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The intergenerational mobility of white working class boys: A quantitative analysis

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Abstract.

This study examines the relative intergenerational economic mobility of British white working class boys 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 capture mobility via descriptive data, mobility matrices and by estimating coefficients for intergenerational mobility. 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% having the highest qualifications. 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, we find an overall intergenerational persistence rate of just under 28% with considerably higher persistence for those whose whose fathers were in managerial and professional occupations. Upward mobility dominates downward mobility so that the share in the higher ranked occupations becomes higher over time. White working class boys have the lowest upward mobility (33%) and the second highest downward mobility (41%) relative to the average male. Ethnic working class boys exhibit the lowest persistence among all groups but there greater mobility is more likely to be downward (20%). Our regression estimates do indicate overall upward mobility in the sample with the non-working class groups displaying higher upward social mobility with the worst performing group being the ethnic working class and not the white working class. Both parental background and educational qualifications boost upward mobility although these effects are higher for the non-working class.

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))

An earlier report by Diversity UK in 2015 goes even further (Treasury (2015)):

> "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 statements represent a departure from the longstanding debate on ethnic disadvantage in the United Kingdom (UK), which has tended to focus on the disadvantages faced by ethnic minority groups (Nazroo and Kapadia (2013); Catney and Sabater (2015)). Unlike the studies on ethnic minorities, empirical evidence on the performance of working-class whites is very limited. Although there are studies documenting the educational disadvantage of white working-class boys (Platt (2007); Bottero (2009); Rogaly and Taylor (2009)), evidence regarding their labour market outcomes and more generally their social mobility is scarce.

We aim to fill a gap in this literature by explicitly examining the intergenerational mobility of white working class boys relative to other groups in the UK. Although there is a considerable amount of research on intergenerational mobility, few studies focus on ethnic groups and class (Borjas (1992); Platt (2005); Heath and McMahon (2005)). In terms of measurement, typically, intergenerational mobility is gauged via information on income. However, it is often difficult to obtain lifetime income of parents and their offspring. To overcome this challenge, we use information on social class to measure intergenerational mobility as it can arguably provide a better representation of the social and economic standing of an individual than restricted income data for each parent-offspring pair. In particular, we use the Hope-Goldthorpe (HG) occupational scale, which has been widely used and supported, to measure social class (Evans (1996); Birkelund, Goodman, and Rose (1996); O'Reilly and Rose (1998); Evans and Mills (2000)), capture intergenerational

social mobility by comparing the HG score across generations, and investigate whether working-class whites exhibit lower intergenerational mobility relative to other groups.

Using data from the Understanding Society (UsoC), our results reveal 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% having the highest qualifications. However, the differences in educational attainment seem to be driven by class rather than ethnicity. We also find that white working class boys outperform the ethnic working class boys in terms of income, which we refer to as the "white working class paradox". Through a set of mobility matrices, we find that, generally speaking for British males, the share of the higher ranked occupations becomes higher over time, and upward mobility dominates downward mobility. An overall intergenerational persistence rate is found to be of about 28%, with considerably higher persistence for those whose fathers were in managerial and professional occupations. Looking at social mobility by class and ethnicity, white working class boys have the lowest upward mobility of 33%, and the second highest downward mobility of 41%. Ethnic working class boys exhibit the lowest intergenerational persistence, and their mobility is more likely to be downward (20%). Our regression estimates confirm overall upward mobility of British males. Analysis by class and ethnity reveals that the non-working class groups display highest upward mobility, and it is the ethnic working class, as opposed to the white working class, who is performing worst. Not surprisingly, in addition to parental background, we find that educational qualifications boost upward social mobility for every class and ethnicity.

The rest of the paper is organised as follows. Section 2. provides a review of the literature on ethnic disadvantage, focusing on intergenerational mobility, and also briefly discusses the research on working-class whites. Section 3. presents our hypotheses to be tested, specifies our empirical model, and provides an overview of the dataset to be used. Section 4. presents our results, first using descriptive statistics and mobility matrices, and secondly using a standard regression framework. Section 5. introduces a set of robustness checks including a within household analysis of siblings and several different specifications which include an analysis of female sample. Section 6. summarises our findings and concludes.

2. Literature Review

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)). Some of the most relevant findings include 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.

Native whites in this research are usually the benchmark category with class considerations being downplayed and with little or nothing being mentioned about white working class boys. Nevertheless, there is a literature documenting the educational underachievement of the white working class. In particular, the highest share of "low achievers" corresponds to white British males where those from a working class background being three times less likely to obtain A-level qualifications than those who are not working class (Cassen and Kingdon (2007)). In addition, white students from poorer socioeconomic backgrounds underperform relative to other non-white students with the same socioeconomic background (Cassen and Kingdon (2007); Sammons, Toth, and Sylva (2015)). For example, Indian students outperform every other ethnicity and have almost double the educational achievement of the white British students within the same socioeconomic group (Sammons, Toth, and Sylva (2015)). However, it is worth noting that the educational advantage of ethnic boys and disadvantage of white British boys disappears at higher levels of socioeconomic status (Strand (2014)).

Apart from educational attainment, the literature on the broader economic and social outcomes for white working class boys is relatively scarce. One finding appears to be that whilst white working class boys fall behind in terms of educational attainment, they manage to achieve relatively better labour market outcomes than other ethnic minorities, especially with regard to access to service class positions, such as managerial, professional and administrative occupations (Blackaby et al. (1998); Heath and Cheung (2006); Strand (2014)). 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 and there are broadly two strands of literature. A narrow strand focuses on estimating intergenerational elasticities and a broader strand examines various aspects of social mobility. The focus in the former is on the relationship between incomes of parents and their offspring with estimates of intergenerational elasticity (IGE) calculated via the following equation:

$$lnY_i^{son} = \alpha + \beta lnX_i^{father} + \epsilon \tag{1}$$

where, lnY_i^{son}, is the vector of son's log of lifetime income and lnX_i^{father}, is the vector of the respondent's fathers log of lifetime income. β is the coefficient of intergenerational elasticity and $1 - \beta$ is the coefficient of intergenerational economic mobility. A higher β implies a greater association between father's income and son's income, and thereby lower intergenerational mobility.

The main constraint here is that of measuring lifetime income, especially when the theoretical requirement is to get a measure of lifetime income for both parents and children (Chadwick and Solon (2002); Ermisch, Francesconi, and Siedler (2005)). One option is to use multiple observations of income for individual i, and calculate the average value of income for individual i over a subset of years j, and consider this as a proxy for lifetime income. Even when this is possible, there is the additional problem of non-linearities in income during their lifetime which affects average income. In particular, to be consistent with the measurement of father's and son's incomes, similar time-spans of income for both parents and children are required. For example, if income for parents is measured during their 30's, their children's income also must also be measured in their 30's. This approach requires a very large dataset following a panel of families, which is rarely available.

For the UK, there is a range of IGE estimates between father and son from around 0.22 to 0.58 (Atkinson (1980); Dearden, Machin, and Reed (1997)). Comparable estimates are

larger in the US, ranging from 0.40 to 0.60, and lower in other industrialised European countries (Solon (1999); Jantti et al. (2006); Björklund and Jäntti (2009); Black and Devereux (2010)). For example, for Sweden, IGE estimates range from 0.20 to 0.30 (Björklund and Jäntti (2009)). There is one study that focuses on the intergenerational mobility of ethnic minorities in the UK. They find an IGE estimate of 0.13 for ethnic group members, which is considerably lower than the estimate for native whites, 0.34 (Bidisha, Das and McFarlane, 2013), indicating greater social mobility for ethnic minorities.

Another approach to computing intergenerational mobility estimates is to use socioeconomic classifications such as the HG scale (Ermisch, Francesconi, and Siedler (2005); Corrado and Corrado (2011); Hadjar and Samuel (2015); Li, Zhang, and Kong (2015)). In our paper, we rely on this approach and use the HG scale as it is arguably a better approximation of social and economic standing of individuals compared to those calculated using limited labour or household income data. Despite widespread use of the HG scale in the literature (Ermisch and Francesconi (2002); Ermisch, Francesconi, and Siedler (2005); Corrado and Corrado (2011)), there is no study focusing on the social mobility of working class whites in the UK.

Instead, literature has focused on the intergenerational mobility of different ethnic groups in the UK, and the role played by parental social background as well as other factors such as educational background (Platt (2005) and Platt (2007)). These two studies by Platt support the notion that ethnic minorities tend to be on average more mobile than the white British, with marked beneficial effects for Indian immigrants and downward mobility for the Caribbean population over a twenty-year period.

A study by Heath and McMahon (2005) compared the mobility profiles of Irish, Black Caribbeans, Indians and Pakistanis with white British using data from the General Household Survey (GHS) over the period 1985 to 1992. In line with the studies by Platt (2005, 2007), they found that, in both first and second generations, ethnic minorities experienced net upward mobility and among the second generation, upward mobility rates were higher than those of the non-immigrant white British from similar backgrounds. The substan-

tial upward mobility for ethnic groups is for the authors an indication of what they call "increasing room at the top".

A more recent study by Zuccotti (2015) analyses the role played by class of origin in explaining ethnic penalties in occupational outcomes and whether social reproduction processes vary across groups. The study makes use of the first wave of the UK Household Longitudinal Study. Upon controlling for parental background, they find that the white British and Indians with the highest parental origin have better access to service class positions, which is usually managerial and professional occupations, compared to Pakistani, Caribbean and African men from a similar background, who seem to benefit less from any advantanged parental background.

3. Data and Measurement Issues

3.1 Data and research design

We use a dataset from the UsoC, which is a panel of approximately 40,000 households in England, Scotland, Wales and Northern Ireland. The UsoC is an extension to the British Household Panel Survey (BHPS), which covers the periods between 1991 to 2008. The UsoC began its first wave in 2009, where household members aged 16 years or older are interviewed. Our analysis will primarily focus on men aged 16 years or older. The reasons for our focus on men are as follows. First, academic underachievement is a severe concern for white working class boys but not for girls. Second, due to marriage or more generally partnership formation, women may be influenced by the socioeconomic status of their husbands or partners, and their parental socioeconomic status might be less of a determinant for their socioeconomic status than for males. Third, presumably due to family responsibilities and resulting lower labour market participation, we have less information on females regarding socioeconomic status.

For our analysis, we must define "working class", which could be based on occupation, income or individuals own self-assessment. Traditionally labelled "working-class" occupations, such as routine and semi-routine work, have become less important partly due to the reduction of British manufacturing industry (Evans and Mellon (2016)). Figure 1 indicates that the distribution of occupations has shifted to the right, favouring the highest ranked occupations for the generation of the respondents. In fact, only a quarter of British people work in routine or manual occupations. Nevertheless, 57% of the British population identify themselves as working class (Gillborn (2009)), and this percentage has remained relatively stable for more than 30 years.[1] This indicates what can be labelled as "The working class of the mind" (Evans and Mellon (2016)), whereby traditional occupational classifications do not match individuals self assessments of their socioeconomic standing. The majority of Britons identify themselves as working class even if they have stereotyp-

[1] The British Election Study reported that around 60% of the respondents identified themselves as working class for the studies in 1983, 1987, 1992 and 1997 (Heath, Savage, and Senior (2013)). Likewise, the British Social Attitudes Survey reported that above 60% of people identified themselves as working class in 2003, 2005, 2006, 2012 and 2015.

ical middle-class jobs. In this regard, 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 specify the working class threshold at the median monthly income of the sample, £1,131, using the average net income per capita for the five available waves in the data. We use the median as it is a good measure of centre for the right skewed income distribution in the UK and it is close to the self-reported proportion of "working class", 57%, although we also tried using the mean and the 57^{th} percentile as the working class threshold in the section of robustness checks.

Following our definitions of class and ethnicity, we categorise individuals in our sample into four groups: namely, white working class (WWC), ethnic working class (EWC), white non-working class (WNWC) and ethnic non-working class (ENWC), where the sample size in each group is 2,410, 398, 5,815 and 720, respectively.

3.2 Model and estimation issues

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. Consider a high coefficient of IGE for the white working class group, for example. This implies 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. To test this hypothesis, we can compare the IGE for the white working class boys (β_{wwc}) to that of the entire male population, ($\overline{\beta}$, the mean estimate in equation (1)). As noted earlier, previous research points to an average IGE across various studies in the UK of between 0.24 to 0.58. Our secondary hypothesis is that white working class boys exhibit a higher extent of intergenerational mobility, β_{wwc}, than that of ethnic working class boys, β_{ewc}.

We use the HG score, which is an occupational classification, to measure the socioeconomic status of respondents and their fathers. The HG score arguably provides a good

alternative as a measurement of socioeconomic class, and more generally is a better proxy of permanent socioeconomic standing than what can be captured using income data for a restricted period of time, which has been used in previous studies.

In the UsoC, every respondent provides the details of their occupation, which is then used to assign a HG score. The categories considered are 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 over the five waves. The proportion of respondents whose HG score was stable in all five waves is 54% of our sample. The higher this value, the more reliable the HG score would be as a measure of the socioeconomic standing of an individual. In addition, each respondent is asked about their parent's occupation when they were 14 years old. This allows us to create a large sample of paired data, where most respondents in the UsoC provide their own occupation and consequently a HG score and the occupation of their parents.

This HG schema has previously been used as a measure of permanent socioeconomic status (Ermisch, Francesconi, and Siedler (2005); Hadjar and Samuel (2015)). There are several benefits in using the HG schema. First, we have observations of the HG score for almost the entire sample. Second, the position of individuals in the occupational hierarchy is relatively stable over time: that is, the best predictor of a man's occupational position when he is 60 is his occupational position when he first enters the labour force (Nickell (1982)). Finally, the HG score is highly correlated with earnings (Brown (1977); Nickell (1982)). Ermisch and Francesconi (2002) reported a correlation between gross monthly earnings and the HG index from BHPS data of 0.70 for men. In our sample of males, a correlation between log average net income for the five available waves of UsoC data and the HG score is 0.40.

Using the HG score, a linear specification of the relation between a parent and a child's socioeconomic standing can be given as:

$$lnRhgs_i = \beta_0 + \beta_1 lnPhgs_i + \varepsilon_i \tag{2}$$

where, $lnRhgs_i$ is the respondent's HG score and $lnPhgs_i$ is the parental HG score. It is, however, important to note that $Rhgs_i$ is a discrete ordinal variable that captures the five categories of the HG classification for our respondents described in Section 3.2. To take into account the discrete and ordered nature of the dependent variable, we specify the ordinal regression model:

$$Pr(Rhgs_i = m|Phgs_i, \beta, \tau) = F(\tau_m - \beta Phgs_i) - F(\tau_{m-1} - \beta Phgs_i) \tag{3}$$

where, F is the logistic cumulative distribution function, β is the parameter capturing the effect of parental socioeconomic status on that of the respondent, and τ is the vector of cut point parameters. This ordered logistic model is appropriate when dealing with ordinal categorical variables whose distance between adjacent categories is unknown (Long (1997)). To further account for respondent's characteristics, we augment this model as follows:

$$Pr(Rhgs_i = m|Phgs_i, \mathbf{x_i}, \beta, \tau) = F(\tau_m - \beta Phgs_i - \mathbf{x_i}\gamma) - F(\tau_{m-1} - \beta Phgs - \mathbf{x_i}\gamma) \tag{4}$$

where, $\mathbf{x_i}$ is the vector of respondent's characteristics corresponding to gender, age, age squared, ethnicity, highest educational degree, country of residence, marital status, native language and religious affiliation, and γ is the vector of parameters to be estimated. Assuming that the observations are independent, the log likelihood function can be given as:

$$lnL(\beta, \gamma, \tau|Rhgs, Phgs, \mathbf{x}) = \sum_{j=1}^{J}\sum_{i=1}^{N} ln[F(\tau_j - \beta Phgs_i - \mathbf{x_i}\gamma) - F(\tau_{j-1} - \beta Phgs_i - \mathbf{x_i}\gamma)] \tag{5}$$

which can be maximised to estimate β and the vectors of τ's and γ's.

There are three main issues that we must consider when estimating β. First, there is only one HG score per parent and 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 (Solon (1992), Zimmerman (1992)). Second, each respondent is asked about their parent's occupation when they were 14 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 some occupations

might shift in terms of status (Atkinson (1980)). Fourth, other sources of bias include where respondents may falsify their answers for various reasons, including shame about their origins.

The first issue is partially addressed by the use of the HG score as the position of individuals in the occupational hierarchy is relatively stable over time, which is unlikely to be the case for income. The second problem is directly addressed by the strategy of using the repeated observations of the HG score of respondents, while the third issue is accounted by the HG 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 would help address this issue in part since shifts in the occupational structure become irrelevant to our working/non-working class division and it is income instead what drives such decision. In addition, because the position of individuals in the occupational hierarchy is relatively stable over time, the HG score is likely to be an adequate measure of people's long-run socioeconomic status (Nickell (1982); Ermisch, Francesconi, and Siedler (2005)).

Additionally, we need to account for the error-in-variables bias embedded in the measurement of child status itself. We use the HG score as a proxy of permanent socioeconomic standing, and as a measure which can be obtained only for a limited period of time, we must aim to reduce the difference between the true estimate β and our estimate $\widehat{\beta}$ in equation (5). For this purpose, we measure the respondent's socioeconomic status by taking a five-year average of the respondent's HG score. As this information is not always available for each respondent for all five years, we focus only on those for whom we have complete information across all five years. Thus, our final sample has 9,343 observations, consisting of any individual present in all five rounds while excluding those in full-time education and those who have never worked.

As most respondents provided information on their fathers' HG score, however, it is possible to generate a paired observation as long as at least one data point is available for the respondent's HG score. An issue with taking the average of the available data points, which can be just one, is that we might obtain a biased estimate of $\widehat{\beta}$ due to unobserved changes in the HG score over time. This concern is mitigated by retaining in our sample only the observations for which we have complete information across all five years, since

averaging over five years would reduce the magnitude of the inconsistency by averaging away both the measurement error and transitory fluctuations in $Rhgs_i$. On the other hand, a benefit of incorporating into our sample the observations for which information is not available for all five years is a large sample size, as every respondent, even those who were only present in one round will remain in the sample. As a robustness check, we will conduct analysis using this extended sample, for which sample size increases by over two fold, $20,313$, and we will include these results in the online Appendix.

3.3 Sample characteristics

Table 1 presents summary statistics of the main variables by socioethnic group. Examining the differences in average parental and respondents' HG score, we observe upward social mobility for every group except the ethnic working class in column (3). The differences in income reflect the class disparity. As expected, both non-working class groups display a higher income than their counterparts. Turning to educational attainment, the average attainment is lower for the working class groups. In particular, the white working class group in column (1) shows the lowest educational attainment among all groups. Table 2 reports more detailed information on educational attainments and confirms that white working class boys are the lowest performing group: They are less likely to possess a degree qualification and are more likely to have no qualifications. Taking income and educational attainment together, an interesting finding is that despite the lower degree attainment of the white working class boys, they outperform the ethnic working class in terms of income by 6.3% on average. This points to a *'white working class paradox'* whereby despite their inferior educational attainment, they outperform their low working class peers of different ethnicity in terms of labour market outcomes.

4. Results

This section first presents a set of mobility matrices to explore intergenerational mobility by socioethnic group. We then present our regression results from the ordered logit model presented in equation (5). In particular we present the predicted probability for each

outcome, the marginal change in the predicted probabilities, and the associated odds ratios by socioethnic group.

4.1 Mobility Matrices

Table 3 introduces a mobility matrix for father and son in the spirit of Heath (1981). This matrix provides an "outflow analysis", where we analyse the socioeconomic destination of respondents, give their parental occupational background. We have father's occupation in each row and son's occupation in each column. Percentages are calculated across rows providing the destination of men from given origins. Total intergenerational persistence, corresponding to those who remain at the same socioeconomic status as their parents, stands at around 27.6% for the entire male sample. This figures can be obtained by summing up the main diagonal of the matrix in table 3, and dividing by the summation of the entire matrix. This is an interesting result, since it is in line with previous UK based studies. Focusing on the main diagonal, we find higher rates of persistence amongst the lowest and the highest occupational groups, with 26.0% for group I and 65.5% for group V.[2]

We also find total upward and downward mobility figures of 49.5% and 22.9%, respectively. We calculate total upward (downward) mobility by adding up the values in the upper-right (lower-left) triangle, which is 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 31.5% and long-distance downward mobility is 13.4%, considerably lower than before as expected.

When comparing generations in Figure 1, we find that the overall distribution of occupations have shifted such that now the share in the highest ranking occupations (IV and V) is larger. This is in line with previous studies about Britain where the trend seems to depict an increasing room at the top (Ermisch and Francesconi (2002)).

[2] This is equivalent to 5.2% and 13.1%, respectively.

Table 4 presents a summary of intergenerational mobility by socioethnic group. The intergenerational mobility matrix for each group of interest can be found in Table 12 in the online Appendix. The overall picture indicates that class differences play a dominant role in explaining a pattern of intergenerational mobility rather than a difference in ethnicity. In panel A, table 4, we find that the white groups show higher intergenerational persistence while positive and negative mobility outcomes are mainly driven by class groups. Even when we account for the long-distance mobility in panel B, that is, when we only consider mobility for individuals who moved more than one category up or down, we find that the non-working class groups, reported in columns (4) and (5), have much larger long-distance upward mobility than the working-class groups in columns (2) and (3). The opposite is true for long-distance downward mobility. Thus, 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.

4.2 Regression results

Predicted Probabilities $P(Rhgs_i = m|\mathbf{x})$

Table 5 reports predicted probabilities for each outcome by socioethnic group. When analysing the predicted probabilities for each outcome in panel A for the full sample, we find that the most likely outcome for the overall male sample is $P(Rhgs_i = V) = 49.8\%$ followed by $P(Rhgs_i = IV) = 16.3\%$, meaning that there is a combined 66.1 percentage points probability of being in categories $Rhgs_i = IV$ or $Rhgs_i = V$.

Turning our attention to the results by socioethnic group in panel B, we find that the combined probability of categories $Rhgs_i = V$ or $Rhgs_i = IV$ is 69.4 percentage points and 65.1 percentage points for both non-working class groups, white and ethnic, respectively. The corresponding figures for working class groups are 50.9 percentage points and 48.3 percentage points for white and ethnic, respectively. This result confirms the class differences within each ethnic group.

Turning attention to the lowest outcomes, i.e., the combined probability of $Rhgs_i = I$ or $Rhgs_i = II$, the results once again point to a more favourable scenario for the non-working class groups. The white and ethnic non-working class groups have a probability of landing on any of these two combined categories of only 19.8 percentage points and 23.2 percentage points, respectively, whereas corresponding probabilities for the white and ethnic working class groups are 35.2 percentage points and 37.7 percentage points, respectively.

The overall inference from these predicted probability analysis points to clear class differences between class groups where the non-working class groups obtain consistently more favourable outcomes than the working class groups. In terms of ethnic differences, the white non-working class boys achieve higher ranked outcomes than the ethnic working class boys, who have the highest likelihood of attaining the lowest ranked occupations.

Marginal Change in Predicted Probabilities

This subsection reports the marginal change in the predicted probability of each outcome. We first analise the marginal effect coefficients for the whole sample, followed by the analysis by socioethnic group.

Full sample

Table 6 presents the average marginal effects for the predicted probabilities of each outcome $P(Rhgs_i = m|Phgs_i, \mathbf{x})$ of the observed dependent variable $Rhgs_i$. In table 6 we find that the marginal effects coefficients associated with the highest outcome, $Rhgs_i = V$, increase monotonically for higher parental backgrounds. Likewise, for the lowest outcomes, $Rhgs_i = I$ and $Rhgs_i = II$, the coefficients decrease monotonically for higher parental backgrounds. In particular, the two highest parental backgrounds, $Pghs = IV$ and $Pghs = V$, are associated with the highest marginal effects coefficients, 8.1% and 10.3% for the highest outcome $Rhgs_i = V$. Similarly, these two parental backgrounds are associated with the lowest marginal changes in probabilities, -5.6% and -7.1%, for the lowest socioeconomic outcome $Rhgs_i = I$, indicating that higher socioeconomic status of parents is generally beneficial for socioeconomic mobility of their offspring relative to the lowest parental socioeconomic status. Interestingly, all the marginal effects coefficients in panel A are negative for every outcome when $Rhgs_i \leq IV$, irrespective of parental background. This supports the idea that when considered as a whole, the survey data indicates an overall tendency to climb rather than descend the socioeconomic ladder.

Turning to the parental backgrounds of $Pghs = III$ and $Pghs = II$, coefficients are smaller in their magnitudes and are less precisely estimated. Taken together, higher parental backgrounds are advantageous for the upward social mobility of their offspring (or for staying in the highest class), but lower parental backgrounds serve as neither a disadvantage nor an advantage for their children in achieving higher socioeconomic status.

When we turn our attention to the impact of highest qualifications obtained in panel B, it is evident that holding either degree, A-level or GCSE qualifications is associated with a higher probability of achieving the highest outcome compared to those with no qualifications. However, not all qualifications are equally useful. For example, degree qualifications increase the probability of achieving the highest outcome, $Rhgs_i = V$, by 45.1%, while the corresponding figures for A-level and GCSE qualifications are 16.6% and 7.7%, respectively.

In terms of the value of educational qualifications as insurance against downwards mobility, it is also evident that the probability of the lowest outcomes decreases in a non-trivial extent when a respondent obtains one of the top three qualifications. In particular, the marginal effect coefficient for the lowest outcome, $Rhgs_i = I$, is -31% for a degree qualification, while the equivalent figures for A-level and GCSE are -11.4% and -5.3%. Additionally, all the marginal effects coefficients in panel B are negative for every outcome when $Rhgs_i \leq IV$, irrespective of qualification, implying that holding any educational qualifications reduces the chance of achieving anything lower than the highest outcome, $Rhgs_i = V$.

Socioethnic groups

Table 7 reports marginal effects coefficients by socioethnic group. Focusing on the working class groups in panel A, most coefficients are insignificant although the general direction of the coefficients follow the insights of table 6. For the white working class, only a parental background of $Pghs = III$ is associated with significant coefficients in particular, the marginal effects coefficients for the highest outcome, $Rhgs_i = V$, is 5.1% and for the lowest outcome, $Rhgs_i = I$, is -6.8%.

Unlike the white working class, the ethnic working class boys present mostly insignificant coefficients for all parental backgrounds, except $Pghs = II$ in which the associated

marginal effects coefficients are not very promising. In particular, the marginal effect coefficient for the highest outcome, $Rhgs_i = V$, is -19.6% while for the lowest outcome, $Rhgs_i = I$, is 21.7%. The direction of the coefficients point to the difficulty that a lower ethnic working class background conveys.

When we turn our attention to the non-working class groups in panel B, we recognise that the results based on the full sample reported in table 6 are a better representation of the non-working class groups in panel B. In particular, the highest parental background seems to enhance the marginal effect in the probability of the highest outcome, $Rhgs_i = V$, for the white and ethnic groups by 11.7% and 10.2% respectively, when compared to the lowest parental background $Pghs = I$. The same holds true for a parental background of $Pghs = IV$ where the marginal effects coefficients for the probability of the highest outcome are 9.4% and 5.3%, for the white and ethnic non-working class groups, although the latter is insignificant. Additionally, the marginal effects coefficients for the lowest outcomes are also negative for those non-working class boys with a parental background of $Pghs = V$. Specifically, the coefficient for the white non-working class is -6.6% while for the ethnic non-working class is -6.7%.

Overall, higher parental backgrounds seem to be a useful mechanism for an upward mobility or for staying in the highest socioeconomic class for the non-working class groups, and in particular, for the white non-working class. In contrast, parental background is less relevant for social mobility for the working class groups, and there are only weak associations between parental backgrounds and child socioeconomic status.

The effects of the highest educational qualification obtained by socioethnic group can be found in table 13 in the online Appendix. We find an overall beneficial effect for most groups. In particular, degree, A-level and GCSE qualifications consistently enhance the outcomes for both white groups, while for the ethnic groups only degree qualifications and to some extent A-levels enhance their social mobility.

Looking at the estimated effects of holding a degree qualification, both non-working class groups have the higher coefficients of 43.4% and 32.8% for the highest outcome, $Rhgs_i = V$. Similarly, holding a degree decreases the probability of the lowest outcome, $Rhgs_i = I$, for all groups, but this effect is larger in the absolute term for the two working class groups. To summarise, holding a degree qualification increases the probability of

reaching/staying in the highest socioeconomic status of V most for the two non-working class groups, whereas it decreases the probability of descending to/staying in the lowest status of most for working class boys.

Holding an A-level qualification has similar effects as hodling a degree, although its effects for ethnic working class boys are imprecisely estimated. Holding a GCSE qualification has a significant effect only on the outcome of the white groups with expected signs: it increases the chance of reaching highest status, whereas it decreases that of attaining the lowest status. Holding a GCSE also has the expected signs for the ethnic groups but are imprecisely estimated, possibly due to smaller sample sizes for these groups.

Overall, Table 13 indicates that educational qualifications act as relevant mobility devices in different ways depending on the class of the individual. For those from a working class background, degree, A-levels and GCSE (for whites) qualifications seem to act primarily as protection devices against downwards mobility and also in a secondary role as devices for upwards mobility. For both non-working class groups, degree level qualifications work as devices that enhance their persistence in the higher socioeconomic cluster, while for the white non-working class even A-levels and GCSE qualifications seem to serve a similar purpose.

Odds Ratios

Table 8 presents the odds ratios using the full sample and by socioethnic group. First, consider the results based on the full sample reported in column (1). For those males with a parental background of $Pghs = V$, the odds of an outcome equal to $Rhgs_i = V$ versus the combined odds of the middle and low categories ($Rhgs_i = I$ to $Rhgs_i = IV$) is 1.708 greater. The odds ratios monotonically decrease as father's socioeconomic status decreases, but always remain greater than one, implying that the higher the father's socioeconomic status, the higher the odds of their offspring achieving higher status.

Second, consider the odds ratios calculated by socioethnic group reported in columns (2) to (5). Broadly speaking, they follow a similar pattern as those calculated using the full sample with a notable exception of ethnic working class boys in column (3). The odds ratios for this group tend to be less than one. In particular, for those with parental backgrounds of II and III, odds ratios are relatively small, implying that for ethnic working

class boys with lower parental backgrounds, going up the socioeconomic ladder is rather unlikely.

Finally, the odds ratios of achieving the highest socioeconomic status by the highest educational qualification obtained are reported in table 14 in the online Appendix. Holding educational qualifications provide positive odds of achieving the highest outcome irrespective of class and ethnic groups, unlike father's socioeconomic status whose effects on offspring's outcome vary by class and ethnity. Broadly speaking, educational qualifications can be considered as a device for upward social mobility for every group of individual.

5. Robustness Checks

This section conducts three sets of robustness checks. First, we examine the hypothesis that respondent's socioeconomic status is determined by household effects, in particular their father's background, by analysing siblings who are paired by household. Second, we examine the robustness of our results to changes in the definition of the working class. Third, we conduct a heterogeneity analysis by using a sample of females and see whether the results obtained using our base sample, which is a group of males, still hold.

5.1 Siblings analysis

In the previous section, we have found that parental backgrounds are strongly associated with their offspring's socioeconomic status. If the results in the previous section are indeed driven by parental backgrounds, we would expect that when comparing intergenerational social mobility for groups of siblings that belong to the same households, the estimated mobility for both groups should not be significantly different from each other.

In our dataset, there are $4,511$ households with at least two siblings. After keeping only the pairs of siblings who had complete information on every variable in equation 5, we conduct analysis on 619 pairs of siblings. We ordered the data such that each vector of siblings, SIB_1 and SIB_2, has an equal share of oldest and youngest siblings, which were randomly assigned. This is particularly important considering that financial constraints may reduce investments in younger children, making parental background less relevant for those born later. On the other hand, it could also be the case that a child born later

have a higher mobility because parents acquired experiences and have a better knowledge about, for example, which school to send their child for them to be successful.

Table 9 reports the marginal changes in predicted probabilities for each vector of siblings and evaluate the effect of parental background on the average marginal effects. Table 9 shows that the marginal effects coefficients are similar in direction and magnitude between the two sets of siblings. Moreover, the results are broadly consistent with our main results presented in table 6 using the full sample. A noticable difference is that the estimates in Table 9 are generally imprecisely estimated. This is not surprising because of smaller sample sizes for the sibling analysis.

Next, table 10 presents odds ratios for the pairs of siblings and conducts a Hausman test for each outcome on each coefficient of interest, to evaluate if the odds ratios are significantly different from each other between the two sets of siblings. The third row of table 10 reports the χ^2_1 score and its corresponding p-value in parenthesis, indicating that the null hypothesis of the equality of coefficients between the two pairs of siblings is not rejected for every parental background. The results again support the possibility that our main results in the previous section are driven by parental backgrounds.

5.2 Sensitivity Analysis

We now examine the robustness of our results to changes in the definition of the working class. In our main analysis thus far, working class is defined as those below the median income of our sample, £1,131, using the average net monthly income per capita for the five available waves in our dataset. The median is chosen as the threshold as it is a good measure of centre for the right skewed income distribution, and also close to the self-reported share of "working class", 57% (Gillborn (2009)). We now investigate the sensitivity of results to the definition of working class by introducing two different working class thresholds: one at the mean of the income distribution and one at the 57^{th} percentile which matches the self-reported working class threshold reported by UK adults (Gillborn (2009)). The selection of the working class threshold is crucial since it will determine the composition of the groups of analysis.

In table 15, included in the online appendix, we confirm that changes in the working class threshold don't affect the overall inference of our results. Despite minor changes

in significance for the odds of the white working class group, the rest of the coefficients for every other group remains highly stable and the direction and magnitude of most coefficients stand consistent. Additionally, the overall male coefficients seem to be mainly representative of the non-working class groups.

5.3 Female Analysis

So far we have focused our analysis exclusively on males primarily due to their marked educational underachievement and other reasons related to the lesser importance of parental background for women. The detailed justification was presented in section 3.

In table 11 we briefly analyse the results for a sample of $7,917$ women present in every round. First, we find that parental background seems to matter for women too, but to a slightly lesser extent for the highest parental backgrounds $Pghs = V$ and $Pghs = IV$. This finding seems to partially hold for both positive and negative outcomes.

Additionally, one revealing finding, particularly when compared to males in table 6, is that educational qualifications seem to matter more for women than for men. Precisely, educational qualifications enhance the mobility outcomes of women for every educational qualification and to a much larger extent than for men. Importantly, this is true for every qualification and for most of the relevant outcomes. This could be a reflection of a compensation effect, where females might find educational devices as more useful mechanisms for social mobility than parental background.

In the online appendix, table 16, we present a comparative analysis of the odds ratios for the overall male and female groups, where we confirm the findings presented here.

6. Conclusions

This study examines the relative 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 poor educational attainment and their disadvantage in the labour market. Our main objective is to explicitly 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. We use income to delineate between the working class and the non-working class where we specify the working class threshold at the median monthly income of the sample.

Our empirical findings support the view that the most disadvantaged group are the ethnic working class as opposed to the white working class. This is despite the educational underachievement of the white working class boys both in terms of lower degree attainment and the highest share with the no qualifications relative to our three other groups. The relative disadvantage of the ethnic working class is evident both in terms of current income but also intergenerational mobility. White working class incomes are higher than those of the ethnic working class.

With respect to intergenerational mobility, our analysis does reveal greater upward mobility with an overall shift in the distribution of occupations towards the higher levels. However, upward mobility is higher for both non-working class groups and downward mobility is higher for the working class groups, with particularly unfavourable mobility outcomes for the ethnic working class. The probability of landing in the highest occupational category being higher for non-working class groups and the probability of landing in the lowest occupational category is higher for the working class groups. These results indicate "increasing room at the top" especially for those from a non-working class background and also greater disadvantage for the ethnic working class as opposed to the white working class.

Both parental background and educational qualifications matter. A higher parental background is associated with higher occupational outcomes with parental background being the most helpful to the non-working class groups. Better educational qualifications help boost social mobility with the greatest gains stemming from degree qualifications. It

seems that educational qualifications mainly serve the non-working class in maintaining their better position whereas for the working class better educational qualifications act as an insurance against downward mobility. Whilst degree qualifications are useful for all four of our socio-ethnic groups, sub-degree qualifications seem to assist mainly the working class. Our results are also robust with respect to different definitions of the working class.

Table 1: ***Descriptive Statistics***

	WWC		EWC		WNWC		ENWC	
	mean	sd	mean	sd	mean	sd	mean	sd
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Phgs	2.456	1.538	2.931	1.558	2.986	1.645	3.178	1.623
Rhgs	2.719	1.534	2.821	1.651	3.846	1.523	3.766	1.592
Net Income (£)	801.6	247.5	754.1	266.7	2211.8	1209.3	2081.9	1040.6
Ln(Net Income)	6.595	0.603	6.525	0.534	7.603	0.411	7.558	0.380
Educational Level	2.909	1.433	3.339	1.537	3.868	1.299	4.067	1.328
Age	54.969	18.880	44.701	18.444	52.603	14.885	44.400	12.166
English 1^{st} language	0.978	0.145	0.450	0.498	0.978	0.148	0.439	0.497
Religious	0.467	0.499	0.859	0.348	0.475	0.499	0.856	0.352
Married	0.474	0.499	0.563	0.497	0.708	0.455	0.793	0.406
England	0.804	0.397	0.980	0.141	0.834	0.372	0.981	0.138
Scotland	0.072	0.259	0.005	0.071	0.076	0.265	0.010	0.098
Wales	0.059	0.235	0.013	0.112	0.050	0.218	0.008	0.091
N.Ireland	0.065	0.247	0.003	0.050	0.040	0.196	0.001	0.037
N	2,410		398		5,815		720	

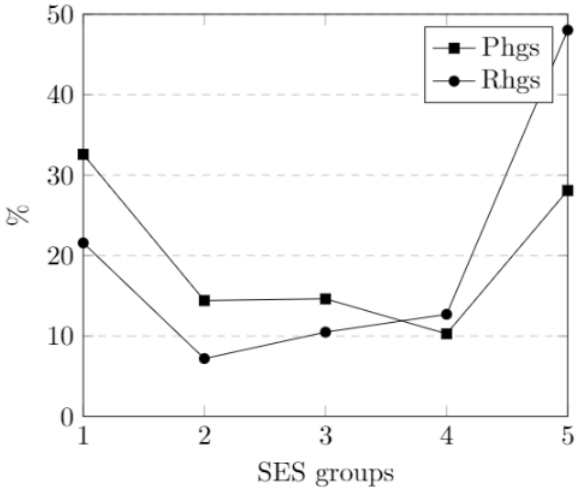
Notes: (1) Net income is expressed in pounds per month. (2) Educational level is expressed in discrete values form 1 to 5, where: 1 =None; 2 =Other; 3 =GCSE; 4 =A-Level; 5 =Degree. (3) Parental HG score (Phgs) and Respondent HG score (Rhgs) are both expressed in the range: 1(Min) to 5(Max). (4) All the other variables are $(0, 1)$ dummies.

Table 2: ***Educational Attainment by Group of Analysis (%).***

Educational level	WWC (1)	EWC (2)	WNWC (3)	ENWC (4)	ALL (5)
Degree	16.8	33.4	45.9	58.9	38.9
Alevel	23.1	19.3	20.1	12.9	20.3
GCSE	19.0	15.8	16.5	12.9	16.9
Other	16.2	10.6	9.9	6.5	11.3
None	24.9	20.9	7.6	8.8	12.7
N	2,410	398	5,815	720	9,343

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).

Fig. 1: - Intergenerational Distribution of Hope-Goldthorpe Score (father-son)



Notes: Figure 1 depicts the shift in the distribution of HG scores between parental and respondent generations. It is evident from the graph that the distribution has shifted to the right favouring occupations in the higher end of the distribution for the respondents' generation.

Table 3: ***Mobility Matrix for Father and Son (%)***

Phgs	Rhgs I (1)	II (2)	III (3)	IV (4)	V (5)	Total (6)
I	26.00	11.65	14.24	7.24	40.88	1,700
II	19.80	11.73	13.87	8.32	46.28	793
III	19.30	10.31	23.98	6.12	40.29	834
IV	13.65	6.90	10.12	10.74	58.59	652
V	10.70	6.01	10.49	7.26	65.54	1,831
Total (N)	1,045	532	810	443	2,980	5,810

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 4: ***Father/Respondent Mobility Matrix (%).***

Father-Respondent	Males (1)	WWC (2)	EWC (3)	WNWC (4)	ENWC (5)
Panel A: Intergenerational mobility					
=	27.6	26.2	20.3	27.7	26.2
Up	49.5	32.5	34.8	54.2	53.9
Down	22.9	41.3	44.9	18.1	19.9
Panel B: Long-distance mobility					
=	27.6	26.2	20.3	27.7	26.2
Up	31.5	18.8	19.2	35.1	36.6
Down	13.4	25.6	26.2	10.1	12.8

Notes: (1) Outflow analysis refers to the comparison with the benchmark category, parental occupational (e.g 27.6% of all male 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*). (3) Panel A, includes raw mobility figures, which account for any type of mobility. (4) Panel B includes the figures by "distance" adjustment which only considers the movement of those respondents who shifted more than one category (up or down) from their parental occupational classification.

Table 5: ***Predicted probabilities from the ordered logit regression for each outcome*** $P(y_i = m|\mathbf{X})$ ***by Socioethnic Group of Interest. (Dependent Variable: Respondent Hope-Goldthorpe Score)***

	Predicted Probabilities				
	$Rhgs_i = I$	$Rhgs_i = II$	$Rhgs_i = III$	$Rhgs_i = IV$	$Rhgs_i = V$
	(1)	(2)	(3)	(4)	(5)
Panel A: Full sample					
$Males$	0.155	0.069	0.115	0.163	0.498
Panel B: By socioethnic groups					
WWC	0.257	0.095	0.139	0.164	0.345
EWC	0.278	0.099	0.141	0.161	0.322
$WNWC$	0.136	0.062	0.107	0.158	0.536
$ENWC$	0.161	0.071	0.117	0.164	0.487

Notes: (1) The predicted probabilities in columns $(1) - (5)$ are results from the ordered logit regression of respondent HG score on parental HG score and additional control variables including, gender, age, age squared, ethnicity, highest educational degree, country of residence, marital status, native language and religious affiliation. (2) The first row in panel A, considers all covariates at their means. Every other row in panel A and B sets the relevant covariate at the desired value and leave the others at their means (e,g, for males, $male = 1$ and every other X is set at its mean.).

Table 6: ***Average Marginal Change in the Predicted Probabilities from the ordered logit regressions on all males. Average Marginal effects for each outcome*** $P(y_i = m|\mathbf{X})$***. (Dependent Variable: Respondent Hope-Goldthorpe Score)***

	Predicted Probabilities - Average Marginal Effects				
	Males				
	$Rhgs_i = I$	$Rhgs_i = II$	$Rhgs_i = III$	$Rhgs_i = IV$	$Rhgs_i = V$
	(1)	(2)	(3)	(4)	(5)
Panel A: Parental HG score					
$Phgs = V$	-0.071***	-0.018***	-0.013***	-0.002***	0.103***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$Phgs = IV$	-0.056***	-0.014***	-0.010***	-0.001**	0.081***
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
$Phgs = III$	-0.023*	-0.006*	-0.004*	-0.001*	0.034*
	(0.021)	(0.021)	(0.021)	(0.032)	(0.020)
$Phgs = II$	-0.005	-0.001	-0.001	-0.000	0.007
	(0.633)	(0.633)	(0.633)	(0.635)	(0.633)
Panel B: Highest Qualification					
Degree	-0.310***	-0.077***	-0.057***	-0.007***	0.451***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Alevels	-0.114***	-0.028***	-0.021***	-0.003***	0.166***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GCSE	-0.053***	-0.013***	-0.010***	-0.001**	0.077***
	(0.000)	(0.000)	(0.000)	(0.006)	(0.000)
Other	-0.014	-0.004	-0.003	-0.000	0.020
	(0.354)	(0.355)	(0.356)	(0.369)	(0.355)

Notes: (1) The average marginal change in predicted probabilities in columns $(1) - (5)$ are results from the ordered logit regression of all respondent HG score on parental HG score and additional control variables including, gender, age, age squared, ethnicity, highest educational degree, country of residence, marital status, native language and religious affiliation. (2) The average marginal change in predicted probabilities in columns $(6) - (10)$ are results from the ordered logit regression of only male respondent HG score on parental HG score and additional control variables, the same control variables mentioned in (1). (3) $Phgs = II, Phgs = III, Phgs = IV, Phgs = V$ are the dummies for parental HG score, where $Phgs = II$ captures the value of a $D_i = 1$ for those whose parent belonged to $HGS = 2$ and so on. (4) For Panel A, the omitted variable is $Phgs = I$ and for Panel B, the omitted variable is "No qualifications". (5) P-values in parentheses.* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 7: ***Average Marginal Change in the Predicted Probabilities from the ordered logit regressions on each socioethnic group. Average Marginal effects for each outcome*** $P(y_i = m|\mathbf{X})$***. (Dependent Variable: Respondent Hope-Goldthorpe Score)***

	Predicted Probabilities - Average Marginal Effects									
			WWC					EWC		
	$Rhgs_i = I$	$Rhgs_i = II$	$Rhgs_i = III$	$Rhgs_i = IV$	$Rhgs_i = V$	$Rhgs_i = I$	$Rhgs_i = II$	$Rhgs_i = III$	$Rhgs_i = IV$	$Rhgs_i = V$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A: Working class boys										
$Fhgs = V$	-0.051	-0.004	0.009	0.008	0.038	0.001	0.000	-0.000	-0.000	-0.001
	(0.135)	(0.146)	(0.141)	(0.139)	(0.137)	(0.991)	(0.991)	(0.991)	(0.991)	(0.991)
$Fhgs = IV$	-0.036	-0.003	0.006	0.006	0.027	-0.098	-0.005	0.005	0.010	0.088
	(0.443)	(0.447)	(0.445)	(0.445)	(0.444)	(0.391)	(0.417)	(0.460)	(0.405)	(0.394)
$Fhgs = III$	-0.068*	-0.006*	0.012*	0.011*	0.051*	0.052	0.003	-0.003	-0.005	-0.047
	(0.033)	(0.040)	(0.044)	(0.035)	(0.033)	(0.475)	(0.492)	(0.532)	(0.480)	(0.476)
$Fhgs = II$	0.043	0.004	-0.008	-0.007	-0.032	0.217*	0.012	-0.011	-0.022	-0.196*
	(0.227)	(0.240)	(0.232)	(0.232)	(0.229)	(0.047)	(0.096)	(0.313)	(0.084)	(0.047)
			WNWC					ENWC		
	$Rhgs_i = I$	$Rhgs_i = II$	$Rhgs_i = III$	$Rhgs_i = IV$	$Rhgs_i = V$	$Rhgs_i = I$	$Rhgs_i = II$	$Rhgs_i = III$	$Rhgs_i = IV$	$Rhgs_i = V$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel B: Non-working class boys										
$Fhgs = V$	-0.066***	-0.027***	-0.018***	-0.006***	0.117***	-0.067*	-0.013*	-0.015*	-0.008*	0.102*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.014)	(0.017)	(0.015)	(0.019)	(0.012)
$Fhgs = IV$	-0.053***	-0.022***	-0.014***	-0.005***	0.094***	-0.035	-0.007	-0.008	-0.004	0.053
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.383)	(0.385)	(0.380)	(0.382)	(0.381)
$Fhgs = III$	-0.020	-0.008	-0.005	-0.002	0.034	0.013	0.003	0.002	0.002	-0.021
	(0.070)	(0.069)	(0.069)	(0.071)	(0.069)	(0.635)	(0.637)	(0.637)	(0.638)	(0.636)
$Fhgs = II$	-0.016	-0.006	-0.004	-0.001	0.027	-0.031	-0.006	-0.007	-0.004	0.048
	(0.152)	(0.152)	(0.152)	(0.156)	(0.151)	(0.531)	(0.532)	(0.534)	(0.533)	(0.531)

Notes: (1) The average marginal change in predicted probabilities in Panel A, are results from the ordered logit regression of wwc and ewc respondent HG score on parental HG score and additional control variables including, gender, age, age squared, ethnicity, highest educational degree, country of residence, marital status, native language and religious affiliation.(2) The average marginal change in predicted probabilities in Panel B, are results from the ordered logit regression of wnwc and enwc respondent HG score on parental HG score and additional control variables, the same control variables mentioned in (1). (3) $Fhgs = II, Fhgs = III, Fhgs = IV, Fhgs = V$ are the dummies for parental HG score, where $Fhgs = II$ captures the value of a $D_i = 1$ for those whose parent belonged to $HG = 2$ and so on. (4) For Panel A and B, the omitted variable is $Fhgs = I$. (5) P-values in parentheses.* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 8: ***Odds ratios for the Ordered logit regression on all covariates by socioethnic group of interest. (Dependent Variable: Respondent Hope-Goldthorpe Score)***

	Odds Ratios - 5 groups				
	$Males$	WWC	EWC	$WNWC$	$ENWC$
	(1)	(2)	(3)	(4)	(5)
Panel A: Parental HG score					
$Phgs = V$	1.708***	1.279	0.996	1.853***	1.785*
	(0.000)	(0.136)	(0.991)	(0.000)	(0.014)
$Phgs = IV$	1.521***	1.187	1.623	1.637***	1.348
	(0.000)	(0.444)	(0.394)	(0.000)	(0.383)
$Phgs = III$	1.193*	1.386*	0.772	1.198	0.890
	(0.021)	(0.033)	(0.476)	(0.069)	(0.636)
$Phgs = II$	1.039	0.813	0.340*	1.155	1.309
	(0.633)	(0.229)	(0.049)	(0.151)	(0.530)
N	6,451	1,110	236	4,310	586

Notes: (1) The Odds ratios presented in each column, correspond to the results from five different samples of the ordered logit regression of respondent HG score on parental HG score and additional control variables including, gender, age, age squared, ethnicity, highest educational degree, country of residence, marital status, native language and religious affiliation. (2) $Phgs = II, Phgs = III, Phgs = IV, Phgs = V$ are the dummies for parental HG score, where $Phgs = II$ captures the value of a $D_i = 1$ for those whose parent belonged to $HG = 2$ and so on. (3) For Panel A the omitted variable is $Phgs = I$. (4) P-values in parentheses.* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 9: ***Average Marginal Change in the Predicted Probabilities from the ordered logit regressions by pairs of siblings on parental background and highest qualification. Average Marginal effects for each outcome*** $P(y_i = m|\mathbf{X})$***. (Dependent Variable: Respondent Hope-Goldthorpe Score)***

	Predicted Probabilities - Average Marginal Effects									
			SIB_1					SIB_2		
	$Rhgs_i = I$	$Rhgs_i = II$	$Rhgs_i = III$	$Rhgs_i = IV$	$Rhgs_i = V$	$Rhgs_i = I$	$Rhgs_i = II$	$Rhgs_i = III$	$Rhgs_i = IV$	$Rhgs_i = V$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A: Parental HG score - Base sample										
$Phgs = V$	-0.044	-0.001	-0.006	0.000	0.056	-0.065*	-0.013*	-0.014*	0.002	0.090*
	(0.182)	(0.195)	(0.200)	(0.730)	(0.182)	(0.034)	(0.037)	(0.042)	(0.134)	(0.031)
$Phgs = IV$	-0.076	-0.011	-0.010	0.001	0.097	-0.072*	-0.014*	-0.016	0.003	0.100*
	(0.091)	(0.100)	(0.110)	(0.727)	(0.090)	(0.043)	(0.050)	(0.060)	(0.155)	(0.042)
$Phgs = III$	-0.006	-0.001	-0.001	0.000	0.007	-0.020	-0.004	-0.004	0.001	0.028
	(0.877)	(0.877)	(0.877)	(0.890)	(0.877)	(0.539)	(0.541)	(0.539)	(0.549)	(0.539)
$Phgs = II$	-0.059	-0.009	-0.008	0.000	0.075	-0.026	-0.005	-0.006	0.001	0.036
	(0.103)	(0.115)	(0.117)	(0.730)	(0.101)	(0.458)	(0.460)	(0.464)	(0.479)	(0.458)

Notes: (1) The average marginal change in predicted probabilities results from the ordered logit regression of respondent HG score on parental HG score and additional control variables including, gender, age, age squared, ethnicity, highest educational degree, country of residence, marital status, native language and religious affiliation. (2) The omitted variable is $Phgs = I$. (3) These results include pairs of siblings present in all rounds (4) P-values in parentheses.* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 10: ***Odds Ratios from the ordered logit regression for each outcome by pairs of siblings. (Dependent Variable: Respondent Hope-Goldthorpe Score)***

	Odds Ratios				
	$Phgs = II$	$Phgs = III$	$Phgs = IV$	$Phgs = V$	
	(1)	(2)	(3)	(4)	N
Panel B: Odds Ratios					
$ALLSIB_1$	1.482	1.039	1.660	1.341	619
	(0.103)	(0.877)	(0.089)	(0.183)	
$ALLSIB_2$	1.207	1.159	1.689*	1.602*	619
	(0.459)	(0.539)	(0.043)	(0.032)	
$\chi^2_{(1)}$	0.34	0.10	0.00	0.32	
	(0.558)	(0.752)	(0.965)	(0.569)	

Notes: (1) The predicted probabilities in columns $(1) - (5)$ are results from the ordered logit regression of respondent HG score on parental HG score and additional control variables including, gender, age, age squared, ethnicity, highest educational degree, country of residence, marital status, native language and religious affiliation.(2) The first row in panel A, corresponds to the first vector of siblings and the second row to the second vector of siblings. Siblings have been randomised so that each vector has an equal amount of youngest and oldest siblings present in all rounds. (3) In Panel B, $Phgs = II, Phgs = III, Phgs = IV, Phgs = V$ are the dummies for parental HG score, where $Phgs = II$ captures the value of a $D_i = 1$ for those whose parent belonged to $HG = 2$ and so on. Similarly, the omitted variable for this panel is $Phgs = I$. (4) The third row in Panel B captures the results from a Hausman test on a seemingly unrelated regression for the pairwise comparison of coefficients between vectors of siblings. (5) P-values in parentheses.* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 11: ***Average Marginal Change in the Predicted Probabilities from the ordered logit regressions on all females. Average Marginal effects for each outcome*** $P(y_i = m|\mathbf{X})$***. (Dependent Variable: Respondent Hope-Goldthorpe Score)***

	Predicted Probabilities - Average Marginal Effects Females				
	$Rhgs_i = I$	$Rhgs_i = II$	$Rhgs_i = III$	$Rhgs_i = IV$	$Rhgs_i = V$
	(1)	(2)	(3)	(4)	(5)
Panel A: Parental HG score					
$Phgs = V$	-0.073***	-0.008***	-0.008***	-0.007***	0.096***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$Phgs = IV$	-0.037**	-0.004**	-0.004**	-0.004**	0.049**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
$Phgs = III$	-0.036**	-0.004**	-0.004**	-0.003**	0.047**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
$Phgs = II$	-0.035**	-0.004**	-0.004**	-0.003**	0.047**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Panel B: Highest Qualification					
Degree	-0.423***	-0.047***	-0.047***	-0.040***	0.558***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Alevels	-0.229***	-0.026***	-0.026***	-0.022***	0.302***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GCSE	-0.144***	-0.016***	-0.016***	-0.014 ***	0.190***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Other	-0.095***	-0.011***	-0.011***	-0.009***	0.125***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Notes: (1) The average marginal change in predicted probabilities in columns (1) – (5) are results from the ordered logit regression of all respondent HG score on parental HG score and additional control variables including, gender, age, age squared, ethnicity, highest educational degree, country of residence, marital status, native language and religious affiliation. (2) The average marginal change in predicted probabilities in columns (6) – (10) are results from the ordered logit regression of only male respondent HG score on parental HG score and additional control variables, the same control variables mentioned in (1). (3) $Phgs = II, Phgs = III, Phgs = IV, Phgs = V$ are the dummies for parental HG score, where $Phgs = II$ captures the value of a $D_i = 1$ for those whose parent belonged to $HGS = 2$ and so on. (4) For Panel A, the omitted variable is $Phgs = I$ and for Panel B, the omitted variable is "No qualifications". (5) P-values in parentheses.* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

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