort (aged “65 or more” where the white working class outperform the ethnic working class by 13%. This points to a white working class paradox whereby despite their inferior educational performance they do outperform their low social class peers of different ethnicity in terms of labour market outcomes.

4.1 Mobility Matrices

4.1.1 Absolute Mobility

In Table 6 we introduce a mobility matrix for father and son. This matrix shows provides an “outflow analysis”, where we analyse the socioeconomic destination of respondents, considering their parental occupational background as the benchmark (Heath (1981)).²⁸ Here we consider respondents in any of the rounds as long as they had a corresponding value for parental HGS. The table considers the five HGS categories included directly in the UsoC, where we have re-coded the categories in ascending order, from I to V.²⁹

In the first column we have parental occupation (father) and in the first row respondents’ occupation (child). Total intergenerational persistence (those who remain at the same socioeconomic status as their parents) stands at around 27% for the entire male sample. This figures is the result of the summation of the main diagonal of the matrix in Table 6, divided by the summation of the entire matrix. This is an interesting result, since it is in line with previous UK based studies albeit they estimate intergenerational elasticities. Focusing on the main diagonal, we find higher rates of persistence amongst the lowest and the highest occupational groups (I at 28.5% and V at 60%).

We also find total upward and downward mobility figures of 46.1% and 26.9%, respectively. We calculate total upward mobility by adding up the relative row percentages in the upper-right triangle (above the diagonal) of the matrix and dividing that value by the summation of the entire matrix. When we restrict our account of mobility by a “distance” criteria and only consider as upward/downward mobility where individuals moved more than one category up or down, we find that long-distance upward mobility is 28.54% and long-distance downward mobility is 16.7%, considerably lower than before.

When comparing generations we find that the overall distribution of occupations have shifted (comparing the parental generation to the respondents’ generation) such that now the share in the highest ranking occupations (IV and V) is larger (Figure 2). This is in line with previous studies about Britain where the trend seems to depict increasing room at the top (Heath (1981); Ermisch and Francesconi (2002)).

²⁸ Percentages are calculated across rows providing the destination of men from given origins.

²⁹ Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V. We kept the maximum score for each respondent over the five waves (the score corresponding to the highest occupation reported by each individual).

4.1.2 Mobility by ethnicity and class

Here we present mobility matrices for our four groups of analysis. Here we want to ascertain whether there are differences across the groups and what roles does class play vis-a-vis ethnicity. Again we focus exclusively on men.

First we present a mobility matrix for white working class boys (Table 7). The mobility matrix seems to be very similar to that which is observed for males in general. For example, the overall persistence adds up to 26.1% which is just below the 26.9% for the entire male group. The overall U-shaped structure still holds. However, persistence for the semi-routine/routine group (I) is higher than that of the Management and Professional group (V) while this was the opposite for the entire male sample. White working class boys also have lower than average upward mobility 30.0% versus 46% and higher downward mobility (44%) than the average male (27%). This holds even when we account for the “distance” adjustment.³⁰

The results for white non-working class boys are different (Table 8). First, they display higher overall persistence (28%) and this is considerably higher at the top-end of the occupational distribution. Second, they have higher upward mobility at 52.5% which is much higher than that for males in general (46.1%) and white working class boys (30%). Third, their downward mobility of 20.0% is also much smaller than that for the average male (27.0%) and white working class boys (44%). Fourth, across each occupational level there is upward mobility. In contrast, for white working class boys there is downward mobility for each occupational group. We could argue that for the white non-working class boys almost every road leads to the top.

When we conduct the same analysis for the two ethnic groups (Tables 9 and 10) we again find evidence that class rather than ethnicity seems to be the key. First, ethnic working class boys show a persistence of 21.8% (the lowest amongst all groups) implying greater social mobility. Second, they present an upward mobility of 31.6% slightly above that of the white working class boys (30.0%), but 14.5 percentage points below the average male (46%). Third, their downward mobility of 46.6% is the largest among all groups. Fourth, the top three occupational classes are dominated by downward mobility (greater social mobility is not that helpful).

For the non-working class ethnic group the results are more heartening. First, they show a persistence of 25% above the ethnic working class (22%) but below both white groups. Second, their overall upward mobility is the second highest after the white non-working class (52%). Third, their downward mobility is at 23%, which is the second smallest after the white non-working class. Fourth, for this all group, all occupational groups show upward mobility.

In Tables 12 and 13 we present a summary of mobility for all the groups of interest. The overall picture seem to indicate that class differences play a dominant role. Even when we account for the long-distance mobility (Table 13), we find that the non-working class groups (columns 6 & 7) have much larger long-distance upward mobility than the working-class groups (columns 4 & 5). The opposite is true for long-distance downward mobility.

³⁰ When adjusting by distance, we find that the white working class boys have a long-distance upward mobility of 17% vs 28.5% for the entire male group. Downward mobility for the same group is 28.5%, compared to 17% for males as a whole.

So whilst we find increasing room at the top of the socioeconomic distribution this room seems to be a better fit for those who came from a non-working class background. As for the tussle between those at the lower end of the distribution, it seems to be the case, that the ethnic working class have the highest downward mobility and the white working class have the lowest upward mobility, although differences are nowhere near the difference between the working-class and the non-working class.

4.1.3 Index of Association

Another approach to determine persistence across generations is to calculate an index of association. This approach was developed by Heath (1981) and is useful when the researcher wants to control for the size of each sub-population. Consider Table 14 where fathers and respondents are heavily skewed towards two occupations, namely semi-routine (I) and management and professional (V). The probability of landing in any of these two groups is larger than that of landing on any other group and in order to determine if any one group shows economic persistence or mobility, this unequal weighting of the destination categories needs to be accounted for. The index of association is an attempt to do that.

The index compares the actual numbers in each cell against those if there was perfect mobility (if there was no relationship between parental HGS with that of the respondent). Table 15 is how Table 14 would look if there was perfect mobility. By comparing the tables we can calculate the index of association, which is basically the ratio between the values for each cell.³¹

It is evident from Table 16 that the overall picture of mobility changes when we account for the relative size of each group. Notably, there are many cells that resemble perfect mobility (values close to one). This is quite a different picture from what we saw with the initial mobility matrix where persistence was higher at the top and the bottom of the distribution.³² Downward mobility is certainly below average for those whose father belongs to the highest occupational class. The figures 0.68 and 0.67 (in columns 1 & 2) highlight how unlikely it is for those whose father belonged to the highest class to drop three or more classes down the socioeconomic ladder. If there was perfect mobility this figure would be closer to 1. Also those who belong to the intermediate (III) occupational group have the highest persistence when compared to those in the other occupational groupings.

Table 17 repeats the same exercise for males alone. Here we find many similarities with the index of association for father and respondents. Again we find results much larger than one in the main diagonal indicative of higher persistence between son and father and

³¹ We divide a_{11}^{m1}/a_{11}^{m2} and obtain the result in a_{11}^{m3} . The superscript m1, refers to the matrix represented in table 14, m2, to table 15 and m3 to 16.

³² A result of 1 in the index of association implies perfect mobility (the value observed against the value expected under a perfect mobility scenario). Results below 1 indicate that the social mobility of the group is below that of perfect mobility. Likewise, results above 1 represent a likelihood of mobility which is above the figure calculated in the perfect mobility case. In all cases, the main benefit of this comparison is to observe how mobility changes when we account for the relative size of the groups, using perfect mobility matrices.

as before upward mobility is more likely than downward mobility. In table 17 the ratio of upwards to downwards mobility is 1.14; upward mobility is 14% higher than downward mobility for men in general ³³

Table 18 focuses only on white working class boys and here the ratio of upward versus downward mobility is much lower at nearly 0% (0.2%). They are considerably less upwardly mobile than males in general. The relative disadvantage of white working class boys is more evident when we compare them to white non-working class boys (Table 19). Here we have a ratio of upward to downward mobility of 19.8% and for ethnic non-working class boys (Table 21) the equivalent figure is 24.7%. Even ethnic working class boys (Table 20) have a higher ratio of upward to downward mobility of 7.9%. ³⁴

4.2 Regression analysis

We now present our estimates of intergenerational mobility across our four socio-ethnic groups. Our main specification follows the discussion in section 3. In particular, we use the model in equation 10, where the dependent variable is the natural logarithm of parental socioeconomic status (captured using the HGS) and the main explanatory variable is the natural logarithm of the respondents' socioeconomic status. Estimates are produced using two samples. First, the complete sample, where respondents provide information on their HGS on any of the five years and we take the highest. We expect this estimate to be the lower threshold coefficient, considering the probable downward bias due to transitory fluctuations in the socioeconomic status of the respondents. The second set of results considers the restricted sample, which is a sample that includes only those who provided HGS scores in all five years (we take the average). We expect these estimates to be on average higher than the complete sample estimates, since we are averaging away transitory fluctuations in the socioeconomic status of the respondent, which should provide a more reliable approximation of lifetime income.

We also introduce three additional considerations. First, we evaluate the elasticity estimates within households comparing elasticities for vectors of siblings. If we expect household conditions to be a strong determinant of child socioeconomic status, we would expect to find non-significant differences across siblings who belong to the same household. Second, we explore elasticity estimates across different age cohorts, possibly highlighting the dynamics of intergenerational mobility in Britain. Finally, we do a series of robustness checks which include changes in the working class threshold, the exclusion of those still in full-time education or excluding respondents who are older than the age of twenty.

4.2.1 Complete sample (CS)

The main regression results for the complete sample are reported in Table 22. We find an overall elasticity for the entire sample (male respondents only) of 12.0% (column 1). This

³³ We add up the upper triangle of the matrix and divide it by the summation of the lower triangle. If the figure is more than one, then upward mobility is higher than downward mobility. If the figure is less than one the opposite is true.

³⁴ It is also interesting to note that the particularly low figures in the bottom left corner of Table 19, implying a low probability of downward movement for the white non-working class boys.

estimate is below the range of equivalent estimates for the UK of between 24% to 44% for men. Our lower estimate is expected given that we have considered every respondent with at least one paired data point but it could also reflect improved social mobility in the UK in more recent years given that previous estimates focus on the 1990's and early 2000's. We believe that our estimates are probably a reflection of both effects.

We also find an elasticity estimate of 9.9% (column 2) for white working class boys and we can confirm that the difference between the average male elasticity and this group-specific elasticity is non-significant at the 5 percent significance level. So we fail to reject the null hypothesis of equality between the average elasticity and the elasticity for white working class boys.³⁵ Our secondary hypothesis compares the elasticity of both working-class groups (white versus ethnic) and here we find a significantly higher elasticity for white working class boys (9.9%) relative to ethnic working class boys (-3.3%) (column 3). We are able to reject the null hypothesis at 5 percent significance level.³⁶ The negative coefficient for ethnic working class boys requires comment. It may be a reflection of the selection method used for the complete sample and the smaller sample size for this socioeconomic group. When using the complete sample we allow for higher transitory fluctuations in socioeconomic status. Unsurprisingly the group with the largest elasticity are white non-working class boys. For them this represents a desirable intergenerational position as it implies they are preserving their higher parental socioeconomic status. For white working class boys a high intergenerational elasticity would represent the opposite, a lock-in into poorer outcomes. We also find that both working class groups, present lower elasticities than those of the non-working class groups, irrespective of their ethnicity.

The control variables behave as expected. Higher qualifications are associated with higher socioeconomic status irrespective of the group.³⁷ However, both non-working class groups benefit the most from degree and A-level qualifications. Conversely, at the lowest educational levels (GCSE & other) it is the white working class group that display the highest coefficients. It is not as profitable for the white working class to pursue degree level qualifications relative to the other groups. The group that benefits the least from any educational level are the ethnic working working class.

4.2.2 Restricted sample (RS)

The results for the restricted sample (those providing information on the HGS in all five rounds) are given in Table 23. These results are consistent with the results in Table 22 though the estimates are generally larger, which fits with our prior expectations.

In addition, the very low and even negative elasticity estimates obtained with the complete sample for both ethnic groups are now positive albeit low in value. In fact, we find that the white groups shows a consistently higher elasticity when compared to the ethnic groups, but the class effect (working class versus non-working class) does not seem to be particularly evident relevant. In fact, ethnic working class boys have an intergenerational elasticity of 3.0%, with the equivalent estimate for ethnic non-working class boys stands at 4.5%, while both white groups present coefficients close to 12%.

³⁵ We found a Chi-sq(1)= 0.48 and Prob > Chi-sq = 0.4884

³⁶ We found a Chi-sq(1)= 10.18 and Prob > Chi-sq = 0.0014

³⁷ The reference group for the educational dummies (excluded) is "no qualifications".

The educational qualifications coefficients seem to behave in a similar fashion as those from the complete sample, but with some minor differences. First, the white working class boys present the lowest degree coefficient while the non-working class groups maintain the highest degree qualification coefficients. The lower returns for white working class boys with respect to degree level education still hold here. Second, it is now the ethnic working class boys that show the highest coefficients for A-level qualifications. Despite these differences, the overall results seem consistent with the complete sample case where higher qualifications are indicative of higher socioeconomic status for all groups and middle level qualifications (GCSE) are only significant for the white non-working class group.

4.2.3 Within household analysis (Siblings comparison)

Here we analyse the within household differences (Table 24). The argument here is that parental background and household characteristics are a strong determinant of respondents socioeconomic status. If this is the case, we would expect that when comparing intergenerational estimates for groups of siblings that belong to the same households, the estimates for both groups should not be statistically different from each other.

In our dataset there are 4,511 households with at least two siblings, from which we run two sets of regressions: for the complete and restricted samples. After applying sample constraints and keeping only the pairs of siblings that had complete information on every variable in the regression specification we obtained 1,019 pairs of siblings in the complete sample. Similar reasoning applies to the restricted sample where we have 600 pairs present in all rounds and with complete information for every variable. We ordered the data so that the first vector of siblings (*SIB1*) captures the youngest siblings while the second vector of siblings (*SIB2*) includes only the oldest sibling of the pair. This is particularly important considering that income constraints might reduce investments in younger children so that parental background might be less critical for those born later.

In Table 24, we find that in both samples the youngest siblings exhibit higher coefficients than the older ones and the coefficients are significant for three of our four groups. Despite these differences, we conducted seemingly unrelated regressions and run a chi test for the difference in the coefficients, and failed to reject the null hypothesis of equality in the elasticity coefficients between groups.³⁸ In other words, we failed to find statistically significant evidence of differences in the average intergenerational elasticity coefficients between the two groups of siblings. The educational controls shows similar results for both vectors of siblings, which is in line with the assumption of strong household effects.

These results are in line with our prior expectations regarding the relevance of household characteristics and parental background and in a sense this works as a robustness check for the methodology used in this paper, which relies to an extent on the idea that there is a relevant household fixed effect that is transmitted from one generation to the next.

³⁸ We obtained a $\chi^2_1 = 0.06$ and a $P - value = 0.8005$ for the comparison of estimates in the complete sample. The equivalent test for the restricted sample version produced a $\chi^2_1 = 0.04$ and a $P - value = 0.8355$

4.2.4 Cohort analysis (by age)

Here we present our estimates by different age cohorts and so ascertain whether intergenerational mobility has changed over time.³⁹ There are some important caveats here in that our estimates do not reflect the evolution of one group over time, hence it is not possible to isolate the effects of changes in the environment over time from changes driven by the group-specific characteristics. Furthermore, the overall differences could include an effect due to differences in the extent of “recall bias”; a bias that increases with age and seems to be linked with the deteriorating memory of past events as one grows older. On the other hand, those who are older (via more life experience) may have a better understanding of their parents occupation.

In Table 25, we find that the only coefficient that is statistically different from the others at a five percent significance level is the elasticity for the oldest cohort (those aged 65 years or older). This elasticity is twice as large as that of any other age group. We run a seemingly unrelated regression and the corresponding Chi test for the difference in coefficients and found that the coefficient of the oldest group was statistically significantly different from every other groups coefficient. We executed six different pairs of comparisons and the only three pairs that presented a large Chi-scores involved the oldest group. The null hypothesis for each of these tests is that the difference between each pair of coefficients tested is equal to zero. Consequently, we were able to reject the null hypothesis only for comparisons against the oldest cohort.

It is difficult to tell if this difference is a response to age, exclusively, or to other age related variables such as recall ability. We believe that these results could also be indicative of increased mobility over time. If that is the case, then these results could highlight some specific change in particular group characteristics between the oldest British cohort (65+) and the rest of the population. If this effect is real, we should expect to see this coefficient converging towards 10%, like all the other groups over the upcoming generations⁴⁰.

Interestingly the educational dummies, convey a lower explanatory power for the oldest cohort at almost every educational level. Conversely, the 33 to 49 group presents the highest coefficients for each educational level.

4.2.5 Additional robustness checks

We run a set of robustness checks to assess the validity of our estimates. In the first set we introduce two additional working class thresholds, one at the mean of the income distribution and one at the 57th percentile which matches the self-reported working class threshold Gillborn (2009) The selection of the working class threshold is crucial since it will determine the composition of the main groups of analysis. In our initial analysis we used the median income.

Panels A, B and C of Table 26 include the estimates for the median, mean and 57th percentile respectively. The reported results seem to be consistent with a small variation

³⁹ We divided the sample into four evenly distributed age clusters: 16 to 32, 33 to 49, 50 to 65 and 65 plus. The 65 plus cut was resembles the standard retirement age in the UK

⁴⁰ We consider each generation to approximately change every 33 years, which is the current “age at first child” for women in the UK

across panels. The white working class, regardless of the particular working class threshold, show an elasticity between 9.9% and 11.5%, while the white non-working class have higher elasticities across the three panels 13.7, 11.7 and 12.7. The elasticities for the ethnic groups are remarkably stable across the first three panels. They stand at between -3.3% and -4% for the ethnic working class and between 0.9% and 1.8% for the ethnic non-working class.

The second set of robustness checks reported in Table 26 corresponds to changes in the sample selection criteria. Originally we included every respondent 16 or older. However, some of these respondents might still be in full-time education. We then use three other approaches. First, we excluded every respondent younger than 20 years old so that most of the respondents had some work experience. Second, we excluded those in full-time education or who had never worked. This we can do as Usoc includes a particular question ascertaining whether respondents are in full-time education or who have never been in employment. Finally, we combined these three restrictions, that is, we excluded those who reported to be in full-time education, that have never worked and those who were younger than 20.

These results are presented in panels D,E and F of Table 26 using our original working class threshold (median income). The results resemble closely those reported in Panel A though only the two white groups exhibit statistically significant results. For every Panel, the white non-working class report the highest elasticity (13.8%) and the white working class boys report the second highest elasticity (between 9.8% and 10.6%). The ethnic working class have a negative elasticity between -4.2% and -5.2% while the ethnic non-working class have an elasticity between 0.7% and 0.9% .

Overall the results from our robustness checks are heartening and show that our estimates of the intergenerational elasticity show little variation. These tests give us some certainty about our selection criteria in two of the key design aspects of this research, that is, defining the working class threshold and the sample selection criteria.

5. Conclusions

This study examines the intergenerational mobility of white working class boys using data from the Understanding Society survey from 2009 to 2014. The background to our research is the political discourse relating to white working class boys and their lack of social mobility, poor educational attainment and disadvantage in the labour market. Our objective is to empirically evaluate the extent of social mobility of white working class boys relative to three other groups, namely the ethnic working class, white non-working class and ethnic non-working class. Our approach is to gauge social mobility by calculating mobility matrices and estimating the intergenerational elasticity using the Hope-Goldthorpe occupational score.

Our descriptive analysis reveals the following. First, we provide evidence for the relative educational underachievement of white working class boys especially at higher levels of education. Second, class rather than ethnicity seem to be the driving force. Third, despite their educational underachievement at the degree level, white working class boys outperform ethnic working class boys in terms of income. This we term the white working class paradox.

Our social mobility analysis calculates mobility matrices. The overall upward mobility of males is not shared by white working class boys. Here we find an intergenerational persistence rate of 27% for the entire male sample with noticeably higher persistence for those at the bottom and top of the occupational distribution. There is also evidence of greater upward rather than downward mobility and we term this “increasing room at the top”. However, this is more evident for those with a non-working class background. In fact, white working class boys have considerably lower upward and higher downward mobility than the overall male population. Though ethnic and white working class seem to share in poor social mobility the former do display greater downward mobility. Accounting for the relative size of each destination group via an index of association, we find that the overall degree of persistence falls and mobility patterns more closely resemble perfect mobility, but the relative disadvantage of the white working class remains with a considerably lower ratio of upward to downward mobility than the overall male.

Our intergenerational elasticity estimates are considerably smaller than previous studies at around 10 to 14% and indicate a lower degree of dependence between parental and child’s income. Nevertheless, the estimates for whites (irrespective of class) are higher than that for ethnic group members. We also find strong household effects in the determination of the intergenerational elasticity of siblings. Those aged 65 or more have the highest intergenerational elasticity coefficients, suggesting possible increased mobility over time in the UK.

6. Appendix

Table 1: *Estimates of Intergenerational Elasticity in the UK*

Author (1)	Data (2)	Method (3)	IGM measure (4)	Time-span (5)	IGE estimate (6)
Atkinson (1981)	Rowntree follow-up study	Log-earnings regression	earnings ¹	1975 – 1978	$\beta_{son}^{WEEK} : 0.358$ $\beta_{son}^{HOURLY} : 0.425$
Atkinson, Maynard and Trinder (1983)	Rowntree follow-up study	Log-earnings regression	earnings	1975 – 1978	$\beta_{son}^{OLS} : 0.436$
Dearden, Machin and Reed (1997)	NCDS	OLS & IV ²	earnings	1997	$\beta_{son}^{OLS} : 0.240$ $\beta_{son}^{IV} : 0.580$
Blanden, Goodman, Greg and Machin (2001)	NCDS, BCS	Log-earnings regression	earnings	1958 & 1970	$\beta_{son}^{NCDS} : 0.120$ $\beta_{son}^{BCS} : 0.253$
Ermisch and Francesconi (2002)	BHPS	Fixed effects regression	HGS	1991 – 1999	$\beta_{son}^{HG} : 0.247$
Ermisch, Francesconi and Siedler (2005)	BHPS	OLS and OLS-reverse regression	HGS	1991 – 1999	$\beta_{son}^{OLS} : 0.306$ $\beta_{son}^{R-OLS} : 0.444$
Bidisha, Das and McFarlane (2013)	BHPS	TS-TSLS ³	earnings (predicted) ⁴	1991 – 2005	$\beta_{son}^{NATIVE} : 0.343$ $\beta_{son}^{ETHNIC} : 0.126$
Hadjar and Samuel (2014)	BHPS	descriptive analysis	HGS	1996 – 2008	$\beta_{ALL} : 0.218^5$
Li, Zhang and Kong (2015)	BHPS & USoC	descriptive analysis	EGP ⁶	2006 – 2010	$\beta_{son} : 0.244$

Notes: (1) In column 4, row 1, the author runs two estimations, one with weekly earnings and one with hourly earnings. (2) In column 3, row 3, regressions were run on estimates of permanent status. (3) In column 3, row 7, GE coefficients are reported for a sample of native citizens and for those with an ethnic background. (4) In column 4, row 7, a supplementary sample was used to estimate the log-earnings equations for the father in the 1st stage. (5) In column 6, row 8, β_{ALL} captures the percentage of respondents who remained in the same socioeconomic position as gen_{t-1} . (6) In column 4, row 9, the Erikson, Goldthorpe and Portocarrero (EGP) schema is used.

Table 2: *Descriptive Statistics*

Table 2 - Descriptive Statistics of the Sample

	WWC		EWC		WNWC		ENWC	
	mean	sd	mean	sd	mean	sd	mean	sd
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Continuous and discrete variables								
Age	47.565	21.613	37.231	17.927	48.782	16.176	39.329	13.086
Net Income (£)	737.8	285.0	659.3	297.5	2191.2	1285.2	2099.8	1231.7
Ln(Net Income)	6.428	0.930	6.261	1.086	7.587	0.420	7.553	0.396
Educational Level	3.976	1.432	4.480	1.511	4.749	1.345	4.939	1.392
FHGS	2.546	1.566	3.154	1.595	2.941	1.643	3.290	1.614
RHGS	2.598	1.547	2.562	1.630	3.758	1.553	3.644	1.621
Panel B: Dummy variables								
England	0.794	0.405	0.968	0.176	0.824	0.381	0.974	0.159
Scotland	0.083	0.274	0.014	0.119	0.083	0.276	0.015	0.122
Wales	0.063	0.242	0.014	0.119	0.050	0.218	0.008	0.092
N.Ireland	0.060	0.237	0.002	0.049	0.042	0.202	0.002	0.043
Native language	0.965	0.184	0.429	0.495	0.967	0.179	0.418	0.493
Religious	0.431	0.495	0.851	0.356	0.455	0.498	0.837	0.369
Married	0.390	0.488	0.432	0.496	0.640	0.480	0.678	0.468
N	5,959		1,666		10,554		2,134	

Notes: (1) Net income is expressed in pounds per month. (2) Educational level is expressed in discrete values from 1 to 6, where: 1 =No value; 2 =None; 3 =Other; 4 =GCSE; 5 =A-Level; 6 =Degree. (3) Parental Hope-Goldthorpe score (FHGS) and Respondent Hope-Goldthorpe score (RHGS) are both expressed in the range: 1(Min) to 5(Max). (4) All the variables presented in section B, are (0, 1) dummies.

Table 3: *Descriptive statistics by educational group.*

Table 3 - Descriptive Statistics by Educational Group					
Group	N	Mean Age	Mean		
			Net income (£)	Mean FHGS	Mean RHGS
	(1)	(2)	(3)	(4)	(5)
Panel A: All educational levels					
wwc	5,959	47.565	737.8	2.546	2.598
ewc	1,666	37.231	659.3	3.154	2.562
wnwc	10,554	48.782	2,191.2	2.941	3.758
enwc	2,134	39.329	2,099.8	3.290	3.644
Panel B: Degree					
wwc	1,048	39.743	715.4	3.324	3.398
ewc	610	32.948	690.5	3.584	2.931
wnwc	4,410	47.347	2,575.6	3.411	4.531
enwc	1,148	38.332	2,338.9	3.630	4.326
Panel C: Alevel					
wwc	1,458	40.752	698.4	2.827	2.576
ewc	351	27.043	576.6	3.228	2.479
wnwc	2,211	45.704	2,020.8	2.825	3.442
enwc	323	36.285	1,821.6	3.004	3.199
Panel D: GCSE					
wwc	1,188	38.470	717.5	2.439	2.311
ewc	243	35.671	605.0	2.848	2.180
wnwc	1,821	44.937	1,921.1	2.697	3.068
enwc	286	37.752	1,760.3	2.791	2.549
Panel E: Other					
wwc	836	57.049	780.3	2.128	2.233
ewc	153	45.190	716.0	2.816	2.161
wnwc	1,108	56.311	1,829.0	2.300	2.754
enwc	140	45.036	1,885.5	2.879	2.385

Notes: (1) Net income is expressed in pounds per month. (2) Parental Hope-Goldthorpe score (FHGS) and Respondent Hope-Goldthorpe score (RHGS) are both expressed in the range: Min= 1 Max= 5.

Table 4: *Sample educational attainment by group of analysis.*

Table 4 - Educational Attainment by Groups of Analysis (%)

Educational level	wwc (1)	ewc (2)	wnwc (3)	enwc (4)	all (5)
Degree	17.6	36.6	41.8	53.8	35.7
Alevel	24.5	21.1	21.0	15.1	21.3
GCSE	19.9	14.6	17.3	13.4	17.4
Other	14.0	9.2	10.5	6.6	11.0
None	24.0	18.6	9.5	11.1	14.6
N	5,959	1,666	10,554	2,134	20,358

Notes: (1) This table includes information from the complete sample. The educational level “other”, includes: CSE, standard/ordinary(O)grade/ lower (Scotland), Other school (includes school leaving exam certificate or matriculation).

Table 5: *Analysis of the variation in educational attainment*

Table 5 - What Matters Most, Class or Ethnicity?

Educational level	Class (NWC-WC)		Ethnic (White-Ethnic)		Analysis	
	White (1)	Ethnic (2)	WC (3)	NWC (4)	effect (5)	difference (6)
Degree	24.2	17.2	-19.0	-12.0	class	10.4
Alevel	-3.5	-6.0	3.6	5.9	=	0
GCSE	-2.6	-1.2	4.7	3.9	ethnic	-4.8
Other	-3.5	-2.6	4.8	3.9	ethnic	-2.6

Notes: (1) The analysis in columns 5 and 6 is the result of the summation of the absolute value of both class variations, $|23.9| + |18.1| = 42$ and we compare it with the summation of the absolute value of both ethnic variations, $| -18.4 | + | -12.6 | = 31$. Since $42 - 31 = 11$ we conclude that class effect is stronger than the ethnic effect. We do an equivalent calculation for each row.

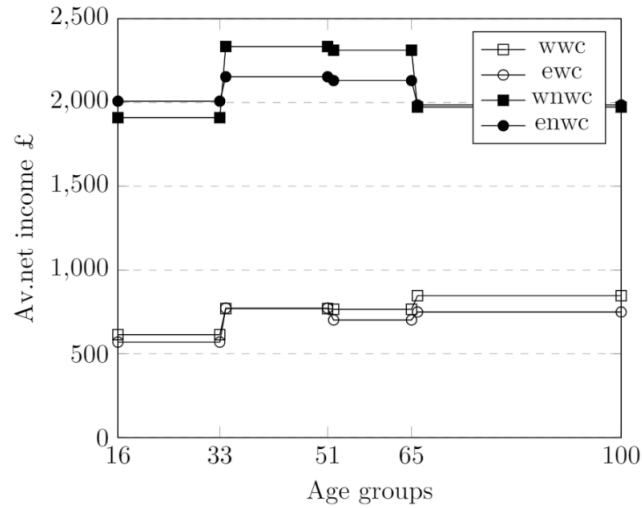


Fig. 1: - Net Income (Median)

Table 6: *Mobility matrix for father and son (%)*

Table 6 - Father and Son Mobility Matrix (%)

fses	rses					Total (6)
	I (1)	II (2)	III (3)	IV (4)	V (5)	
I	28.5	12.7	15.0	7.3	36.5	3,430
II	23.5	13.2	14.5	8.4	40.5	1,550
III	25.8	9.6	22.4	7.2	35.0	1,824
IV	17.3	8.1	10.6	10.5	53.5	1,231
V	14.8	6.8	10.8	7.5	60.1	3,712
Total (N)	2,575	1,170	1,678	918	5,406	11,747

Notes: (1) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

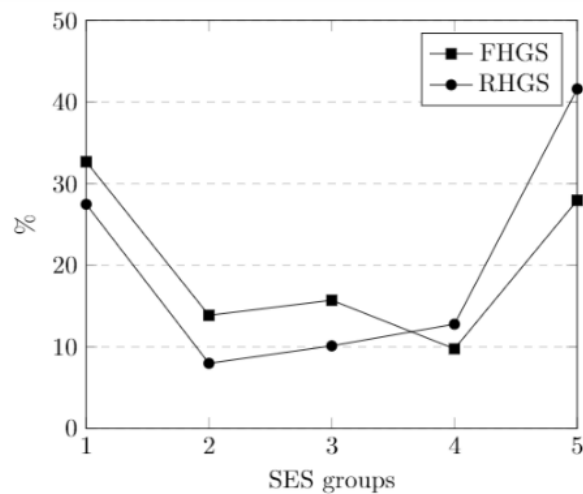


Fig. 2: - Intergenerational distribution of Hope-Goldthorpe score (father-respondent)

Table 7: *Mobility matrix for father and son (WWC) (%)*

Table 7 - Father and Son (WWC) Mobility Matrix (%)

fses	rses					Total (6)
	I (1)	II (2)	III (3)	IV (4)	V (5)	
I	42.05	11.96	22.93	8.88	14.18	811
II	40.35	14.12	21.90	6.63	17.00	347
III	37.40	9.35	32.21	6.49	14.55	385
IV	36.20	9.95	17.65	10.86	25.34	221
V	31.33	9.33	18.50	9.67	31.17	600
Total	839	260	536	202	473	2,364

Notes: (1) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 8: *Mobility matrix for father and son (White non-working class boys) (%)*

Table 8 - Father and Son (White non-working class boys) Mobility Matrix (%)

fses	rses					Total (6)
	I (1)	II (2)	III (3)	IV (4)	V (5)	
I	22.41	14.44	11.48	6.72	44.96	1,995
II	17.32	13.33	12.26	8.37	48.74	1,028
III	15.82	11.07	20.68	6.72	45.71	967
IV	9.23	8.28	9.09	10.45	62.96	737
V	6.87	6.29	9.14	6.69	71.02	2,243
Total (N)	1,000	734	827	512	3,897	6,970

Notes: (1) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 9: *Mobility matrix for father and son (Ethnic working class boys) (%)*

Table 9 - Father and Son (Ethnic working class boys) Mobility Matrix (%)

fses	rses					Total
	I (1)	II (2)	III (3)	IV (4)	V (5)	
I	39.09	9.64	19.29	7.61	24.37	197
II	43.14	9.80	23.53	11.76	11.76	51
III	46.78	5.85	19.88	9.36	18.13	171
IV	41.33	9.33	13.33	13.33	22.67	75
V	44.31	8.63	10.20	10.20	26.67	255
Total (N)	323	63	120	73	170	749

Notes: (1) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 10: *Mobility matrix for father and son (Ethnic non-working class boys) (%)*

Table 10 - Father and Son (Ethnic non-working class boys) Mobility Matrix (%)

fses	rses					Total
	I (1)	II (2)	III (3)	IV (4)	V (5)	
I	22.09	7.27	15.41	7.85	47.38	344
II	12.79	11.63	6.98	16.28	52.33	86
III	28.81	7.63	18.22	9.32	36.02	236
IV	16.13	3.87	7.74	9.68	62.58	155
V	15.02	6.17	8.23	6.79	63.79	486
Total (N)	253	89	154	111	700	1,307

Notes: (1) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 11: *Mobility matrix for father and daughters (%)*

Table 11 - Father and Daughter Mobility Matrix (%)

fses	rses					Total (6)
	I (1)	II (2)	III (3)	IV (4)	V (5)	
I	33.75	6.68	6.01	18.24	35.32	3,893
II	27.53	5.79	6.50	19.55	40.63	1,831
III	28.26	5.84	8.81	18.84	38.25	1,953
IV	23.67	4.02	6.11	18.95	47.25	1,293
V	17.56	3.20	6.41	16.49	56.34	4,088
Total (N)	3,394	663	866	2,355	5,780	13,058

Notes: (1) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 12: *Father/Respondent mobility matrix* .

Table 12 - Outflow analysis (%)

Father-Respondent	All (1)	women (2)	men (3)	wwc (4)	ewc (5)	wnwc (6)	enwc (7)
=	25.8	24.7	26.9	26.1	21.8	27.6	25.1
<i>Up</i>	46.8	47.5	46.1	30.0	31.6	52.5	52.3
<i>Down</i>	27.4	27.8	27.0	43.9	46.6	20.0	22.6

Notes: (1) Outflow analysis refers to the comparison with the benchmark category, parental occupational (e.g 25.8% of all the respondents remained in the same occupational group as their parents.). (2) This table summarises the mobility coefficients by group of analysis. Each row represents one type of mobility. The first row captures persistence (=), the second row upwards mobility (*Up*) and the third row downwards mobility (*Down*).

Table 13: *Father/Respondent mobility matrix adjusted for “distance”*.

Table 13 - Outflow analysis (%) for “distance”

Father-Respondent	All (1)	women (2)	men (3)	wwc (4)	ewc (5)	wnwc (6)	enwc (7)
=	25.8	24.7	26.9	26.1	21.8	27.6	25.1
<i>Up</i>	30.2	31.6	28.5	16.8	18.6	33.2	35.1
<i>Down</i>	16.7	16.6	16.7	28.5	32.1	11.1	15.6

Notes: (1) The “Outflow analysis” refers to the comparison with the benchmark category, parental occupation (e.g 25.8% of all the respondents remained in the same occupational group as their parents.). The “distance” adjustment only considers the movement of those respondents who shifted more than one category (up or down) from their parental occupational classification. (2) This table summarizes the mobility coefficients by group of analysis. Each row represents one type of mobility. The first row captures persistence (=), the second row upwards mobility (*Up*) and the third row downwards mobility(*Down*).

Table 14: *Mobility matrix for father and all respondents (Male and female combined) (%)*

Table 14 - Father and All Respondents Mobility Matrix (%)

fses	rses					Total (6)
	I (1)	II (2)	III (3)	IV (4)	V (5)	
I	31.3	9.5	10.2	13.1	35.9	7,323
II	25.7	9.2	10.1	14.4	40.6	3,381
III	27.1	7.7	15.4	13.2	36.7	3,777
IV	20.6	6.0	8.3	14.8	50.3	2,524
V	16.3	4.9	8.5	12.2	58.1	7,800
Total (N)	5,969	1,833	2,544	3,273	11,186	24,805

Notes: (1) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 15: *Perfect mobility matrix for father and all respondents (male and female combined)*

Table 15 - Father and All Respondents Perfect Mobility Matrix

fses	rses				
	I (1)	II (2)	III (3)	IV (4)	V (5)
I	1,762	541	751	966	3,302
II	814	250	347	446	1,525
III	909	279	387	498	1,703
IV	607	187	259	333	1,138
V	1,877	576	800	1,029	3,517

Notes: (1) The perfect mobility matrix is a calculation that shows how would the groups be distributed if there was perfect mobility for all occupational groups. This is used as a benchmark for the calculation of the index of association. (2) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 16: *Index of association for father and all respondents (male and female combined)*

Table 16 - Father and All Respondents Index of Association

fses	rses				
	I (1)	II (2)	III (3)	IV (4)	V (5)
I	1.30	1.29	1.00	0.99	0.80
II	1.07	1.24	0.99	1.09	0.90
III	1.12	1.04	1.50	1.00	0.81
IV	0.85	0.81	0.81	1.12	1.11
V	0.68	0.67	0.83	0.92	1.29

Notes: (1) The index of association is an effort to account for the relative size of each destination group. Values above 1 imply a higher likelihood of mobility while values below 1 imply less than average mobility. Values of 1 depict perfect mobility. (2) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 17: *Index of association for father and son*

Table 17 - Father and Son Index of Association

fses	rses				
	I (1)	II (2)	III (3)	IV (4)	V (5)
I	1.30	1.28	1.05	0.94	0.79
II	1.07	1.33	1.01	1.07	0.88
III	1.18	0.96	1.57	0.92	0.76
IV	0.79	0.82	0.74	1.34	1.16
V	0.68	0.69	0.75	0.95	1.31

Notes: (1) The index of association is an effort to account for the relative size of each destination group. Values above 1 imply a higher likelihood of mobility while values below 1 imply less than average mobility. Values of 1 depict perfect mobility. (2) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 18: *Index of association for father and son (White working class boys)*

Table 18 - Father and Son Index of Association

fses	rses				
	I (1)	II (2)	III (3)	IV (4)	V (5)
I	1.11	1.09	1.01	1.04	0.71
II	1.07	1.28	0.97	0.78	0.85
III	0.99	0.85	1.42	0.76	0.73
IV	0.96	0.91	0.78	1.27	1.27
V	0.83	0.85	0.82	1.13	1.56

Notes: (1) The index of association is an effort to account for the relative size of each destination group. Values above 1 imply a higher likelihood of mobility while values below 1 imply less than average mobility. Values of 1 depict perfect mobility. (2) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 19: *Index of association for father and son (White non-working class boys)*

Table 19 - Father and Son Index of Association

fses	rses				
	I (1)	II (2)	III (3)	IV (4)	V (5)
I	1.56	1.37	0.97	0.91	0.80
II	1.21	1.27	1.03	1.14	0.87
III	1.10	1.05	1.74	0.92	0.82
IV	0.64	0.79	0.77	1.42	1.13
V	0.48	0.60	0.77	0.91	1.27

Notes: (1) The index of association is an effort to account for the relative size of each destination group. Values above 1 imply a higher likelihood of mobility while values below 1 imply less than average mobility. Values of 1 depict perfect mobility. (2) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 20: *Index of association for father and son (Ethnic working class boys)*

Table 20 - Father and Son Index of Association

fses	rses				
	I (1)	II (2)	III (3)	IV (4)	V (5)
I	0.91	1.15	1.20	0.78	1.07
II	1.00	1.17	1.47	1.21	0.52
III	1.08	0.70	1.24	0.96	0.80
IV	0.96	1.11	0.83	1.37	1.00
V	1.03	1.03	0.64	1.05	1.17

Notes: (1) The index of association is an effort to account for the relative size of each destination group. Values above 1 imply a higher likelihood of mobility while values below 1 imply less than average mobility. Values of 1 depict perfect mobility. (2) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 21: *Index of association for father and son (Ethnic non-working class boys)*

Table 21 - Father and Son Index of Association					
fses	rses				
	I (1)	II (2)	III (3)	IV (4)	V (5)
I	1.14	1.07	1.31	0.92	0.88
II	0.66	1.71	0.59	1.92	0.98
III	1.49	1.12	1.55	1.10	0.67
IV	0.83	0.57	0.66	1.14	1.17
V	0.78	0.91	0.70	0.80	1.19

Notes: (1) The index of association is an effort to account for the relative size of each destination group. Values above 1 imply a higher likelihood of mobility while values below 1 imply less than average mobility. Values of 1 depict perfect mobility. (2) Semi-routine, routine and never worked =I; Lower supervisory and technical =II; Small employers and own account =III; Intermediate =IV; Management and Professional =V.

Table 22: *Intergenerational elasticity estimates by socioeconomic group of interest* (For the complete sample).

(Dependent variable: Log Respondent Socioeconomic Status)
Table 22 - Effect of Log Parental SES on Log Respondent SES

	ALL MALES (1)	WWC (2)	EWC (3)	WNWC (4)	ENWC (5)
Panel A: Intergenerational elasticity estimates					
β	0.120*** (0.011)	0.099*** (0.024)	-0.033 (0.039)	0.137*** (0.015)	0.009 (0.033)
Panel B: Respondents' educational achievement					
degree	0.706*** (0.024)	0.567*** (0.047)	0.355*** (0.091)	0.663*** (0.035)	0.820*** (0.068)
alevel	0.346*** (0.026)	0.308*** (0.045)	0.203* (0.099)	0.319*** (0.037)	0.408*** (0.082)
gcse	0.179*** (0.026)	0.194*** (0.045)	-0.030 (0.104)	0.170*** (0.038)	0.101 (0.082)
other	0.091** (0.029)	0.143** (0.050)	0.004 (0.106)	0.063 (0.042)	0.109 (0.096)
Panel C: Respondents' country of residence					
scotland	-0.076*** (0.021)	-0.106* (0.046)	-0.146 (0.161)	-0.063** (0.024)	0.144 (0.111)
wales	-0.095*** (0.027)	-0.076 (0.054)	-0.061 (0.119)	-0.081* (0.032)	0.063 (0.224)
nireland	-0.040 (0.028)	-0.052 (0.053)	0.217 (0.482)	0.001 (0.032)	0.248*** (0.052)
Panel D: Other respondents' characteristics					
age	0.034*** (0.003)	0.025*** (0.005)	0.024* (0.012)	0.011** (0.004)	0.006 (0.010)
age2	-0.0003*** (0.000)	-0.0002*** (0.000)	-0.0002 (0.000)	-0.0001** (0.000)	-0.0001 (0.000)
married	0.090*** (0.012)	0.036 (0.030)	0.067 (0.062)	0.055*** (0.014)	-0.003 (0.039)
nativelang	0.216*** (0.021)	0.196** (0.062)	0.192*** (0.055)	0.204*** (0.041)	0.136*** (0.034)
religious	0.005 (0.012)	-0.001 (0.028)	-0.101 (0.077)	0.024 (0.013)	-0.100* (0.043)
_cons	-0.469*** (0.058)	-0.425*** (0.109)	-0.046 (0.227)	0.173 (0.090)	0.392 (0.228)
<i>N</i>	10879	2134	664	6564	1187

Notes: (1) Panel A estimates (β) are recovered following the specification in equation 9. (2) Panels B, C and D follow the specification in equation 7. (3) The excluded dummy in Panel B is "none". (4) The excluded dummy in Panel C is "England". (5) Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 23: *Intergenerational elasticity estimates by socioeconomic group of interest* (For the restricted sample).

(Dependent variable: Log Respondent Socioeconomic Status)
Table 23 - Effect of Log Parental SES on Log Respondent SES

	ALL MALES	WWC	EWC	WNWC	ENWC
	(1)	(2)	(3)	(4)	(5)
Panel A: Intergenerational elasticity estimates					
β	0.121*** (0.016)	0.119** (0.037)	0.030 (0.079)	0.122*** (0.021)	0.045 (0.057)
Panel B: Respondents' educational achievement					
degree	0.674*** (0.036)	0.491*** (0.070)	0.497*** (0.148)	0.611*** (0.052)	0.617*** (0.125)
alevel	0.328*** (0.039)	0.289*** (0.068)	0.407* (0.159)	0.279*** (0.055)	0.282* (0.138)
gcse	0.151*** (0.040)	0.133 (0.068)	0.137 (0.173)	0.140* (0.057)	-0.112 (0.147)
other	0.055 (0.044)	0.102 (0.073)	0.246 (0.191)	0.020 (0.062)	-0.150 (0.168)
Panel C: Respondents' country of residence					
scotland	-0.051 (0.029)	-0.100 (0.072)	-0.815*** (0.093)	-0.044 (0.032)	0.250** (0.082)
wales	-0.075* (0.037)	-0.075 (0.084)	-0.137 (0.173)	-0.053 (0.041)	-0.373 (0.354)
nireland	-0.066 (0.036)	-0.118 (0.075)	-0.586*** (0.166)	-0.026 (0.038)	0.120 (0.188)
Panel D: Other respondents' characteristics					
age	0.030*** (0.004)	0.027*** (0.007)	0.025 (0.020)	0.009 (0.005)	-0.006 (0.018)
age2	-0.0003*** (0.000)	-0.0003** (0.000)	-0.0002 (0.000)	-0.0001* (0.000)	0.0001 (0.000)
married	0.080*** (0.017)	-0.002 (0.042)	0.034 (0.135)	0.056** (0.019)	-0.073 (0.061)
nativelang	0.193*** (0.033)	0.040 (0.111)	0.151 (0.106)	0.179** (0.069)	0.213*** (0.055)
religious	0.014 (0.015)	0.023 (0.041)	0.016 (0.156)	0.021 (0.017)	-0.126 (0.065)
_cons	-0.304*** (0.091)	-0.245 (0.178)	-0.318 (0.391)	0.308* (0.138)	0.870* (0.378)
<i>N</i>	5508	935	194	3787	459

Notes: (1) Panel A estimates (β) are recovered following the specification in equation 9. (2) Panels B, C and D follow the specification in equation 7. (3) The excluded dummy in Panel B is "none". (4) The excluded dummy in Panel C is "England". (5) Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 24: *Intergenerational elasticity estimates by group of siblings.*

(Dependent variable: Log Respondent Socioeconomic Status)
Table 24 - Effect of Log Parental SES on Log Respondent SES

	ALLSIB1	ALLSIB2	RES SIB1	RES SIB2
	(1)	(2)	(3)	(4)
Panel A: Intergenerational elasticity estimates				
β	0.120*** (0.034)	0.097** (0.036)	0.112* (0.045)	0.085 (0.052)
Panel B: Respondents' educational achievement				
degree	0.641*** (0.066)	0.653*** (0.063)	0.633*** (0.088)	0.683*** (0.089)
alevel	0.333*** (0.073)	0.303*** (0.072)	0.281** (0.100)	0.386*** (0.099)
gcse	0.206** (0.074)	0.241** (0.074)	0.207* (0.098)	0.279** (0.103)
other	0.191* (0.079)	0.034 (0.075)	0.210 (0.109)	0.003 (0.106)
Panel C: Respondents' country of residence				
scotland	0.036 (0.062)	-0.068 (0.063)	0.087 (0.079)	0.038 (0.083)
wales	-0.188* (0.080)	-0.179* (0.081)	-0.053 (0.100)	-0.097 (0.111)
nireland	-0.078 (0.107)	0.082 (0.089)	0.007 (0.164)	0.216** (0.072)
Panel D: Other respondents' characteristics				
age	0.028 (0.017)	0.039 (0.022)	0.041 (0.026)	0.056 (0.031)
age2	-0.0003 (0.000)	-0.0003 (0.000)	-0.0005 (0.000)	-0.0005 (0.000)
married	0.228*** (0.067)	0.096 (0.066)	0.348** (0.110)	0.207 (0.106)
nativelang	0.379*** (0.104)	0.261* (0.102)	0.127 (0.132)	-0.103 (0.115)
religious	0.054 (0.039)	0.052 (0.037)	0.027 (0.050)	-0.005 (0.045)
_cons	-0.586 (0.416)	-0.897 (0.586)	-0.685 (0.691)	-0.885 (0.859)
<i>N</i>	1019	1019	600	600

Notes:(1) The groups, ALL SIB1 and ALL SIB2 use complete sample data, that is, data of respondents present in any of the waves that lived together in a household. (2) The groups, RES SIB1 and RES SIB2 use restricted sample data. (3) SIB1 is the vector of the youngest siblings while SIB2 is the vector of the oldest ones. (4) Panel A estimates (β) are recovered following the specification in equation 9. (5) Panels B, C and D follow the specification in equation 7. (6) The excluded dummy in Panel B is "none". (7) The excluded dummy in Panel C is "England". (8) Standard errors in parentheses.* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 25: *Intergenerational elasticity estimates by age group* (For the complete sample).

(Dependent variable: Log Respondent Socioeconomic Status)
Table 25 - Effect of Log Parental SES on Log Respondent SES

	16to32	33to49	50to65	65to+
	(1)	(2)	(3)	(4)
Panel A: Intergenerational elasticity estimates				
β	0.130*** (0.013)	0.100*** (0.011)	0.085*** (0.014)	0.236*** (0.046)
Panel B: Respondents' educational achievement				
degree	0.652*** (0.048)	0.848*** (0.028)	0.779*** (0.026)	0.527*** (0.073)
alevel	0.384*** (0.049)	0.515*** (0.031)	0.396*** (0.030)	0.175 (0.095)
gcse	0.168*** (0.050)	0.301*** (0.031)	0.296*** (0.031)	0.143 (0.095)
other	0.048 (0.067)	0.188*** (0.034)	0.159*** (0.033)	0.221** (0.085)
Panel C: Respondents' country of residence				
scotland	-0.119*** (0.028)	-0.046* (0.021)	-0.015 (0.027)	-0.019 (0.102)
wales	-0.091** (0.034)	-0.067* (0.027)	-0.102** (0.037)	0.012 (0.152)
nireland	-0.177*** (0.036)	-0.011 (0.027)	-0.030 (0.040)	0.252* (0.104)
Panel D: Other respondents' characteristics				
age	0.208*** (0.016)	0.042 (0.022)	0.061 (0.048)	0.003 (0.180)
age2	-0.0034*** (0.000)	-0.0005 (0.000)	-0.0006 (0.000)	0.0000 (0.001)
married	0.048** (0.017)	0.077*** (0.012)	0.036* (0.016)	0.105 (0.058)
nativelang	0.286*** (0.024)	0.184*** (0.021)	0.166*** (0.038)	0.143 (0.154)
religious	0.021 (0.016)	0.010 (0.012)	0.013 (0.015)	0.022 (0.059)
_cons	-2.844*** (0.202)	-0.646 (0.437)	-1.355 (1.365)	0.045 (6.511)
N	6852	10148	5985	537

Notes: (1) Panel A estimates (β) are recovered following the specification in equation 9. (2) Panels B, C and D follow the specification in equation 7. (3) the excluded dummy in Panel B is "none". (4) The excluded dummy in Panel C is "England". (5) Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 26: *Robustness checks*

(Dependent variable: Log Respondent Socioeconomic Status)
Table 26 - Effect of Log Parental SES on Log Respondent SES

	WWC	EWC	WNWC	ENWC
	(1)	(2)	(3)	(4)
Panel A: Working class threshold = Median Income				
β_{MEDIAN}	0.099*** (0.024)	-0.033 (0.039)	0.137*** (0.015)	0.009 (0.033)
Panel B: Working class threshold = Mean Income				
β_{MEAN}	0.115*** (0.020)	-0.039 (0.035)	0.117*** (0.017)	0.014 (0.037)
Panel C: Working class threshold = 57 th percentile				
β_{57TH}	0.106*** (0.021)	-0.040 (0.036)	0.127*** (0.017)	0.018 (0.036)
Panel D: Respondents older than 20 years				
β_{20+}	0.106*** (0.025)	-0.044 (0.040)	0.137*** (0.016)	0.007 (0.034)
Panel E: Respondents not in full-time education				
β_{FTE}	0.098*** (0.024)	-0.042 (0.040)	0.138*** (0.015)	0.009 (0.033)
Panel F: Respondents not in full-time education and older than 20 years				
$\beta_{FTE\&20+}$	0.104*** (0.025)	-0.052 (0.040)	0.138*** (0.016)	0.007 (0.033)

Notes:(1)All estimates (β) are recovered following the specification in equation 9. (2) Standard errors in parentheses.* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

References

- Atkinson, Anthony B (1980). "On intergenerational income mobility in Britain". In: *Journal of Post Keynesian Economics* 3(2), pp. 194–218.
- Battu, Harinder and Peter J Sloane (2004). "Over-education and ethnic minorities in Britain". In: *The Manchester School* 72(4), pp. 535–559.
- Bergman, Manfred Max and Dominique Joye (2001). *Comparing social stratification schemas: CAMSIS, CSP-CH, Goldthorpe, ISCO-88, Treiman, and Wright*. Cambridge Studies in Social Research.
- Birkelund, Gunn Elisabeth, Leo A Goodman, and David Rose (1996). "The latent structure of job characteristics of men and women". In: *American Journal of Sociology* 102(1), pp. 80–113.
- Björklund, Anders and Markus Jäntti (2009). "Intergenerational income mobility and the role of family background". In: *Oxford handbook of economic inequality*, pp. 491–521.
- Black, Sandra E and Paul J Devereux (2010). *Recent developments in intergenerational mobility*. Tech. rep. National Bureau of Economic Research.
- Blackaby, David H et al. (1998). "The ethnic wage gap and employment differentials in the 1990s: evidence for Britain". In: *Economics Letters* 58(1), pp. 97–103.
- Blanden, Jo and Lindsey Macmillan (2011). "Recent developments in intergenerational mobility". In: *The Labour Market in Winter: The State of Working Britain*, p. 190.
- Borjas, George J (1992). "Ethnic capital and intergenerational mobility". In: *The Quarterly journal of economics* 107(1), pp. 123–150.
- Bottero, Wendy (2009). "Class in the 21st Century". In: *Who cares about the white working class*, pp. 7–14.
- Brown, Henry Phelps (1977). *The inequality of pay*. Univ of California Press.
- Cassen, Robert and Geeta Kingdon (2007). *Tackling low educational achievement*. Joseph Rowntree Foundation.
- Catney, Gemma and Albert Sabater (2015). "Ethnic minority disadvantage in the labour market". In: *Joseph Rowntree Foundation*. Available at: <http://www.jrf.org.uk/publications/ethnicminority-disadvantage-labour-market>.
- Chadwick, Laura and Gary Solon (2002). "Intergenerational income mobility among daughters". In: *The American Economic Review* 92(1), pp. 335–344.
- Clark, Andrew, Emanuela D'Angelo, et al. (2010). *Upward social mobility, well-being and political preferences: Evidence from the BHPS*. Università politecnica delle Marche, Dipartimento di economia.
- Corrado, Germana and Luisa Corrado (2011). "Moving down the social ladder: analysing the relationship between status and regional inequality in the UK". In: *Cambridge Journal of Regions, Economy and Society* 4(1), pp. 107–122.

- Ermisch, John and Marco Francesconi (2002). “Intergenerational mobility in Britain: new evidence from the BHPS”. In: *Generational income mobility in North America and Europe* (Cambridge University Press: Cambridge).
- Ermisch, John, Marco Francesconi, and Thomas Siedler (2005). “Intergenerational economic mobility and assortative mating”. In: *IZA Discussion Paper No.1847*.
- Evans, Geoffrey (1992). “Testing the validity of the Goldthorpe class schema”. In: *European Sociological Review* 8(3), pp. 211–232.
- Evans, Geoffrey (1996). “Putting Men and Women into Classes: An Assessment of the Cross-Sex Validity of the Gold Thorpe Class Schema”. In: *Sociology* 30(2), pp. 209–234.
- Evans, Geoffrey and Jonathan Mellon (2016). “Social Class: Identity, awareness and political attitudes: Why are we still working class?” In: *British Social Attitudes: the 33rd Report*.
- Evans, Geoffrey and Colin Mills (2000). “In search of the wage-labour/service contract: new evidence on the validity of the Goldthorpe class schema”. In: *The British journal of sociology* 51(4), pp. 641–661.
- Gillborn, David (2009). “Education the numbers game and the construction of white racial victimhood”. In: *Who cares about the white working class*, pp. 15–22.
- Hadjar, Andreas and Robin Samuel (2015). “Does upward social mobility increase life satisfaction? A longitudinal analysis using British and Swiss panel data”. In: *Research in social stratification and mobility* 39, pp. 48–58.
- Heath, A, M Savage, and N Senior (2013). “Social Class: The Role of Class in Shaping Social Attitudes”. In: *British Social Attitudes: the 30th Report*.
- Heath, Anthony and Sin Yi Cheung (2006). *Ethnic penalties in the labour market: Employers and discrimination*. Tech. rep. CDS London.
- Heath, Anthony and John Ridge (1983). “Social mobility of ethnic minorities”. In: *Journal of Biosocial Science* 15(S8), pp. 169–184.
- Heath, Anthony F (1981). *Social mobility*. Vol. 5601. Fontana paperbacks.
- Heath, Anthony F and Dorren McMahon (2005). “Social mobility of ethnic minorities”. In: *Ethnicity, social mobility, and public policy: Comparing the USA and UK*, p. 393.
- Hope, Keith and John H Goldthorpe (1974). *The social grading of occupations: A new approach and scale*. Oxford [Eng.]: Clarendon Press.
- Jantti, Markus et al. (2006). “American exceptionalism in a new light: a comparison of intergenerational earnings mobility in the Nordic countries, the United Kingdom and the United States”. In: *IZA Discussion Paper No.1938*.
- Lessard-Phillips, Laurence, Fenella Fleischmann, EJ van Elsas, et al. (2014). “Ethnic minorities and educational systems in ten Western countries: migration flows, policies and institutional differences”. In: *Proceedings of the British Academy*. Oxford University Press.

- Li, Yaojun, Shun Zhang, and Jianxun Kong (2015). "Social mobility in China and Britain: a comparative study". In: *International Review of Social Research* 5(1), pp. 20–34.
- May, Theresa (2016). "Statement from the new Prime Minister Theresa May". In: *Unpublished manuscript, PM Office*.
- Nandi, Alita and Lucinda Platt (2010). *Ethnic minority womens poverty and economic well being*. Tech. rep. Government Equalities Office.
- Nazroo, James Y and Dharmi Kapadia (2013). *Ethnic inequalities in labour market participation?* ESRC Centre on Dynamics of Ethnicity, University of Manchester [for] Joseph Rowntree Foundation.
- Nickell, Stephen (1982). "The determinants of occupational success in Britain". In: *The Review of Economic Studies* 49(1), pp. 43–53.
- O'Reilly, Karen and David Rose (1998). "Changing Employment Relations: plus ça change, plus c'est la même chose? Reflections arising from the ESRC Review of Government Social Classifications". In: *Work, Employment and Society* 12(4), pp. 713–733.
- Platt, Lucinda (2005). "The intergenerational social mobility of minority ethnic groups". In: *Sociology* 39(3), pp. 445–461.
- Platt, Lucinda (2007). "Making education count: the effects of ethnicity and qualifications on intergenerational social class mobility". In: *The Sociological Review* 55(3), pp. 485–508.
- Rafferty, Anthony (2012). "Ethnic penalties in graduate level over-education, unemployment and wages: evidence from Britain". In: *Work, employment and society* 26(6), pp. 987–1006.
- Rogaly, Ben and Becky Taylor (2009). *Moving representations on the 'indigenous' white working class*. The Runnymede Trust.
- Sammons, Pam, Katalin Toth, and Kathy Sylva (2015). *Background to success*. Tech. rep. University of Oxford and The Sutton Trust.
- Solon, Gary (1992). "Intergenerational income mobility in the United States". In: *The American Economic Review*, pp. 393–408.
- Solon, Gary (1999). "Intergenerational mobility in the labor market". In: *Handbook of labor economics* 3, pp. 1761–1800.
- Strand, Steve (2014). "Ethnicity, gender, social class and achievement gaps at age 16: Intersectionality and "Getting it" for the white working class". In: *Research Papers in Education* 29(2), pp. 131–171.
- Treasury, HM (2015). *Is Britain Fairer? The state of equality and human rights 2015*. Tech. rep. Equality and Human Rights Commission.
- Zimmerman, David J (1992). "Regression toward mediocrity in economic stature". In: *The American Economic Review*, pp. 409–429.
- Zuccotti, Carolina V (2015). "Do parents matter? Revisiting ethnic penalties in occupation among second generation ethnic minorities in England and Wales". In: *Sociology* 49(2), pp. 229–251.