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## Career preferences and socio-economic background

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# Career Preferences and Socio-Economic Background

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## Career Preferences and Socio-Economic Background\*

### Abstract

Career decisions, that is educational and occupational choice, are not only made by comparing expected incomes, but also by considering non-monetary rewards like social impact, chances of promotion, or the compatibility of work and family. In this paper, I use rich panel data from Germany to show that preferences about such aspects of a career as stated at age 17 are strong predictors of future earnings in the labor market. At the same time, these preferences differ significantly by socio-economic background, and intergenerational income persistence is reduced by 8–22 percent when accounting for career preferences.

JEL Code: D01, D63, J24, J62, I38

Keywords: Equality of opportunity, intergenerational mobility, occupational choice

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# 1 INTRODUCTION

Earnings in the labor market depend crucially on parental background, as documented in the large literature on intergenerational income mobility (e.g. [Black and Devereux, 2011](#)). These gradients between earnings and parents' socio-economic status (SES) may arise for two reasons. On the one hand, children from different SES face different economic opportunities, for example via credit constraints or access to high quality schools. On the other hand, the preferences about what is valuable in a career, for example a high income or rather an interesting job, may differ with respect to SES. While economic research has long been interested in the difference in opportunities, we still know little about the relationship between SES and career preferences.

These preferences are important, as recent work has emphasized that education and career decisions are not only made on the basis of expected financial returns, but also depend critically on the non-monetary aspects associated with these choices ([Heckman et al., 2006](#)). For example, adolescents with high fertility desires sort into occupations where work and family commitments are more compatible ([Adda et al., 2017](#); [Keane and Wolpin, 2010](#); [Erosa et al., 2022](#)). Important career choices like whether to attend college, whether to relocate to other labor markets, or which occupation to choose thus depend on career preferences which comprise more than just monetary aspects.

In this paper, I contribute to our understanding of the role played by career preferences in the intergenerational persistence of socio-economic status. Using panel data from the German Socio-Economic Panel (SOEP), I combine for birth cohorts 1982-1992 information on parental background with a battery of questions on both general preferences and goals in life over various outcome domains when the respondents are 17 years old. These preferences include diverse career aspects, comprising among others the desire to achieve a high income, the desire to help others, health and safety conditions, job security, chances of promotion, family time, and the perceived importance of a job for society. I then show that these preferences predict future outcomes in the labor market, and document their correlation with socio-economic status.

Because identifying career preferences from realized job choices is difficult, researchers typically have to rely on stated preferences.<sup>1</sup> In recent work, hypothetical choice questions

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<sup>1</sup>As discussed in [Wiswall and Zafar \(2018\)](#), isolating occupational preferences from job choice is very challenging, because the equilibrium matching of jobs to workers reflects the preferences of both workers and firms. Furthermore, frictions in the labor market additionally blur the relationship between choices and preferences.

have been used to elicit stated preferences, in particular to quantify to what extent gender differences in preferences can explain the gender wage gap (e.g. [Wiswall and Zafar, 2018](#); [Burbano et al., 2020](#); [Valet et al., 2021](#)). An advantage of hypothetical choice surveys is the possibility to ask precise questions about both preferences and beliefs, and to estimate the willingness to pay for certain job attributes. However, studies relying on this methodology often cannot link preferences to actual choices, which constitutes an important limitation.<sup>2</sup> In the SOEP, in contrast, I observe individuals for up to 18 years after having reported their preferences. This allows me to connect career preferences to actual choices in the education system and the labor market.

A second advantage of the household survey data used in this paper is the rich information on individual characteristics and parental background. In the SOEP, I observe parental income, education and occupation, measures of ability like school grades, personality traits, trust and risk preferences, as well as beliefs about success in the labor market. This allows me to condition on a rich vector of covariates when relating career preferences to both SES and labor market outcomes.

I present three main findings. First, I show that career preferences elicited at age 17 are highly predictive of the labor market outcomes of these children when they are 28 to 32 years old. For example, a one standard deviation increase in the preference to choose a career with good chances of promotion is associated with a six percentile ranks higher labor income. In turn, children who reported caring a lot about the possibility to help others in their career have significantly lower earnings in their early thirties than their peers who cared less about this domain. These correlations hold both unconditionally and when controlling for an extensive set of personal characteristics, including measures of ability, the Big Five personality traits, and trust and risk preferences.

Second, I show that most career preferences exhibit a significant correlation with parental income, education, and occupation. For example, high SES children report to care less about income and job security, but more about time for family commitments than low SES children. While I cannot directly observe parental career preferences in the SOEP, I find that related values and goals in life are intergenerationally very persistent. This suggests that career preferences are at least partially directly transmitted across generations.<sup>3</sup>

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<sup>2</sup>For example, [Wiswall and Zafar \(2021\)](#) observe college choice but no earnings, while [Boneva and Rauh \(2017\)](#) predict college choice using a random forest. [Burbano et al. \(2020\)](#) do not observe any educational or occupational choices.

<sup>3</sup>For the decision whether to attend college, [Müller \(2021\)](#) provides first evidence that parental preferences causally affect the college aspirations of their children. Likely,—but this has not been shown empirically so far—parental preferences also causally affect the career preferences of their children. [Zumbuehl et al. \(2020\)](#) suggest parental involvement as one potential channel for preference transmission.

Third, because career preferences correlate with both own and parental income, they are a potential channel for intergenerational income transmission. In my data, I find that statistics of intergenerational income mobility—the most popular measures of equality of opportunity—are reduced by 8-22 percent when controlling for career preferences. This arises because children from low-income families are on average more likely to care about career aspects associated with low earnings. While these findings are descriptive, they nevertheless suggest that intergenerational income mobility could potentially be increased by targeting the career preferences of children from disadvantaged backgrounds. In contrast to cognitive ability, which manifests already in early childhood (Cunha et al., 2006), career preferences are still malleable during adolescence and thus more easily influenced later in life. At least, this is the hope of policymakers, who in the US for example have mandated career guidance in school since more than a century (Gysbers, 2005), or tried to increase preferences for STEM enrollment for women, ethnic minorities and low SES children (Seymour and Hewitt, 1997; Best et al., 2013; Arcidiacono et al., 2016; De Philippis, 2021; Hill, 2017).

To examine whether these findings are specific to the context of Germany, I then replicate my research design for the United Kingdom, where the British Cohort Study (BCS) has elicited similar career preferences at age 16. While the measurement of career preferences, incomes of children and parents, and the coverage of important covariates like risk and trust preferences is better in the SOEP, the BCS offers the advantage of a considerably larger sample size and a longer observation period in adulthood. The results are very similar: Preferences like working regular hours or the desire to help others strongly and significantly predict earnings in the labor market, and intergenerational income persistence is reduced by 18-19% when accounting for these preferences. The patterns documented in the SOEP therefore have external validity beyond the German context and the cohorts under consideration.

By providing a comprehensive account of the nexus between career preferences, own labor market outcomes and parental background, this paper makes three contributions. First, it is to the best of my knowledge the first paper that systematically documents how career preferences vary with parental background. A small but growing set of studies shows that preferences like patience (Kosse and Pfeiffer, 2012, 2013), risk-taking (Dohmen et al., 2012; Alan et al., 2017), or general social preferences (Kosse et al., 2020; Attanasio et al., 2020) are persistent across generations and correlated with socio-economic status. I complement this literature by showing that next to these very general preferences, also much more specific career preferences differ significantly by parental income and other markers of socioeconomic status.

Second, by showing that career preferences predict future earnings, I complement studies demonstrating that basic preferences like trust, patience, and risk aversion are correlated with future economic outcomes (e.g. Barsky et al., 1997; Bonin et al., 2007; Dohmen et al., 2009; Algan and Cahuc, 2010; Fouarge et al., 2014; Golsteyn et al., 2014; Sunde et al., 2022). Career preferences still have substantial additional predictive power for earnings when controlling for these basic preferences. This is encouraging for policymakers who want to improve the outcomes of children from disadvantaged households, as it may be easier to alter career preferences than changing patience, trust, or risk aversion.

Third, by testing how conditioning on career preferences alters estimates of intergenerational income mobility, I speak to a recent literature which emphasizes the role of preferences for explaining labor market inequalities. So far, this literature has mainly focused on gender gaps (Wiswall and Zafar, 2018; Burbano et al., 2020; Valet et al., 2021; Mas and Pallais, 2017), and income differences have been predominantly measured using expected rather than realized incomes. For differences by parental income and other markers of SES, very little evidence is available, as studies decomposing the intergenerational elasticity (e.g. Bolt et al., 2021) typically do not model or observe preferences explicitly. The most closely related study in this domain is Boar and Lashkari (2021), who show that the children of richer US parents do not only enjoy higher incomes, but also more favorable work conditions. Through the lens of a model of occupational choice, they conclude that at least a part of this gradient can likely be attributed to preference heterogeneity. I complement these insights empirically, by directly observing preferences and occupational choice for the same individuals.

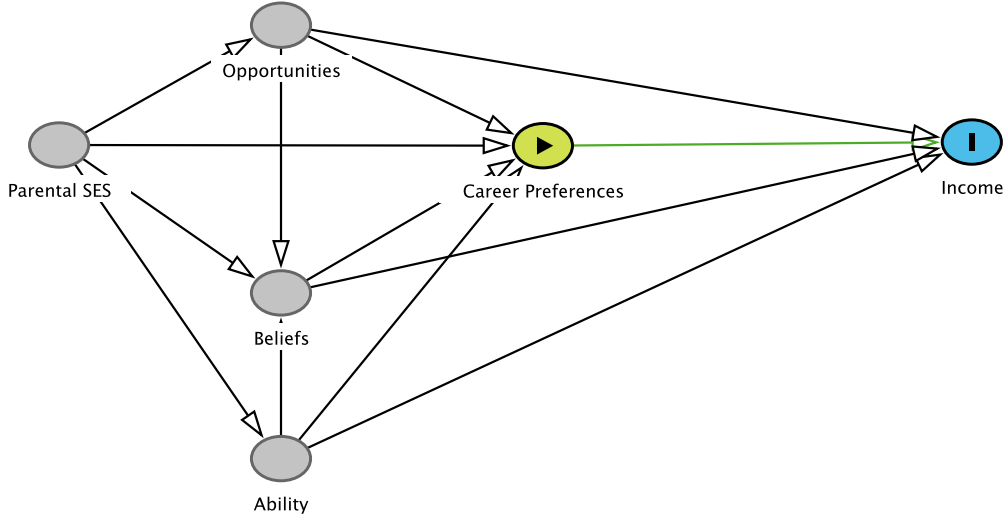
## 2 CONCEPTUAL FRAMEWORK

The main aim of the paper is to provide descriptive evidence on the correlation between career preferences, future labor market outcomes and parental SES. Nevertheless, it is useful to consider under which conditions a regression coefficient of income today on past career preferences could in theory be interpreted as a causal effect.

Figure 1 represents a simple causal model of the interaction between parental SES, career preferences and own income. The framework is very stylized in the sense that intermediate outcomes like educational attainment are not explicitly modelled. Income in this model depends on four factors: ability, opportunities, beliefs and preferences. Ability should be understood as the genetic predisposition for achieving a high income. Opportunities are very broadly defined as all environmental factors influencing income, for example credit



**Figure 1 – Causal Model**



*Notes:* This figure shows a directed acyclical graph (DAG) of how career preferences are causally connected to own income later in life, and various other personal characteristics. Arrows indicate the direction of causality.

constraints, school and peer quality, parental connections to employers, and asymmetric information about the labor market and career pathways. Both ability and opportunities will influence career preferences. For example, only individuals with a sufficiently high IQ will find it enjoyable to start a career as a chess player or software engineer. In terms of opportunities, children will on average be more likely to become physicians if they know that they have the possibility to take over the doctor’s office from their parents. As a fourth factor, parental SES, which is a strong predictor of both ability and opportunities, will also directly influence children’s career preferences. If the parents are physicians, their children might perceive the job of a physician as more appealing themselves. Parental SES thus comprises the whole socio-economic situation of the parental household, including parental income, education and occupation, but also parental values and preferences. Controlling for opportunities, ability and beliefs, parental SES in this model does not directly influence income of the children.

As always, the ideal experiment to estimate the effect of career preferences on income would be to randomly assign different preferences to different individuals. This is generally not possible.<sup>4</sup> Instead, researchers must invoke the conditional independence assumption  $Y_i \perp P_i | X_i$ , arguing that the distribution of preferences  $P_i$  is independent

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<sup>4</sup>While interventions can and have been used to affect preferences (e.g. [Abeler et al., 2021](#)), it is very difficult to vary a certain preference without altering other preferences or beliefs. Likewise, it is hard to think of a valid IV strategy here, as the instrument would have to be correlated with preferences but uncorrelated with both ability and opportunities.

of potential future earnings in the labor market  $Y_i$  when controlling for a covariate vector  $X_i$ , comprising opportunities, ability, and beliefs. Assuming that the empirical conditional expectation function of income with respect to  $X_i$  is well approximated by a linear relationship, Figure 1 can be represented by the following equation

$$y_{i,t+1} = \beta_0 + \beta_1 \text{Preferences}_{i,t} + \beta_2 \text{Ability}_{i,t} + \beta_3 \text{Opportunities}_{i,t} + \beta_4 \text{Beliefs}_{i,t} + \varepsilon_{i,t}, \quad (1)$$

where  $\beta_1$  identifies the causal impact of a variation in preferences on realized income  $y_{i,t+1}$  if there exist no omitted variables that correlate with both preferences and the error term after controlling for ability, opportunities, and beliefs.  $t$  subscripts indicate that preferences, ability, and opportunities are measured at the time individuals take their career decisions as they reach adulthood, whereas income is measured later in life. Without this important restriction, we would have to additionally worry about reverse causality, i.e. income influencing preferences.

In general, it is not plausible that any given set of controls will achieve full conditional independence. Studies relying on specifically designed surveys to elicit career preferences (e.g. [Wiswall and Zafar, 2018](#)) will do a good job in controlling for beliefs, but typically cannot approximate the other two factors very well. In contrast, the panel data used in my analysis have less information on beliefs but provide an unusually rich set of covariates to capture both opportunities and ability.

### 3 DATA

My analysis requires data which allow observing both own and parental income, and a reliable measure of career preferences. To the best of my knowledge, the only publicly available data sets that meet all three requirements are the German Socio-economic Panel (SOEP) and the British Cohort Study (BCS). In my main analysis, I will focus on the SOEP, as it provides a more comprehensive way to measure career preferences and parental background, and because it elicits further preferences like risk and trust which are not available in the BCS.<sup>5</sup> In Section 6, I additionally replicate my main findings using data from the BCS.

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<sup>5</sup>For example, the question about career preferences (described below for the SOEP) is only elicited on a three point Likert scale in the BCS (compared to a four-point scale in the SOEP) and lacks some important categories like family commitments or the relevance of the career for society. See also Appendix C, where I describe the available information in the BCS in more detail.

Established in 1984, the SOEP is a nationally representative household panel survey of the German population. In its more recent waves, it samples around 15,000 German households or 25,000 individuals each year (Goebel et al., 2019). The SOEP is a truly multidisciplinary survey, as it provides a broad range of socio-economic variables such as income, education, employment status or biographical characteristics, as well as subjective measures like life satisfaction or perceptions of fairness and reciprocity. Since 2000, participants turning 17 answer a youth questionnaire, where they are asked about their current situation in the education or employment system, their values and attitudes, and their aspirations and goals for the future.

In most of my analysis, I combine the youth questionnaire with the panel dimension of the SOEP’s main questionnaire. For example, I can test whether career preferences stated in the youth questionnaire at age 17 predict variables such as income or occupation individuals state in the main questionnaire of the SOEP once they are in their early thirties.

**Career Preferences.** Career preferences in the SOEP are surveyed with a single question asked annually to all participants in the youth questionnaire. In the English translation, this question reads: *Different things may be important to people when choosing a career. Please state how important each of the following is to you—very important, important, not so important, completely unimportant. How important for your career is....*, followed by a list of twelve different endings of the sentence, which capture the most important aspects in choosing a career.<sup>6</sup> In the following, I will refer to the answers to this question as career preferences. If respondents answered the career question but failed to rate up to three items, I impute missing values based on the ratings in all other categories using chained equations.<sup>7</sup> This affects less than 2% of the respondents who answered any item of the question, and for only 0.2% more than one item is missing. To allow for a better comparison of the estimates, I use standardized measures of career preferences and all other measures of traits, preferences, and values which are elicited on a Likert scale.

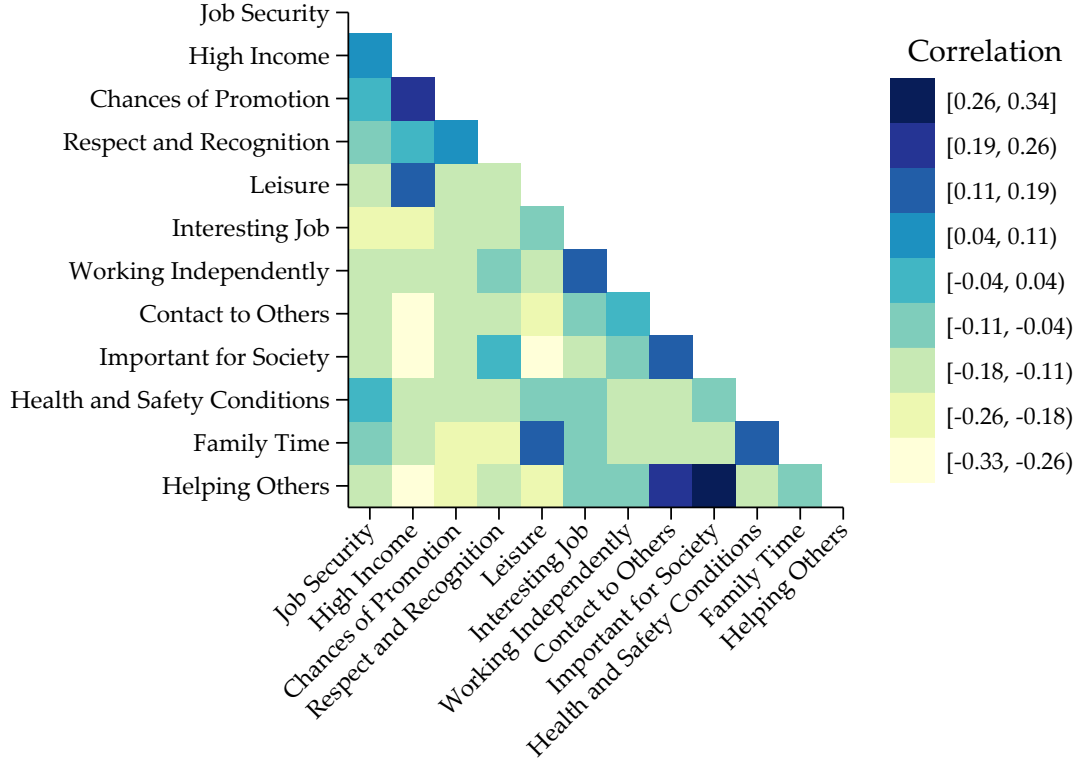
Figure 2 displays all twelve preferences and their correlation among each other. For example, respondents that highly value income in their career are also more likely to care

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<sup>6</sup>Appendix Figure A.1 displays the original question including all answer categories in German, along with the English translation.

<sup>7</sup>The idea behind multiple imputation by chained equations is to impute multiple variables iteratively via a sequence of univariate imputation models (here: ordered logit), with fully conditional specifications of the prediction equations. See White et al. (2011) for a description of the method and Royston and White (2011) for more details on the Stata implementation.

**Figure 2 – Correlation of Career Preferences**

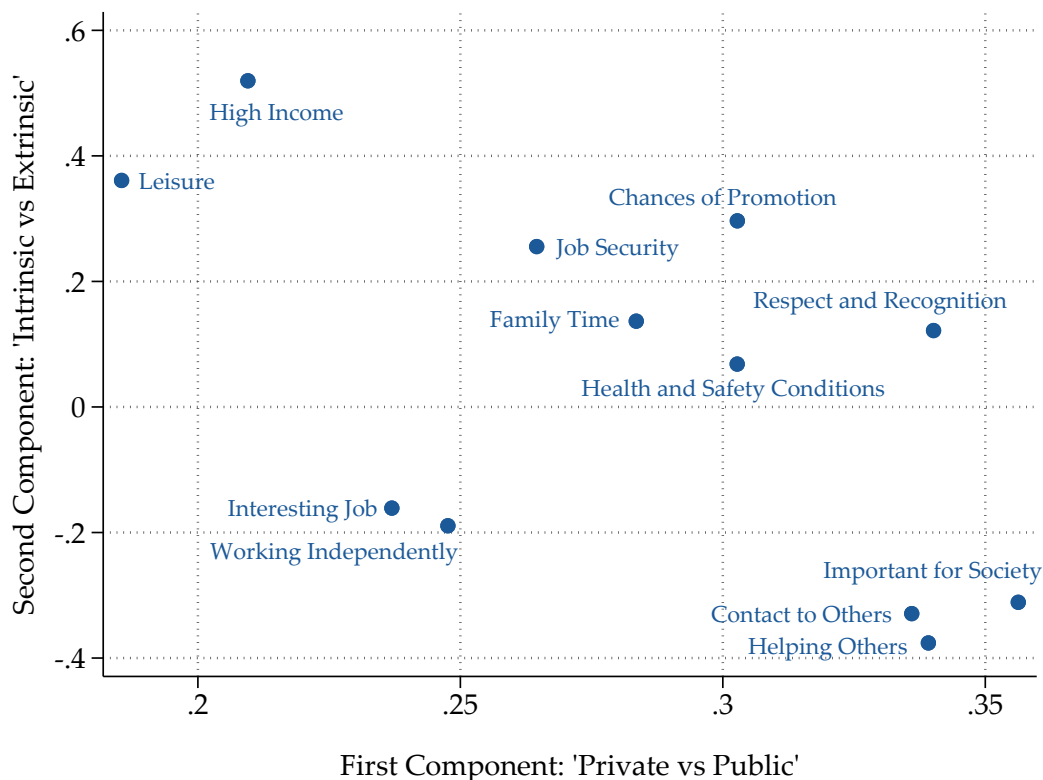


*Notes:* This figure shows a heatmap of the pairwise Pearson correlation coefficients between all career preferences. To account for the fact that some respondents are more likely to assign high importance to all career aspects, the correlations are adjusted by individual fixed effects computed by averaging over all preferences. The exact point estimates of the unconditional and conditional correlations are disclosed in Appendix Table A.2.

about chances of promotion and leisure time. In contrast, they are less likely to care about a job where they have the possibility to help others, contact to others, or about a job they consider to be important for society. Respondents who care about having enough time for family commitments also consider leisure time and health and safety conditions to be more important. While the correlations between the different career aspects are meaningful, they are not very high on average and collinearity is low. This highlights that each question captures a distinct and genuine aspect of choosing a career. As such, the answers to the questions are not easily reduced via a principal component analysis (PCA), for which I find a Kaiser-Meyer-Olkin measure of sampling adequacy of 0.77.

Just descriptively, it is nevertheless still interesting to see the factor loadings of each preference on the first two components of a PCA. As shown in Figure 3, the two components explaining most of the joint variance in career preferences are best described as referring to a contrast between extrinsic versus intrinsic career aspects, and to a dichotomy between more public/visible versus private features of a career. Preferences

Figure 3 – Principal Component Analysis Career Preferences



*Notes:* This figure shows a scatter plot of the factor loadings of the first and second component of a principal component analysis (PCA) of all twelve career preferences.

correlating positively like income/leisure or helping others/important for society tend to display similar factor loadings in both components.

On average, the most desired career aspects are an interesting job, job security, and health and safety conditions (compare Appendix Figure A.2). In contrast, a high income and leisure—corresponding to the ingredients of the classical utility function in labor economics—are rated as comparatively less important.

**Values.** In addition to career preferences, I use a related question on personal values, which reads: *Different things are important to different people. How important are the following things to you (Very important, important, less important or quite unimportant)?* The question with eight answer categories is asked in the main questionnaire, and therefore also observed for most parents in my sample. This allows me to document intergenerational persistence in values and to test channels by which career preferences are linked to socio-economic status. I impute missing values using chained equations if up to three categories per respondent are missing.

**Trust, Risk Aversion, and the Big Five Personality Traits.** To demonstrate that career preferences measure something which is distinct from more fundamental traits and preferences, I control for trust, risk aversion, and the Big Five personality traits in some specifications. All these variables are elicited in the main questionnaire of the SOEP at ages 16-25.<sup>8</sup> Appendix Table A.1 provides an overview of the personality questions and their mapping into the Big Five dimensions. If up to three input questions for the Big Five dimensions were not answered by a respondent, I again impute missing values using chained equations.

**Beliefs.** In studying career preferences, it is important to consider the role of beliefs. The reason is the following: If, for example, children from low SES families believe at age 17 to do comparatively worse in terms of ability or opportunities, they might expect to earn below average later in the labor market or not to be able to choose certain careers. In trying to avoid cognitive dissonance, these individuals may update their preferences to better align them to their beliefs. If this is the case, then what I measure as preferences may actually partially reflect beliefs. For most career aspects studied in this paper, however, it does not seem plausible that individuals hold strong corresponding beliefs about the likelihood of achieving them. For example, job security can also be achieved in many low-paying jobs, and it is not clear why some individuals should face stronger barriers in finding a job that is interesting, that offers more time for leisure or family, or a job where one can help others. For the domains where this is theoretically more plausible, I do not find supporting evidence in the data: for example, children from low income families are actually more likely to desire earning a high income.

To nevertheless address this issue empirically, I draw on a question from the youth questionnaire where respondents are asked about their subjective beliefs of how likely they are to achieve their desired career. While this probability indeed increases in parental income rank, I show below that including it into the analysis makes little difference.

**Income, Education and Occupation.** My main income measure is individual gross labor earnings. Labor earnings include wages and salaries from all employment, including training, primary and secondary jobs, and self-employment, plus income from bonuses,

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<sup>8</sup>The age restriction ensures that these preferences are measured as early in life as possible. The reason I cannot measure trust, risk aversion, and the Big Five personality traits at age 17 for all respondents is that they are not asked for in every wave of the main questionnaire. More recently, these variables are additionally elicited in the youth questionnaire. However, since these items were not included in the youth questionnaire in the early 2000s where most of my variation is coming from, I cannot use this information without drastically reducing sample size.

overtime, and profit-sharing. To also capture other income sources and the income flows of further household members, I additionally use gross and net household income in some specifications. Another advantage of using household income is that values of zero are the exception, avoiding problems when computing log incomes or income ranks. All income figures are CPI adjusted to the year 2016. Occupational status is measured in two-digit ISCO codes, education as years in formal education and training.

All variables are observed not only for the respondents answering the career preference question, but also for their parents. In my baseline estimates, I focus on parental income to capture children’s socio-economic background, measured as the 5-year average when children are between 15 and 19 years old. Besides the central importance of parental income as a measure of SES, this choice allows me to directly link my results to the large literature on intergenerational income mobility. When I instead use parental occupation or education to measure socio-economic background, the correlation with career preferences is very similar.

**Sample Definition.** I restrict my sample to all respondents in private households aged 15 to 55 that I can link to at least one of their parents in the data. I further require that the respondent answered the career preference question in the youth questionnaire, leaving me with 8,178 individuals. Whenever I look at the labor market outcomes of these children, such as income or occupation, I additionally require that children are at least 28 years old, focusing on the five-year interval from age 28 to 32. This ensures that (most) children have already left education and entered the labor market, and results in a sample of 791 individuals. The cutoff value of 28 is chosen to balance the tradeoff between sample size and lifecycle bias.<sup>9</sup> Unless indicated otherwise, all analyses use the SOEP’s individual level sampling weights.

## 4 EMPIRICAL EVIDENCE

This section presents empirical results in three steps: First, I present evidence on the predictive power of career preferences for future earnings, work hours and education. Second, I document how career preferences differ by parental SES, before third, showing that preferences of children and their parents are positively and significantly correlated.

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<sup>9</sup>Since the youth questionnaire was introduced only in 2000, the oldest respondents are 37 years old in the last survey wave of the SOEP.

## 4.1 Career Preferences Predict Future Earnings

To demonstrate that the career preferences elicited in the youth questionnaire of the SOEP convey meaningful information about the economic outcomes of these children, I first document their relation to realized earnings. For this aim, the timing structure is crucial. Contemporaneous correlations between preferences and outcomes are difficult to interpret, as economic conditions are expected to influence preferences (e.g. [Doepke and Zilibotti, 2017](#)), and causality can run in both ways. To study the role of career preferences, one would ideally like to measure preferences at the time when career decisions are taken, and economic outcomes in midlife around the ages 30 to 45, where annual incomes provide the best approximation of lifetime incomes.<sup>10</sup> The panel structure of the SOEP allows me to come very close to this ideal setting. Career preferences are elicited at age 17, just before children legally become adults and start moving out of the parental household ([Dodin et al., 2021](#)).<sup>11</sup> Furthermore, most children at this age have not yet finished secondary education and are about to decide on their career paths. Data on earnings are observed in the age range 28 to 32. This is younger than the ideal time span, but still an age range where incomes well approximate lifetime income.<sup>12</sup> As such, the SOEP is a highly suitable data set to study the association between career preferences and future earnings.

Table 1 shows the results. In the first column, I regress the own income rank on all twelve career preferences jointly.<sup>13</sup> The first coefficient of -1.21 for job security means that conditional on all other career preferences, a one standard deviation increase in the preference for job security in one's career is associated with a 1.2 percentile lower income rank when individuals are around thirty years old. Below average earnings are also obtained by children who cared a lot about achieving a high income, contact to others, and helping others when choosing a career. Reversely, a one standard deviation increase

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<sup>10</sup>Due to heterogeneity in life cycle earnings profiles, estimates obtained when children are young (old) tend to be downward (upward) biased ([Haider and Solon, 2006](#); [Nyblom and Stuhler, 2016](#)). This lifecycle bias is smallest when measuring income in midlife. [Nyblom and Stuhler \(2016\)](#) also show that lifecycle bias is less of an issue if incomes are measured in ranks, as done in this paper.

<sup>11</sup>[Furlong and Biggart \(1999\)](#) show that in the UK, occupational aspirations are quite stable between the ages of 13-16, suggesting that the exact time of measurement is of minor importance.

<sup>12</sup>Without restricting my sample to individuals which answered the youth questionnaire, I can directly test the correlation between incomes measured at different points in the lifecycle. For the age range 28 to 32, I find a rank correlation of 0.79 with lifetime income (defined as average income in the age range 18-65 for all respondents with at least 30 years of data in this age range). While the main reason for not choosing an older age-range is data availability, focusing on the age range 28 to 32 also has the advantage of comparability to other estimates in the literature. Following the influential study of [Chetty et al. \(2014\)](#), further empirical estimates of intergenerational income mobility have been obtained for children in their early 30s (e.g. [Chuard and Grassi, 2020](#); [Helsø, 2021](#)).

<sup>13</sup>Appendix Figure B.3 shows that the unconditional correlations tend to be similar.



**Table 1 – Labor Earnings Rank and Past Career Preferences**

	Percentile Rank in Individual Labor Earnings					
	(1)	(2)	(3)	(4)	(5)	(6)
Job Security	-1.21 (1.65)	-1.48 (1.57)	-1.95 (1.54)	-1.35 (1.52)	-0.94 (1.50)	-1.30 (1.52)
High Income	-2.67* (1.61)	-1.50 (1.61)	-1.37 (1.57)	-0.42 (1.55)	-0.66 (1.56)	-0.35 (1.51)
Chances of Promotion	6.08*** (1.49)	5.22*** (1.44)	5.08*** (1.42)	5.08*** (1.50)	4.99*** (1.49)	4.47*** (1.51)
Respect and Recognition	-0.76 (1.54)	0.16 (1.48)	-0.07 (1.48)	0.09 (1.49)	0.66 (1.48)	0.91 (1.46)
Leisure	0.64 (1.29)	-0.08 (1.28)	-0.08 (1.26)	-0.04 (1.27)	0.35 (1.22)	0.72 (1.24)
Interesting Job	0.56 (1.58)	0.15 (1.54)	0.31 (1.52)	0.11 (1.34)	0.20 (1.36)	-0.44 (1.35)
Working Independently	1.30 (1.51)	1.21 (1.50)	0.93 (1.46)	0.69 (1.43)	0.37 (1.43)	0.16 (1.36)
Contact to Others	-2.52 (1.72)	-2.27 (1.66)	-1.90 (1.63)	-2.46 (1.51)	-3.22** (1.55)	-2.58* (1.54)
Important for Society	2.07 (1.72)	2.27 (1.67)	2.07 (1.65)	1.65 (1.58)	0.57 (1.60)	0.60 (1.51)
Health and Safety Conditions	0.98 (1.57)	1.18 (1.45)	1.27 (1.44)	0.61 (1.48)	0.52 (1.47)	0.48 (1.43)
Family Time	2.16 (1.55)	1.31 (1.54)	1.39 (1.51)	1.58 (1.54)	1.23 (1.46)	1.37 (1.41)
Helping Others	-4.41*** (1.57)	-4.20*** (1.48)	-4.36*** (1.45)	-5.23*** (1.55)	-3.96** (1.63)	-4.27*** (1.56)
Parental Income Rank		0.24*** (0.04)	0.29*** (0.05)	0.26*** (0.05)	0.24*** (0.05)	0.23*** (0.05)
Parental Years of Education			-1.35** (0.53)	-1.24** (0.55)	-1.60*** (0.56)	-1.25** (0.60)
Probability Desired Career				0.15** (0.07)	0.11* (0.07)	0.13* (0.07)
Gender, State of Birth	-	-	-	✓	✓	✓
Grades, Tracking Recommendation	-	-	-	-	✓	✓
Trust/Risk Preferences, Big Five	-	-	-	-	-	✓
Observations	791	791	791	779	769	756
$R^2$	0.086	0.142	0.154	0.220	0.274	0.302

*Notes:* This table shows estimates of six separate regressions of the percentile rank in own labor income for children aged 28 to 32 on past career preferences reported at age 17. Parental income rank refers to gross household income, parental education to years of education of the more educated parent. Column (4) additionally includes dummies for the state of birth, Column (5) dummies for the recommended school track after primary school, the grade average, and interactions between the grade average and the track recommendation. In Column (6), I further control for trust and risk preferences, and measures of the Big Five personality traits. Robust standard errors in parentheses, \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

in the desire to face good chances of promotion corresponds to a 6 percentile ranks higher income.

While—given the limited sample size of 791 parent-child pairs—only the coefficients for the chances of promotion and helping others are statistically significantly different from zero throughout all specifications, most of the aforementioned associations are robust to including a comprehensive set of control variables and economically large. From Column (2) for example, where I add the parental income rank as control, it can be deducted that a one standard deviation increase in the desire of helping others has the same effect as an 18 percentile drop in parental income. Furthermore, the associations between career preferences and future earnings rank remain quantitatively similar. An exception is mainly the coefficient for the high income preference, which is reduced substantially when conditioning on parental income. Apparently, the initially negative and not intuitive correlation between the desire to earn a high income and realized income later on is mainly driven the fact that children from low-income households are more likely to desire high earnings, but less likely to achieve this later in life.

In Columns (3)-(5), I add the highest number of years of schooling one of the parents has achieved, dummies for gender and state of birth, and school grades as a measure of ability. Furthermore, I control for respondent's subjective beliefs of how likely they are to achieve their desired career. While the single coefficient estimates of course vary by specification, the general patterns remain remarkably stable. Overall, the results point to a persistent link between career preferences elicited at age 17 and earnings 10 to 15 years later. In the last column, I additionally control for trust, risk aversion and measures of the Big Five personality traits. The results show that career preferences continue to predict future labor market earnings, even conditional on these basic economic preferences often emphasized in the literature.<sup>14</sup>

On top of predicting earnings, career preferences carry some information about future work hours (Appendix Table B.3). For example, a one standard deviation increase in the job security preference corresponds to around 40 fewer annual hours worked at ages 28 to 32. The strongest predictors for working more are the preferences for chances of promotion and working independently, where a one standard deviation increase is associated with up to 80 additional annual work hours. This corresponds to a 3 percentile increase in the annual work hours rank. Overall though, compared to earnings, variation in work hours

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<sup>14</sup>Note also that in my data, career preferences explain a larger share of the variation in earnings than the measures of trust, risk and the Big Five personality traits combined ( $R^2 = 0.107$  vs  $R^2 = 0.068$  among all 778 children without missing values in these preferences and traits).

is higher and more idiosyncratic, and none of these correlations are statistically different from zero.

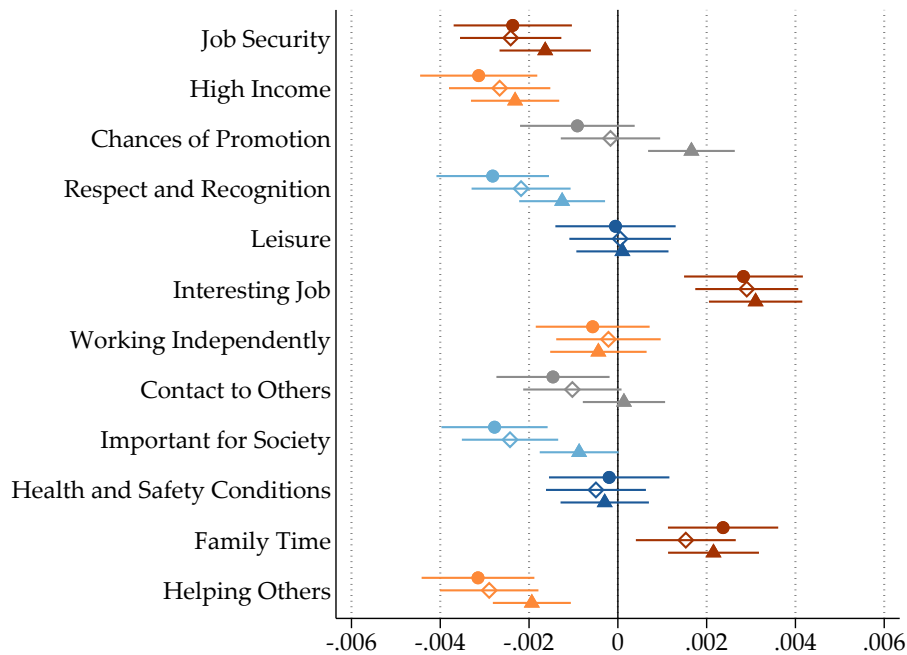
Likewise, the predictive power of career preferences for educational attainment is weaker compared to earnings (Appendix Table B.4). The most robust and significant correlations that arise are that a high preference for an interesting job is associated with more years of education, whereas individuals who cared about working independently, health and safety conditions and helping others at age 17 had obtained 2 to 5 months less of education or training in their early thirties.

## 4.2 *Career Preferences Vary with Parental Background*

Figure 4 shows that most career preferences vary significantly by parental background. The first estimate (circle) in each category is obtained by regressing the respective preference on the parental labor income rank, the second estimate (diamond) by regressing it on the parental net income rank, and for the third estimate (triangle), I additionally control for all other career preferences. In all specifications, the importance children assign to job security, achieving a high income, pursuing a respected and recognized career, working in a job that is important for society, and the possibility to help others in the job decreases in parental income rank. In contrast, children from high income households are more likely to care about pursuing an interesting career and having enough time for family commitments.

Most of these correlations seem intuitive. For example, as children from low-income families have less parental resources available, it is rational for them to care more about job security and achieving a (relatively) high income. Children from high-income households, who on average are more likely to fall back into the parental safety net in times of crises, can afford to care more about “softer” career aspects like how interesting they consider a job, or to have a job which is well compatible with family commitments. Interestingly, though, this line of reasoning does not apply for two other soft factors: the wish to work in jobs that are important for society and where one is able to help others. While parental income is just one possible proxy of socio-economic status, I document in Appendix Figures B.4 and B.5 that the correlations between career preferences and SES are very similar when using parental years of education or the parental average occupational prestige score to measure SES instead.

**Figure 4 – Variation in Career Preferences by Parental Income Rank**



*Notes:* This figure shows point estimates and the corresponding 95% confidence intervals (robust standard errors) of separate regressions of one of the twelve career preferences on parental income rank. The first estimate (circle) in each category is obtained by regressing the respective preference on the percentile rank in labor earnings of the father, the second estimate (diamond) by regressing it on the parental gross household income rank, and for the third estimate (triangle), I additionally control for all other eleven career preferences. A coefficient of 0.002 for example implies that a 10 percentile higher parental income rank is associated with an increase of 2 percent of a standard deviation in the respective preference. The sample consists of 8,178 parent-child pairs.

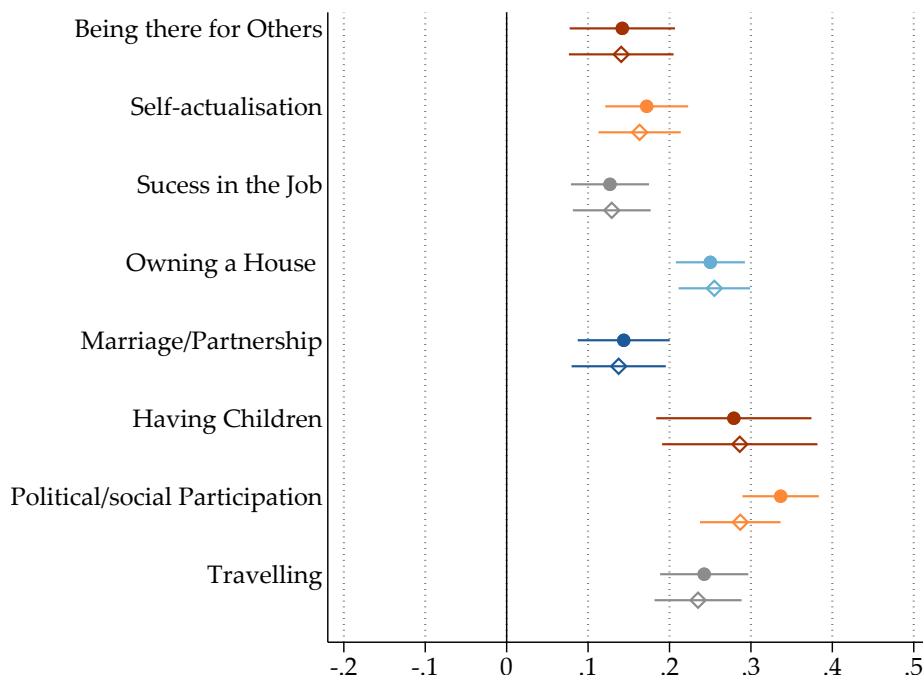
### 4.3 Preferences are Intergenerationally Persistent

I also find that—not surprisingly—preferences and values are intergenerationally very persistent. While I cannot test this for career preferences directly, as this would require an even longer panel dimension, I can evaluate the answers to a closely related question, asking about the importance of several life aspects in a related manner, which respondents assess on a 4-point Likert scale.<sup>15</sup>

Figure 5 shows that preferences across all of those life domains are strongly correlated between children and their parents. While the first estimate (circle) displays the unconditional intergenerational correlations, the second estimate additionally controls for parental income rank and parental years of education. For example, individuals whose

<sup>15</sup>As career preferences are only elicited in the youth questionnaire which became available in 2000, I do not observe them for the majority of parents. This is different for the importance question, which is asked in the main questionnaire of the SOEP.

**Figure 5 – Intergenerational Persistence in Preferences and Values**



*Notes:* This figure shows point estimates and corresponding 95% confidence intervals (robust standard errors) of separate regressions of eight different preferences and values on the respective measure of their parents, based on 3,879 parent-child pairs. The first estimate (circle) in each category is obtained by regressing the respective value of the child on the average value of the parents, the second estimate (diamond) is obtained by additionally controlling for the percentile rank in the parental gross household income distribution and parental years of education of the more educated parent. The values of the children are measured when children are between 16-25 years old, the values of the parents when children are between 15-19 years old.

parents value being there for others are significantly more likely to hold this aspect in high regard themselves. Likewise, a one standard deviation increase in the parental assessment of success in the job is associated with a 0.12 higher standard deviation of this measure among their children. These correlations are basically unaffected by controlling for parental income and education. This indicates that they reflect a direct transmission of preferences and values from parents to their children, rather than a joint association with omitted variables. For example, if having low income were to induce individuals to adjust their preferences away from “expensive” values like owning a house or travelling, these values would be intergenerationally persistent to the extent that income is intergenerationally persistent as well. However, as accounting for parental income barely changes the estimates, I can rule out that it constitutes a relevant omitted variable in these regressions. Appendix Figure B.6 provides additional evidence, by plotting the correlations separately for each quintile of parental income.

Overall, the positive and significant correlations in Figure 5 support the conjecture that the related career preferences are at least partially directly transmitted from parents to their children.

## 5 CAREER PREFERENCES AND INCOME MOBILITY

The previous section has documented that career preferences predict future earnings and are correlated with parental income. As such, they are a potential channel for intergenerational income transmission. To test this hypothesis, Table 2 shows estimates of intergenerational income mobility, once as the raw “regression correlation”, and once additionally controlling for the full set of career preferences.

In Panel A, incomes of children and parents are measured in percentile ranks. In consequence, the first entry in Column (1) represents the rank-rank slope of individual labor earnings. The estimate of 0.192 implies that a ten percentile increase in fathers’ earnings rank is associated with a 1.9 percentiles higher earnings rank of the child. In Column (2), I additionally control for the full set of career preferences. The estimate drops to 0.174, which means that the association between parent and child incomes is weaker when conditioning on career preferences. This suggests that income transmission is indeed partially mediated by the transmission of preferences. In the remaining columns, I repeat this exercise for different income concepts. Column (3) shows that the intergenerational rank-rank correlation is much stronger when using parental gross household income as explanatory variable instead. Again, however, this correlation is reduced when controlling for career preferences. The same applies to the intergenerational correlations in net and gross household income.

To investigate which preferences are behind the decrease in income persistence, I conduct a simple mediation analysis as in Heckman and Pinto (2015), based on the following three equations:

$$y_i = \alpha_0 + \alpha_1 y_i^{Parent} + \varepsilon_i \quad (2)$$

$$y_i = \beta_0 + \beta_1 y_i^{Parent} + \sum_k \beta_2^k \text{Pref}_i^k + \varepsilon_i \quad (3)$$

$$\text{Pref}_i^k = \gamma_0 + \gamma_1^k y_i^{Parent} + \varepsilon_i \quad \forall k \quad (4)$$

Equations (2) and (3) just replicate the estimates from Table 2 by regressing child on parent incomes, once controlling for career preferences. In Equation (4), I regress each

**Table 2 – Career Preferences and Intergenerational Income Mobility**

	Individual Labor Earnings				Gross HH Income		Net HH Income	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Panel (A): in Ranks</i>								
Ind. Labor Earnings Father	0.192*** (0.054)	0.174*** (0.051)						
Gross HH Income			0.262*** (0.046)	0.236*** (0.045)	0.385*** (0.049)	0.355*** (0.049)		
Net HH Income							0.361*** (0.051)	0.330*** (0.050)
Preferences	-	✓	-	✓	-	✓	-	✓
Observations	673	673	791	791	791	791	791	791
<i>Panel (B): in Logs</i>								
Log Ind. Labor Earnings Father	0.194** (0.084)	0.154** (0.067)						
Log Gross HH Income			0.271*** (0.084)	0.211*** (0.075)	0.479*** (0.089)	0.420*** (0.082)		
Log Net HH Income							0.514*** (0.073)	0.464*** (0.068)
Preferences	-	✓	-	✓	-	✓	-	✓
Observations	628	628	754	754	785	785	791	791

*Notes:* This table shows estimates of separate regressions of child on parental income. Three different income concepts are used: gross individual labor earnings, gross household income and net household income. For individual labor earnings of the parents, I focus only on earnings of the father, as mothers display large variation at the extensive margin of labor supply. In Panel A, both child and parent incomes are measured in 100 percentile ranks and the estimates represent rank-rank slopes. In Panel B, incomes are measured in logarithmic form and the estimates represent the intergenerational elasticity (IGE). In every second column, I additionally control for all 12 career preferences. Robust standard errors in parentheses, \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

career preference separately on parental income. The direct effect of parent on child income is then given by  $\beta_1$ , the indirect effect via preference  $k$  by  $\gamma_1^k \times \beta_2^k$ . The share of the total effect mediated via mediator  $k$  can be computed as the fraction between indirect effect and total effect  $\alpha_1$ . The preferences that explain most of the decrease in income persistence are having a high income, chances of promotion, family commitment, and helping others (Appendix Table B.5). In contrast, the preferences for respect and recognition and pursuing a career that is important for society tend to push in the other direction, increasing persistence.

Panel B of Table 2 replicates these results if the intergenerational income association is measured in logarithmic form. In consequence, the respective entry in Column (1) represents the intergenerational elasticity (IGE) of individual labor earnings. The

coefficient of 0.194 implies that a 10% increase in parental income is associated with a 1.94% higher child income. All IGE estimates in Panel B are again reduced when controlling for career preferences. Note though that due to the small sample size, none of the differences in Panel A and B are statistically significant. Nevertheless, there is overall clear evidence that point estimates of the intergenerational association between child and parent incomes are lower when accounting for career preferences.<sup>16</sup> Depending on the specification, 8-22% of intergenerational income persistence can be explained by career preferences.

What are the implications of these findings? Statistics of intergenerational income mobility are of interest because they are interpreted as a measure of equality of opportunity: if children from high-income households have higher earnings, this is because they face better opportunities to achieve a high income. For example, it has been shown that financing constraints can partially explain the parental income gradient in college enrollment (Solis, 2017; Manoli and Turner, 2018), parental social networks foster own earnings (Corak and Piraino, 2011; Kramarz and Skans, 2014; San, 2020), and that children from high-income households receive more parental time investments (Guryan et al., 2008), affecting skill acquisition and resulting in more favorable labor market outcomes later on.

The often implicit assumption behind this line of reasoning is that conditional on opportunities, children from low and high income households would achieve the same incomes on average. However, this neglects the fact that maximizing utility is not necessarily the same as maximizing expected incomes. As shown in this paper, non-monetary aspects like the (dis)utility from work and leisure, interest in a particular job, or health and safety conditions are all examples of factors why individuals may not choose the highest paying career. And in the German context, these factors indeed explain part of the earnings gap between individuals with different SES.

Is this conditional estimate of intergenerational income mobility a more accurate measure of equality of opportunity? The answer to this question is yes if one believes that individuals should be held responsible for their preferences, as argued by Rawls (1971) and Dworkin (1981). According to this view, my estimates are encouraging news, suggesting that intergenerational income persistence only partially reflects lacking opportunities for

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<sup>16</sup>This conclusion is robust to different weighting schemes. Subsamples with intergenerational links are typically positively selected with respect to their socio-economic status (see, e.g., Ward, 2021). As a robustness test, I therefore re-weight the sample to match the broader population characteristics with respect to gender, state of upbringing, migration background and parental education (in three categories). As documented in Appendix Table B.6, results are very similar. The same holds when omitting weights altogether.



low SES children. Germany would then have a more opportunity-egalitarian society than previously thought. However, this position is increasingly hard to defend on ethical grounds, as we understand better that career preferences are themselves influenced by parental background (Bowles, 1998; Müller, 2021). Taking this into account, also an opportunity egalitarian social planner could therefore want to compensate for preferences about career and occupational choice.<sup>17</sup>

On these grounds, many real world policies that are actively designed to guide and shape the career preferences of adolescents enjoy widespread support. For example, governments foster STEM participation for women, ethnic minorities and low SES children (Seymour and Hewitt, 1997; Best et al., 2013; Arcidiacono et al., 2016; De Philippis, 2021; Hill, 2017). In Germany, the nationwide Girls’Day, initiated in 2001, aims at familiarizing teenagers with work fields in which women are underrepresented, and reaches around 100,000 girls each year. At a more general level, secondary schools in many countries, including Germany and the US, have the mandate to provide career guidance in school (see, e.g., Gysbers, 2005). The results of this paper suggest that targeting such policies further to reach especially children from disadvantaged backgrounds could be one step forward in improving equality of opportunity.

## 6 EVIDENCE FROM THE BRITISH COHORT STUDY

To examine whether these findings are specific to the context of Germany, I next replicate my research design for the United Kingdom, where the British Cohort Study (BCS) has elicited similar career preferences at age 16. While the measurement of career preferences, child and parental incomes, and the coverage of important covariates like risk and trust preferences is better in the SOEP, the BCS offers the advantage of a considerably larger sample size and of a longer observation period in adulthood. All details regarding variable and sample definitions have been delegated to Appendix C, which furthermore presents descriptive statistics on career preferences.

Table 3 replicates Table 1 by showing how career preferences as elicited in the BCS at age 16 predict the own earnings rank during adulthood, measured between the ages 30 to 46. The results are very similar: Individuals who had reported to care more about chances

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<sup>17</sup>In this light, Arneson (1989), Cohen (1989), and Roemer (1998) reject Dworkin’s view to hold individuals responsible for their preferences and advocate a control approach to responsibility. In their conception, people should only be held responsible for outcomes resulting from genuine choices, which means that one should correct for the influence of circumstances like parental income on preferences.

**Table 3 – Labor Earnings and Career Preferences in the BCS**

	Percentile Rank in Individual Labor Earnings					
	(1)	(2)	(3)	(4)	(5)	(6)
Helping Others	-2.68*** (0.43)	-2.26*** (0.42)	-2.18*** (0.42)	-0.52 (0.40)	0.08 (0.45)	-0.06 (0.47)
High Income	1.29*** (0.45)	1.42*** (0.44)	1.48*** (0.44)	0.54 (0.42)	0.88* (0.46)	0.86* (0.48)
Understanding Boss	-0.47 (0.43)	-0.27 (0.42)	-0.23 (0.42)	0.05 (0.40)	0.23 (0.45)	0.24 (0.46)
Working Outside	-0.02 (0.45)	0.04 (0.44)	0.06 (0.44)	-1.27*** (0.42)	-1.00** (0.48)	-1.05** (0.50)
Working Independently	-1.91*** (0.47)	-1.76*** (0.46)	-1.74*** (0.46)	-1.57*** (0.43)	-1.03** (0.50)	-0.64 (0.51)
Interesting Job	0.60 (0.45)	-0.02 (0.45)	-0.13 (0.45)	0.66 (0.42)	-0.03 (0.47)	-0.31 (0.49)
Not Work Hard	-0.70 (0.45)	-0.65 (0.44)	-0.75* (0.44)	-1.08*** (0.42)	-0.81* (0.46)	-0.69 (0.48)
Chances of Promotion	2.96*** (0.48)	2.68*** (0.47)	2.74*** (0.47)	2.49*** (0.44)	1.93*** (0.49)	1.62*** (0.51)
Work with Figures	3.03*** (0.44)	2.98*** (0.43)	2.99*** (0.43)	2.32*** (0.41)	2.29*** (0.45)	2.41*** (0.47)
Get Trained	0.29 (0.43)	0.39 (0.43)	0.41 (0.43)	0.46 (0.40)	0.49 (0.44)	0.18 (0.46)
Quiet Life	-0.65 (0.45)	-0.47 (0.44)	-0.47 (0.44)	-1.53*** (0.42)	-0.97** (0.45)	-0.79* (0.46)
Long Term Security	2.49*** (0.44)	2.18*** (0.44)	2.14*** (0.44)	1.09*** (0.42)	0.63 (0.47)	0.52 (0.49)
Real Challenge	2.03*** (0.47)	1.78*** (0.46)	1.65*** (0.46)	1.82*** (0.43)	1.39*** (0.49)	0.96* (0.51)
Travel	-0.79* (0.45)	-0.95** (0.44)	-0.96** (0.44)	0.10 (0.42)	0.20 (0.47)	0.38 (0.48)
Make/build Things	-0.45 (0.46)	-0.09 (0.45)	-0.06 (0.45)	-2.19*** (0.43)	-2.38*** (0.49)	-1.95*** (0.50)
Regular Hours	-4.53*** (0.44)	-4.08*** (0.43)	-3.93*** (0.43)	-3.24*** (0.40)	-2.48*** (0.46)	-2.02*** (0.48)
Parental Income	-	✓	✓	✓	✓	✓
Parental Education	-	-	✓	✓	✓	✓
Gender, Country of Birth	-	-	-	✓	✓	✓
Test Scores Age 10	-	-	-	-	✓	✓
No. Career Talks, Beliefs	-	-	-	-	-	✓
Observations	4365	4365	4365	4365	3425	3165
$R^2$	0.089	0.120	0.129	0.228	0.263	0.269

*Notes:* This table shows estimates of six separate regressions of the percentile rank in own labor income for children aged 30-46 on past career preferences reported at age 16. Parental income rank refers to gross household income, parental education indicates if father and/or mother have an A-level degree. Column (5) adds age 10 test scores for language, reading, math and matrices. In Column (6), I further control for the number of attended career talks by age 16, and a set of further beliefs on what helps in advancing careers. Robust standard errors in parentheses, \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

of promotion earn more during adulthood, and the desire to help others is associated with a lower earnings rank. Further significant predictors of future earnings in Column (1) are the preferences for a high income, working with figures, long term security, and facing a real challenge (positive), as well as working independently and working regular hours (negative). The fact that the preference for a high income now clearly predicts a higher income during adulthood likely reflects that in the BCS, there exists no association between *parental* income and this preference.<sup>18</sup> Just as in the SOEP, career preferences explain around 9% of the variation in future earnings rank.

While most estimates remain fairly robust to the inclusion of a comprehensive set of controls in Columns (2)-(6), some coefficients change with the inclusion of a gender dummy in Column (4). In particular, the negative correlation between helping others and earnings vanishes, as females are both more likely to rate this aspect highly and earn less on average. Other estimates only become significant when controlling for gender: working outside and making/building things are now aspects which negatively predict future earnings.

Table 4, replicating Table 2, shows that the intergenerational correlation of earnings is again reduced when controlling for career preferences. For the IGE, income persistence drops by 18% from 0.389 to 0.319. The rank-rank slope declines by 19% from 0.227 to

**Table 4 – Career Preferences and Intergenerational Income Mobility in the British Cohort Study**

	Log Gross Earnings		Gross Earnings Rank	
	(1)	(2)	(3)	(4)
Log Gross Income Parents	0.389*** (0.031)	0.319*** (0.030)		
Gross Income Rank Parents			0.227*** (0.015)	0.183*** (0.015)
Preferences	-	✓	-	✓
Observations	4047	4047	4365	4365

*Notes:* This table shows estimates of separate regressions of child on parental income. Income of children is measured as gross weakly individual labor earnings between ages 30-46, parental income as gross weakly household income when children are 10-16 years old. In the first two columns, both child and parent incomes are measured in logs, whereas in the last two columns incomes are measured in 100 percentile ranks. In every second column, I additionally control for all 16 career preferences. Robust standard errors in parentheses, \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

<sup>18</sup>Compare Appendix Figure C.11, which displays the correlations between career preferences and parental income.

0.183. Both reductions are statistically significant at the one percent level. Furthermore, considering that in a very comprehensive mediation analysis in the BCS looking at a multitude of channels, Bolt et al. (2021) can only explain 54-62% of the IGE in total, the magnitude of the reduction is sizable. Table 5 reports again the results from a mediation analysis, documenting which preferences mediate the intergenerational correlation of incomes. As in the SOEP, important preferences are the desire to help others and chances of promotion. Further mediators are the preferences for long term security, facing a real challenge, and working regular hours.

**Table 5 – Career Preferences Mediating Intergenerational Income Mobility in the British Cohort Study**

	Percent Explained	
	IGE	Rank-Rank
Helping Others	2.6	2.5
High Income	-0.5	-0.2
Understanding Boss	0.2	0.1
Working Outside	0.0	-0.0
Working Independently	0.2	0.6
Interesting Job	0.9	-0.0
Not Work Hard	0.1	0.3
Chances of Promotion	3.4	4.1
Work with Figures	0.5	-0.1
Get Trained	-0.1	-0.0
Quiet Life	0.3	0.4
Long Term Security	1.9	2.6
Real Challenge	2.4	2.7
Travel	-1.0	-0.9
Make/build Things	0.1	0.1
Regular Hours	6.9	7.2
Total	18.0	19.4

*Notes:* This table reports estimates of a descriptive mediation analysis in the BCS, decomposing the association between child and parent incomes into a direct effect and 16 indirect effects via career preferences. All numbers are in percent. For example, a value of 2 means that two percent of income persistence is mediated via the respective preference. Negative signs imply that c.p. the preference increases (rather than decreases) income persistence. The last row shows the combined indirect effect of all 16 career preferences jointly.

Overall, the additional evidence from the UK demonstrates that the patterns documented in the SOEP carry external validity beyond the German context and the cohorts under consideration.

## 7 CONCLUSION

This paper has documented novel stylized facts about career preferences, that is the desires and goals of adolescents about their career paths. Career preferences are informative of future labor market outcomes, and correlated with parental background. As such, they constitute a potential mechanism of intergenerational income persistence. In my data, I find that statistics of intergenerational income mobility are reduced by 8-22 percent when controlling for career preferences.

The latter result suggests that altering career preferences provides a potential pathway of reducing the intergenerational persistence of socio-economic status. For example, schools could offer more advanced career preparation or enhance the attractiveness of enrolling in STEM majors. As the results in this paper remain descriptive, a causal impact evaluation of such policies constitutes a fruitful avenue for future research.

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## A DATA APPENDIX

**Table A.1 – Big Five Scales in the SOEP**

Dimension	Description	Direction
Openness	original, someone who comes up with new ideas	+
	someone who values artistic, aesthetic experiences	+
	has an active imagination	+
Conscientiousness	does a thorough job	+
	tends to be lazy	-
	does things effectively and efficiently	+
Extraversion	is communicative, talkative	+
	is outgoing, sociable	+
	is reserved	-
Agreeableness	is sometimes somewhat rude to others	-
	has a forgiving nature	+
	is considerate and kind to others	+
Neuroticism	worries a lot	-
	gets nervous easily	+
	is relaxed, handles stress well	-

*Notes:* This table shows how the 15 personality questions in the main questionnaire of the SOEP are mapped into the five dimensions of the big five personality traits. Starting in 2009, openness was extended by an additional item (“is eager for knowledge”), which I do not use to ensure comparability over time.

Figure A.1 – Career Question in the SOEP Questionnaire

**52. Für die Arbeit und die Wahl des Berufs können einem unterschiedliche Dinge wichtig sein.**

Wie wichtig ist für Ihre Berufswahl ...	Sehr wichtig	Wichtig	Weniger wichtig	Ganz unwichtig
– eine sichere Berufsstellung?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– ein hohes Einkommen? .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– gute Aufstiegsmöglichkeiten? .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– ein Beruf, der anerkannt und geachtet wird?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– ein Beruf, der einem viel Freizeit lässt? .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– eine interessante Tätigkeit? .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– eine Tätigkeit, bei der man selbständig arbeiten kann? .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– viel Kontakt zu anderen Menschen?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– ein Beruf, der für die Gesellschaft wichtig ist?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– sichere und gesunde Arbeitsbedingungen?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– ein Beruf, der einem genügend Zeit für familiäre Verpflichtungen lässt? .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– ein Beruf, bei dem man anderen Menschen helfen kann? .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Notes:* This figure shows a screenshot of the question on career preferences in the SOEP questionnaire. The official English translation in the SOEP documentation, available [here](#), reads as follows:

Different things may be important to people in choosing a career. Please state how important each of the following is to you—very important, important, not so important, completely unimportant. How important for your career is....

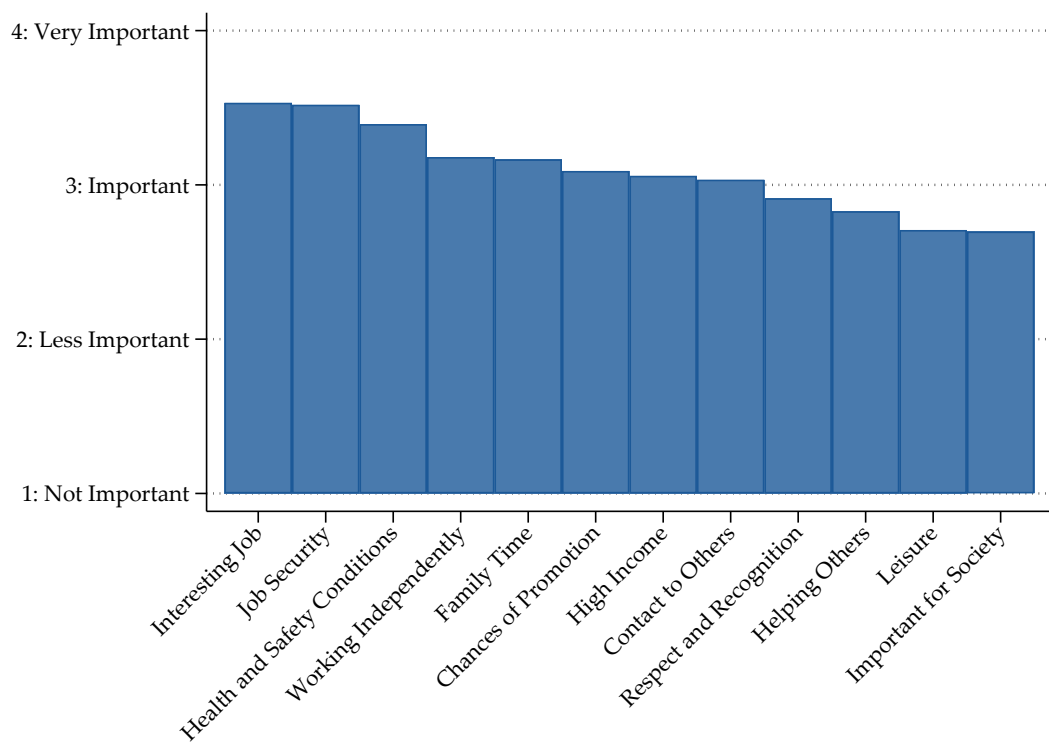
- a secure job?
- a high income?
- good chances of promotion?
- a respected, recognized career?
- a job that leaves a lot of free time?
- an interesting job, career?
- a job that allows you to work independently?
- a job that provides a lot of contact with other people?
- a job that's important for society?
- a job with good health and safety conditions?
- a job that leaves time for family commitments?
- a job where you can help others?

**Table A.2 – Correlation Table of Career Preferences**

	1	2	3	4	5	6	7	8	9	10	11	12
1 Job Security	1	-	-	-	-	-	-	-	-	-	-	-
	1	-	-	-	-	-	-	-	-	-	-	-
2 High Income	0.27	1	-	-	-	-	-	-	-	-	-	-
	0.08	1	-	-	-	-	-	-	-	-	-	-
3 Chances of Promotion	0.29	0.42	1	-	-	-	-	-	-	-	-	-
	0.04	0.25	1	-	-	-	-	-	-	-	-	-
4 Respect and Recognition	0.23	0.25	0.38	1	-	-	-	-	-	-	-	-
	-0.07	0.01	0.11	1	-	-	-	-	-	-	-	-
5 Leisure	0.09	0.27	0.12	0.15	1	-	-	-	-	-	-	-
	-0.13	0.14	-0.12	-0.12	1	-	-	-	-	-	-	-
6 Interesting Job	0.07	0.01	0.11	0.16	0.09	1	-	-	-	-	-	-
	-0.18	-0.20	-0.17	-0.14	-0.09	1	-	-	-	-	-	-
7 Working Independently	0.09	0.04	0.16	0.19	0.06	0.34	1	-	-	-	-	-
	-0.16	-0.17	-0.12	-0.10	-0.14	0.18	1	-	-	-	-	-
8 Contact to Others	0.15	0.01	0.16	0.23	0.05	0.21	0.24	1	-	-	-	-
	-0.16	-0.29	-0.18	-0.13	-0.23	-0.05	-0.01	1	-	-	-	-
9 Important for Society	0.16	0.02	0.19	0.34	0.03	0.16	0.21	0.43	1	-	-	-
	-0.17	-0.30	-0.18	0.02	-0.28	-0.13	-0.08	0.17	1	-	-	-
10 Health/Safety Conditions	0.26	0.11	0.17	0.20	0.16	0.19	0.13	0.18	0.24	1	-	-
	0.00	-0.14	-0.15	-0.16	-0.07	-0.06	-0.15	-0.15	-0.10	1	-	-
11 Family Time	0.19	0.13	0.12	0.14	0.35	0.16	0.11	0.19	0.18	0.36	1	-
	-0.08	-0.12	-0.22	-0.23	0.17	-0.09	-0.17	-0.14	-0.17	0.12	1	-
12 Helping Others	0.15	-0.03	0.12	0.23	0.03	0.17	0.18	0.48	0.54	0.21	0.23	1
	-0.16	-0.33	-0.25	-0.12	-0.25	-0.10	-0.10	0.25	0.34	-0.11	-0.08	1

*Notes:* This table shows pairwise Pearson correlation coefficients between all twelve career preferences. The first row of each preference displays the raw correlation coefficients, the second row displays correlations that are adjusted by individual fixed effects computed by averaging over all preferences, as displayed in Figure 2.

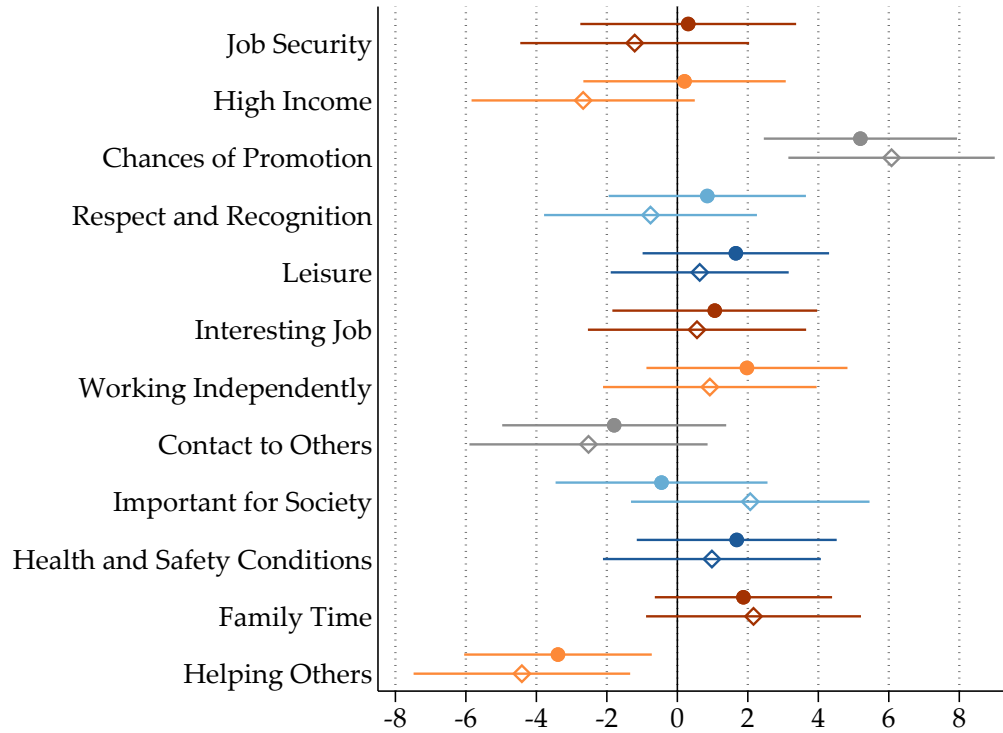
**Figure A.2 – Ordered Career Preferences**



*Notes:* This figure shows the mean desirability of each of the twelve career aspects elicited in the SOEP. The y-axis shows the 4-point Likert scale on which respondents rate the career preferences.

## B ADDITIONAL FIGURES AND TABLES

Figure B.3 – Career Preferences Predict Future Earnings



*Notes:* This figure shows point estimates and the corresponding 95% confidence intervals (robust standard errors) of separate regressions of the own earnings rank at ages 28 to 32 on one of the twelve career preferences. The first estimate (circle) in each category is obtained by regressing the earnings rank on the respective preference, the second estimate (diamond) by additionally controlling for all other career preferences. The sample consists of 791 parent-child pairs.



**Table B.3 – Annual Work Hours and Past Career Preferences**

	Annual Work Hours					
	(1)	(2)	(3)	(4)	(5)	(6)
Job Security	-36.55 (58.77)	-39.10 (58.40)	-53.61 (57.26)	-35.63 (58.96)	-43.95 (62.43)	-43.70 (62.44)
High Income	-18.37 (50.62)	-7.18 (50.85)	-3.27 (49.75)	12.45 (49.56)	3.63 (52.12)	3.13 (52.43)
Chances of Promotion	82.11 (49.87)	73.92 (49.68)	69.57 (48.92)	71.52 (50.21)	99.23* (51.33)	86.77* (49.30)
Respect and Recognition	0.80 (43.79)	9.59 (44.23)	2.38 (43.50)	6.00 (45.58)	21.31 (46.44)	18.99 (46.90)
Leisure	-1.84 (43.19)	-8.68 (44.46)	-8.56 (44.35)	-3.21 (45.88)	21.73 (46.65)	39.92 (45.52)
Interesting Job	-7.99 (48.43)	-11.88 (48.72)	-6.87 (48.13)	-7.06 (44.88)	7.37 (48.90)	6.73 (47.45)
Working Independently	77.23* (43.81)	76.41* (43.92)	67.80 (42.73)	51.35 (42.83)	45.02 (44.03)	41.78 (44.02)
Contact to Others	-8.71 (53.27)	-6.28 (53.00)	5.09 (52.73)	-11.64 (49.26)	-40.28 (50.92)	-23.70 (53.20)
Important for Society	21.15 (56.83)	23.03 (56.47)	16.92 (55.25)	12.29 (54.22)	-18.33 (59.47)	-18.68 (55.49)
Health and Safety Conditions	15.24 (54.88)	17.11 (54.58)	20.09 (53.80)	5.03 (54.08)	15.28 (53.11)	-3.70 (50.90)
Family Time	12.18 (52.87)	4.09 (52.38)	6.46 (51.53)	8.14 (52.46)	-32.78 (51.13)	-38.88 (47.90)
Helping Others	-9.53 (49.89)	-7.50 (49.04)	-12.37 (48.26)	-24.42 (50.49)	5.93 (56.58)	-7.73 (57.37)
Parental Income Rank		2.26 (1.64)	3.95** (1.79)	3.26 (2.21)	3.01 (2.19)	2.71 (2.07)
Parental Years of Education			-41.36** (16.28)	-38.90** (18.09)	-46.81** (19.03)	-28.44 (19.26)
Probability Desired Career				2.59 (2.10)	2.96 (2.22)	4.24* (2.30)
Gender, State of Birth	-	-	-	✓	✓	✓
Grades, Tracking Recommendation	-	-	-	-	✓	✓
Trust/Risk Preferences, Big Five	-	-	-	-	-	✓
Observations	791	791	791	779	684	674
$R^2$	0.024	0.030	0.042	0.099	0.136	0.179

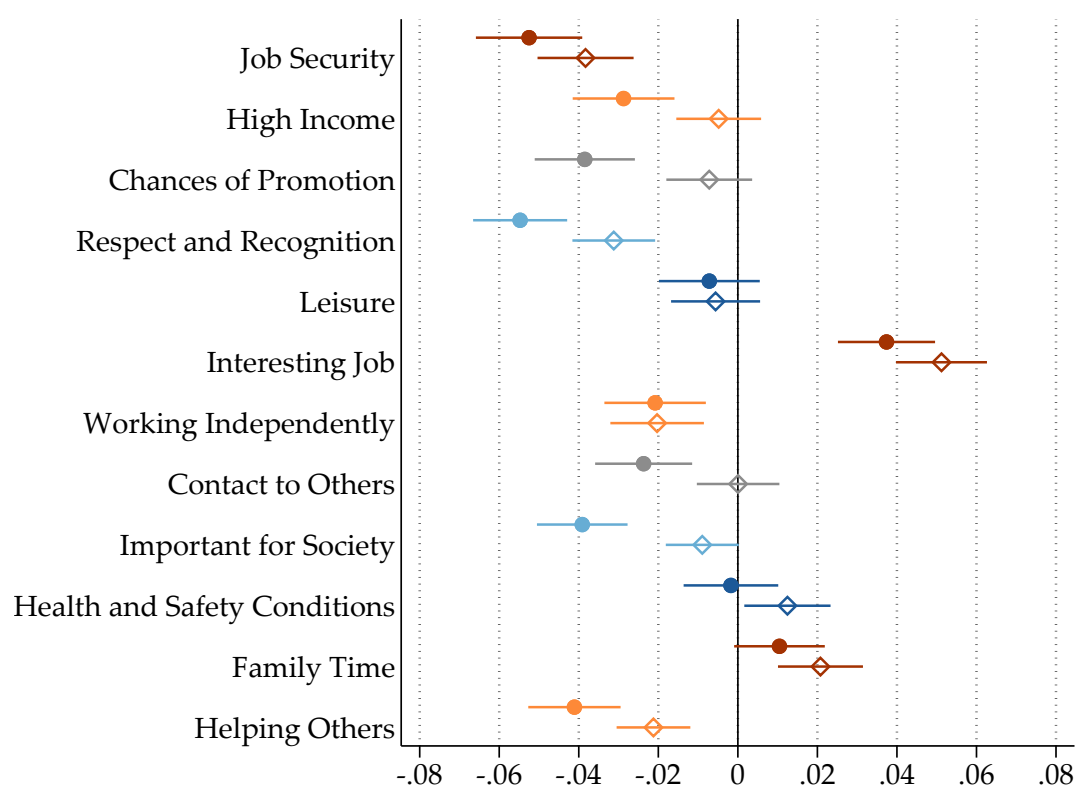
*Notes:* This table shows estimates of six separate regressions of annual hours worked for children aged 28 to 32 on past career preferences reported at age 17. Parental income rank refers to gross household income, parental education to years of education of the more educated parent. Column (4) additionally includes dummies for the state of birth, Column (5) dummies for the recommended school track after primary school, the grade average, and interactions between the grade average and the track recommendation. In Column (6), I further control for trust and risk preferences, and measures of the Big Five personality traits. Robust standard errors in parentheses, \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table B.4 – Years of Education and Past Career Preferences**

	Years of Education					
	(1)	(2)	(3)	(4)	(5)	(6)
Job Security	0.07 (0.19)	-0.01 (0.17)	0.13 (0.16)	-0.00 (0.16)	0.18 (0.14)	0.21 (0.14)
High Income	0.10 (0.20)	0.32* (0.20)	0.33* (0.20)	0.33* (0.19)	0.30* (0.15)	0.31** (0.15)
Chances of Promotion	-0.06 (0.21)	-0.19 (0.19)	-0.13 (0.19)	-0.13 (0.19)	-0.10 (0.15)	0.01 (0.14)
Respect and Recognition	-0.39** (0.19)	-0.27 (0.17)	-0.20 (0.17)	-0.08 (0.16)	0.06 (0.13)	0.04 (0.12)
Leisure	0.20 (0.17)	0.05 (0.16)	0.08 (0.16)	-0.02 (0.15)	0.02 (0.13)	0.07 (0.14)
Interesting Job	0.66*** (0.18)	0.58*** (0.18)	0.54*** (0.17)	0.39** (0.15)	0.31** (0.12)	0.34*** (0.12)
Working Independently	-0.27 (0.18)	-0.35** (0.17)	-0.30* (0.16)	-0.31* (0.16)	-0.17 (0.15)	-0.19 (0.15)
Contact to Others	0.18 (0.20)	0.26 (0.18)	0.15 (0.18)	0.24 (0.19)	0.14 (0.15)	0.16 (0.16)
Important for Society	0.07 (0.22)	0.07 (0.21)	0.15 (0.20)	0.18 (0.21)	-0.10 (0.17)	-0.12 (0.17)
Health and Safety Conditions	-0.46** (0.18)	-0.35* (0.18)	-0.36* (0.19)	-0.30* (0.17)	-0.38** (0.15)	-0.32** (0.16)
Family Time	0.35** (0.18)	0.22 (0.16)	0.18 (0.16)	0.18 (0.16)	0.18 (0.12)	0.05 (0.13)
Helping Others	-0.38* (0.22)	-0.31 (0.21)	-0.27 (0.21)	-0.41* (0.22)	-0.11 (0.20)	-0.20 (0.19)
Parental Income Rank		0.04*** (0.01)	0.02*** (0.01)	0.02** (0.01)	0.00 (0.01)	0.00 (0.01)
Parental Years of Education			0.39*** (0.06)	0.40*** (0.07)	0.30*** (0.07)	0.30*** (0.06)
Probability Desired Career				-0.00 (0.01)	-0.01 (0.01)	-0.00 (0.01)
Gender, State of Birth	-	-	-	✓	✓	✓
Grades, Tracking Recommendation	-	-	-	-	✓	✓
Trust/Risk Preferences, Big Five	-	-	-	-	-	✓
Observations	643	643	643	635	559	551
$R^2$	0.104	0.210	0.287	0.368	0.575	0.587

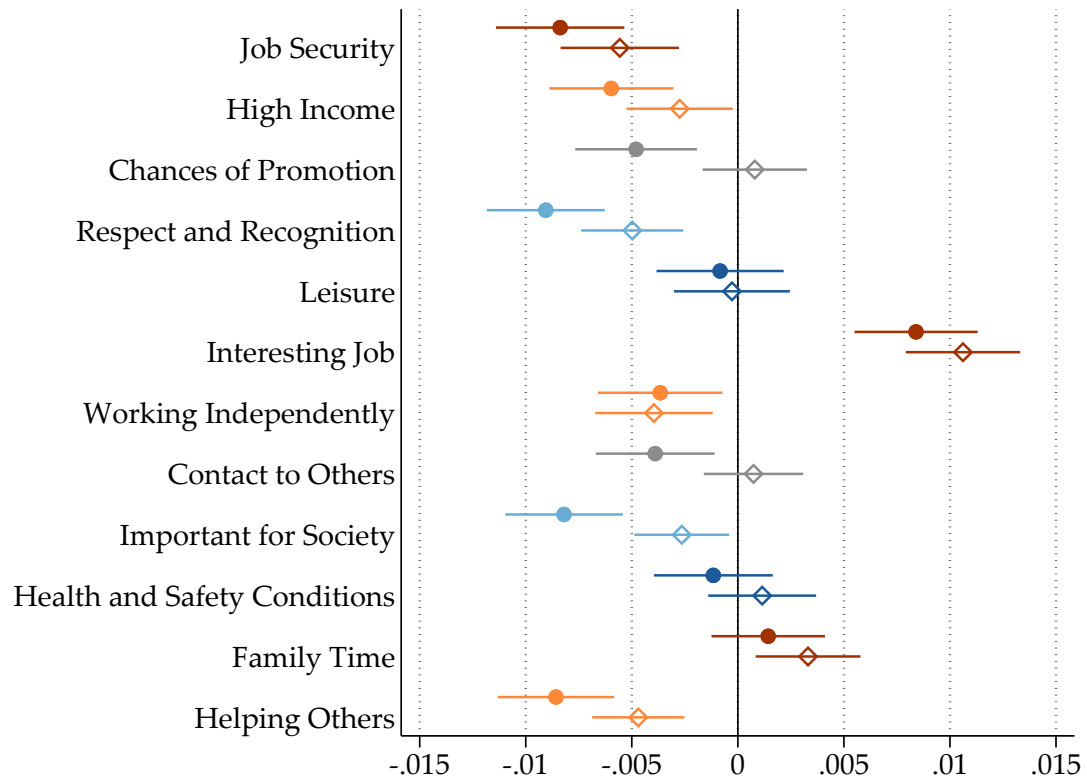
*Notes:* This table shows estimates of six separate regressions of years of education for children aged 28 to 32 on past career preferences reported at age 17. Parental income rank refers to gross household income, parental education to years of education of the more educated parent. Column (4) additionally includes dummies for the state of birth, Column (5) dummies for the recommended school track after primary school, the grade average, and interactions between the grade average and the track recommendation. In Column (6), I further control for trust and risk preferences, and measures of the Big Five personality traits. Robust standard errors in parentheses, \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Figure B.4 – Variation in Career Preferences by Parental Years of Education**



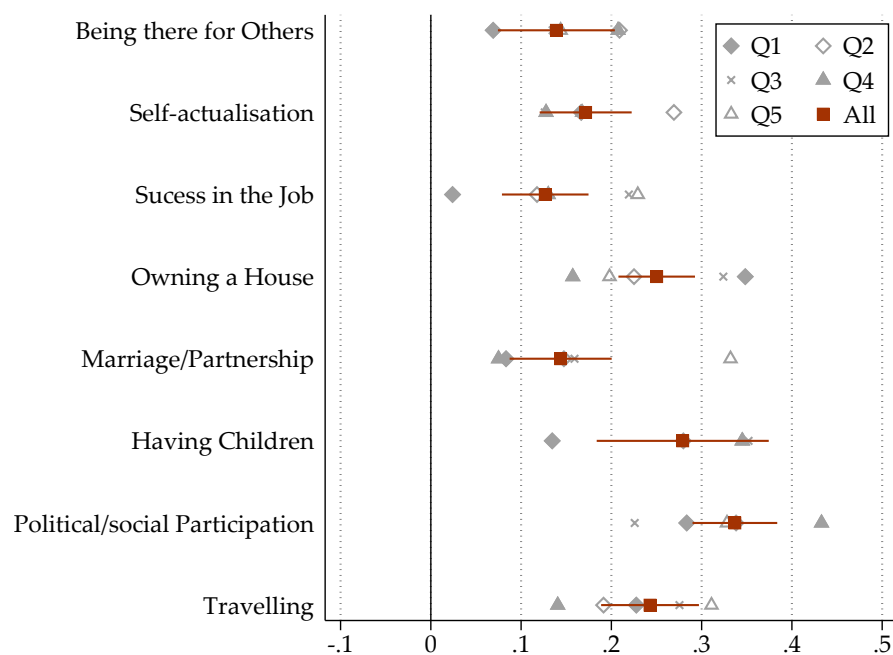
*Notes:* This figure shows point estimates and the corresponding 95% confidence intervals (robust standard errors) of separate regressions of one of the twelve career preferences on parental years of education. The first estimate (circle) in each category is obtained by regressing the respective preference on years of education of the more educated parent, the second estimate (diamond) by additionally controlling for all other eleven career preferences. The sample consists of 8,164 parent-child pairs.

**Figure B.5 – Variation in Career Preferences by Parental Occupation  
(Standard International Occupational Prestige Scale)**



*Notes:* This figure shows point estimates and the corresponding 95% confidence intervals (robust standard errors) of separate regressions of one of the twelve career preferences on the parental Standard International Occupational Prestige Scale (SIOPS) value. The first estimate (circle) in each category is obtained by regressing the respective preference on the mean parental SIOPS value, the second estimate (diamond) by additionally controlling for all other eleven career preferences. The sample consists of 8,051 parent-child pairs.

**Figure B.6 – Intergenerational Persistence in Preferences and Values –  
By Quintile of Parental Income**



*Notes:* This figure shows point estimates of separate regressions of eight different values on the respective average measure of their parents, based on 3,879 parent-child pairs. The red square and the corresponding 95% confidence intervals (robust standard errors) denote the estimate among all children, whereas the other estimates denote coefficient estimates within each quintile of parental gross household income. The values of the children are measured when children are between 16-25 years old, the values of the parents when children are between 15-19 years old.

**Table B.5 – Career Preferences Mediating Intergenerational Income Mobility**

	Percent Explained			
	Ind-Ind	Ind-Gross	Gross-Gross	Net-Net
Job Security	0.7	-0.3	0.0	0.0
High Income	1.4	1.8	3.7	6.0
Chances of Promotion	1.9	4.9	3.5	3.0
Respect and Recognition	0.6	-0.3	-2.2	-4.1
Leisure	0.4	-0.1	-0.5	-0.3
Interesting Job	0.2	0.1	-0.2	-0.3
Working Independently	0.2	0.4	-0.4	-0.0
Contact to Others	0.5	0.3	0.1	0.5
Important for Society	-3.8	-2.1	-1.5	-2.2
Health and Safety Conditions	-2.1	0.1	0.1	-0.1
Family Time	1.5	2.4	3.0	4.2
Helping Others	7.4	2.5	1.8	2.0
Total	8.9	9.8	7.6	8.7

*Notes:* This table reports estimates of a descriptive mediation analysis, decomposing the association between child and parent income rank into a direct effect and twelve indirect effects via career preferences, separately for four intergenerational rank-rank correlations. “Ind” refers to individual labor earnings, “Gross” to gross household income, and “Net” to net household income. All numbers are in percent. For example, a value of 2 means that two percent of income persistence is mediated via the respective preference. Negative signs imply that c.p. the preference increases (rather than decreases) income persistence. The last row shows the combined indirect effect of all twelve career preferences jointly.

**Table B.6 – Career Preferences and Intergenerational Income Mobility – Robustness to Different Weighting Schemes**

	Individual Labor Earnings				Net HH Income		Gross HH Income	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Panel (A): in Ranks, Re-weighted</i>								
Ind. Labor Earnings Father	0.262*** (0.085)	0.218*** (0.065)						
Gross HH Income			0.327*** (0.066)	0.290*** (0.056)	0.438*** (0.069)	0.403*** (0.061)		
Net HH Income							0.422*** (0.073)	0.378*** (0.067)
Preferences	-	✓	-	✓	-	✓	-	✓
Observations	673	673	791	791	791	791	791	791
<i>Panel (B): in Ranks, Unweighted</i>								
Ind. Labor Earnings Father	0.151*** (0.034)	0.140*** (0.034)						
Gross HH Income			0.217*** (0.031)	0.205*** (0.031)	0.352*** (0.032)	0.343*** (0.033)		
Net HH Income							0.365*** (0.031)	0.358*** (0.032)
Preferences	-	✓	-	✓	-	✓	-	✓
Observations	721	721	851	851	851	851	851	851

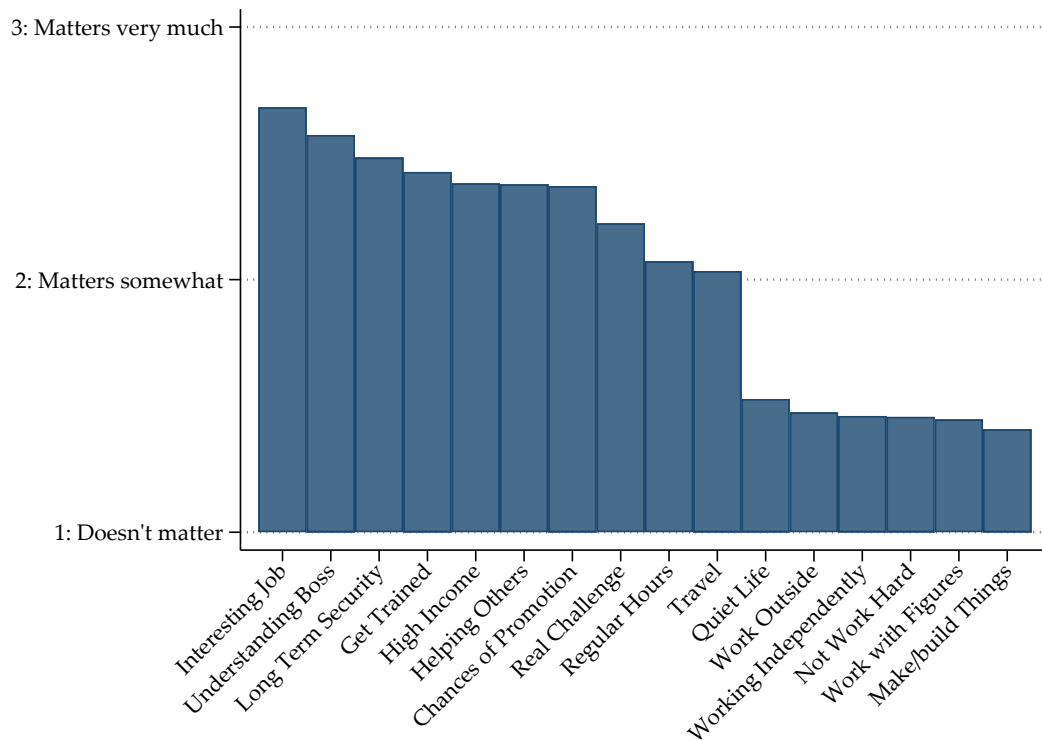
*Notes:* This table shows estimates of separate regressions of child on parental income rank. Three different income concepts are used: gross individual labor earnings, net household income and gross household income. In Panel A, I reweight the sample on the basis of the SOEP survey weights with respect to gender (2 categories), migration background (2 categories) and parental education (3 categories). In Panel B, no survey weights are used at all. The higher number of observations results from individuals receiving a weight of zero under the standard sampling frame of the SOEP. In every second column, I additionally control for all twelve career preferences. Robust standard errors in parentheses, \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## C DATA DESCRIPTION AND ADDITIONAL RESULTS FROM THE BRITISH COHORT STUDY

The British Cohort Study (BCS) is a cohort study of all children born in Great Britain in a week in April 1970. Information was obtained about the sample members and their families at birth and at ages 5, 10, 16, 26, 30, 34, 38, 42, 46 and 51. The cohort began with more than 17,000 children. At age 16, when career preferences are elicited, 11,620 individuals could still be reached. Since then, attrition has been low, and 8,581 study members still took part in the age 46 survey.

**Career Preferences.** In the British Cohort Study, career preferences are elicited when respondents are 16 years old. Similar to the SOEP, children were asked to indicate which aspects would matter for them in choosing a career. Figure C.10 provides a screenshot of the original questionnaire. While some answer categories directly correspond to the respective aspect in the SOEP (e.g. helping others), some important categories like family

**Figure C.7 – Ordered Career Preferences in the BCS**



*Notes:* This figure shows the mean desirability of each of the 16 career aspects elicited in the BCS. The y-axis shows the 3-point Likert scale on which respondents rate the career preferences.



commitments or importance for society are lacking in the BCS questionnaire. On the other hand, the BCS asks about some additional aspects like “working with figures” or “working outside”. As shown in Figure C.7, respondents rated these additional categories to be of mostly minor importance in choosing a career. Instead, the most desired career aspects are an interesting job, an understanding boss and long term security, similar to the most highly rated preferences in the SOEP (compare Figure A.2).

Figure C.8, Panel A, displays all 16 preferences and their correlation among each other. The patterns closely mirror those in the SOEP. For example, respondents that highly value income in their career are also more likely to care about chances of promotion, but less likely to care about a job where they have the possibility to help others. Respondents who desire a quiet life also tend to favor regular hours and not having to work hard, but dislike a job with a real challenge.

In Panel B, I correlate these preferences with a second measure of career preferences available at age 16 in the BCS, the JIIG-Cal scores. JIIG-Cal (“Job Ideas and Information Generator - Computer-Assisted Learning”) scores are derived from a separate questionnaire where the subject is asked to make preference choices between 30 pairs of occupational activities, at the same time being asked whether he or she likes each activity or not. The occupational activities presented are designed to fall into one of six types, which are not made explicit to the participants: scientific/practical, work with living things, business/commerce, artistic leanings, caring for people, and communication activities. An algorithm is then used to produce 0-100 scores for each of the types, where a higher score indicates a higher preference for doing a job of the respective type.

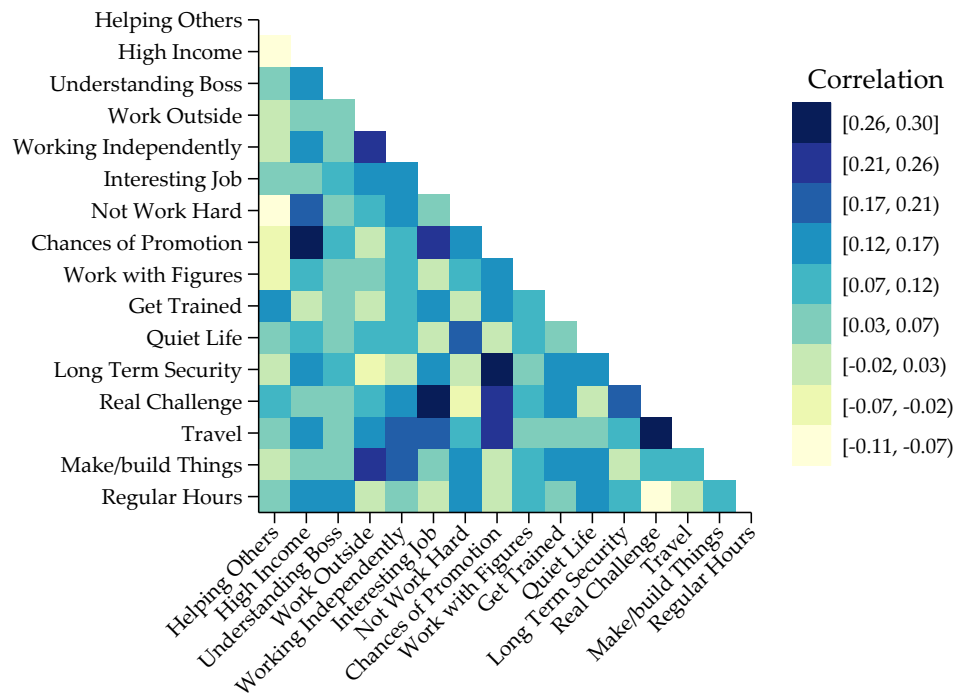
Career preferences correlate in meaningful ways with these scores. For example, the desire to find a job where one is able to help others is a strong predictor for the “caring for people” type, and individuals who desire a high income are more likely to be categorized into enjoying jobs of the “business/commerce” type. As the directly elicited career preferences, JIIG-Cal scores are highly predictive for future labor market outcomes.

Finally, Figure C.9 displays the factor loadings of each career preference on the first two components of a principal component analysis (PCA). Here, helping others stands out as sharing relatively little variance with the other preferences along both dimensions. As in the SOEP, however, a Kaiser-Meyer-Olkin measure of sampling adequacy of 0.69 suggests that the different career preferences are not easily reduced to a few common components.

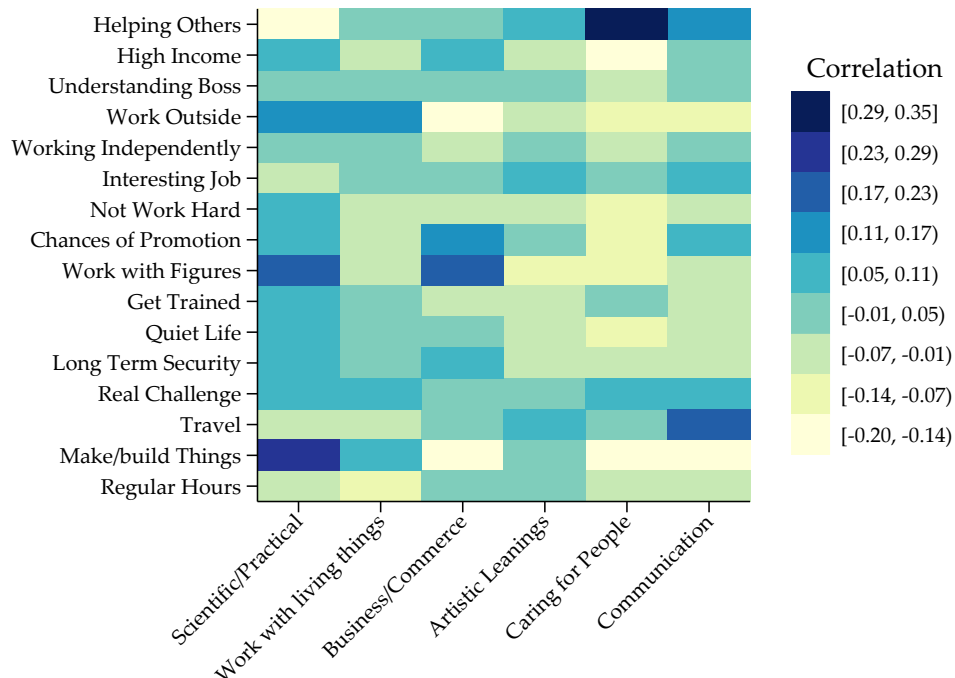
To allow a better comparison of the estimates, I always use standardized measures of career preferences in my analyses.

**Figure C.8 – Correlation of Career Preferences in the BCS**

(A) Cross-correlations

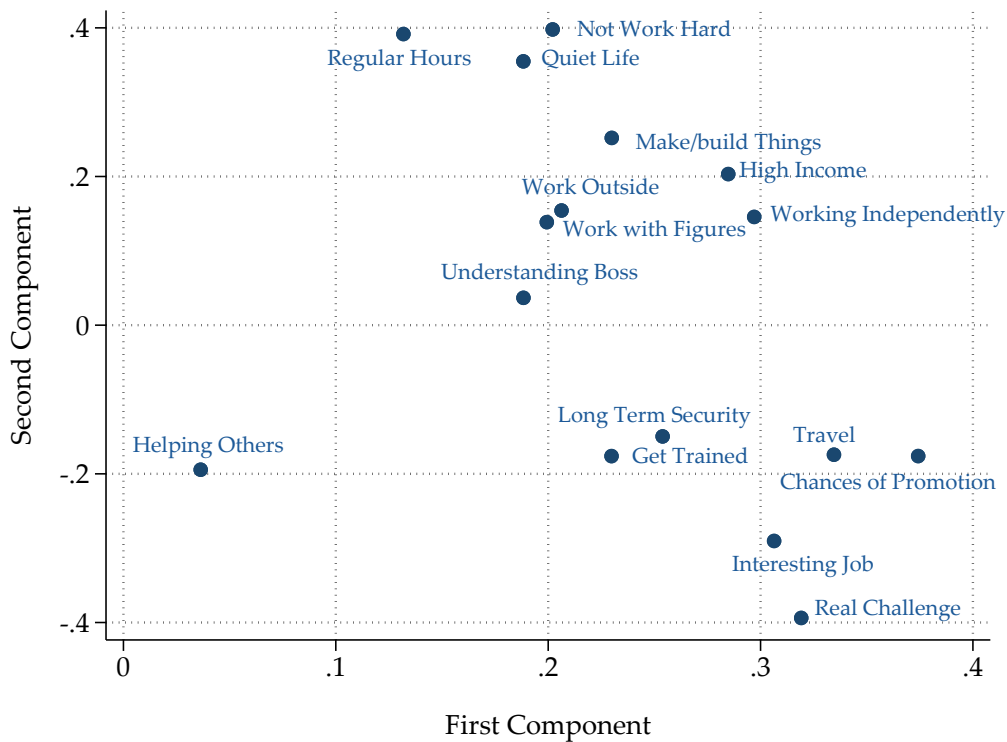


(B) Correlations with JIIG-Cal Scores



*Notes:* This figure shows a heatmap of the pairwise Pearson correlation coefficients between all career preferences (Panel A) and between career preferences and JIIG-Cal scores (Panel B, see text for details).

**Figure C.9 – Principal Component Analysis Career Preferences in the BCS**



*Notes:* This figure shows a scatter plot of the factor loadings of the first and second component of a principal component analysis (PCA) of all 16 career preferences elicited in the BCS.

**Parental Income.** Parental income in the BCS is elicited in the third and fourth wave when children are 10 and 16 years old. Parents report gross weekly family income in 7 bands when children are 10, and in 11 bands when children are 16. Following [Gregg et al. \(2017\)](#), I fit a Singh-Maddala distribution in each wave to derive a continuous measure of income from the banded data. For parents who reported income in both periods (53%), I average incomes over both periods. For parents with missing incomes in one period, I impute income missing values based on income in the other period, age of the mother, and changes in social class, employment status, housing tenure and lone parent status across the two periods, again following [Gregg et al. \(2017\)](#). Based on this continuous measure of income, I assign parents their percentile rank in the income distribution comprising all other parents.

**Child Income.** Income among children is defined as gross pay from both employment and self-employment. I use observations at ages 30, 34, 38, 42 and 46. At age 26, only net incomes are reported, and the question was asked in terms of hourly wages, which produced a high number of implausible outliers. I also omit the age 51 wave, which was administered in 2021, still during the wake of the COVID-19 pandemic. For individuals

with missing wages but known employment status, I assign a wage of zero if the individual was out of work at that time. For individuals with missing information in some of the five observation ages and unknown employment status, I use the row and column imputation procedure also employed to impute incomes in the SOEP ([Frick and Grabka, 2014](#)). Incomes at different ages are CPI adjusted and averaged over all years. I finally assign each child its percentile ranks among all other children.

**Sample Definition.** As in the SOEP, my main sample restriction is that I only retain individuals with non-missing career preferences in my sample. This reduces the sample from 11,620 to 5,618 respondents. One reason for the drop in sample size is a teacher's strike in 1986 that resulted in many subjects not receiving their questionnaires. I further require that respondents reported own income at least once, leaving me with 4,784 individuals. Among those, 419 have missing information on parental income. Dropping these respondents results in a final sample of 4,365 individuals.

Figure C.10 – Career Question in the BCS Questionnaire

WHATS IN A JOB?

5<sup>D</sup>

INSTRUCTIONS

This section consists of a list of questions concerning things which people of your age think to be important in deciding what sort of career they want in the future. We are asking you to indicate for each whether it matters very much to you, matters somewhat or doesn't matter.

We have labelled an example below to show you exactly how to do this:

QUESTION	EXAMPLE	ANSWER
	Matters very much (a)	Matters somewhat (b)
How much will it matter to me to work with my hands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Answer (b) means that you think it will matter somewhat for your job or career that you work with your hands

QUESTIONS

How much does it matter to you:

1. To be able to help other people (C5D1)
2. To have high earnings/wages? (C5D2)
3. To have an understanding boss? (C5D3)
4. To work outside in the open? (C5D4)
5. To work for myself? (C5D5)
6. To have an interesting job with variety? (C5D6)
7. Not to have to work too hard? (C5D7)
8. To get promotion so I can get ahead? (C5D8)
9. To work with figures? (C5D9)
10. To get trained for a trade or profession? (C5D10)
11. To have a quiet life? (C5D11)
12. To have long term security? (C5D12)
13. To get a job with a real challenge? (C5D13)
14. To have a chance to travel? (C5D14)
15. To make or build things? (C5D15)
16. To have a job with regular hours? (C5D16)

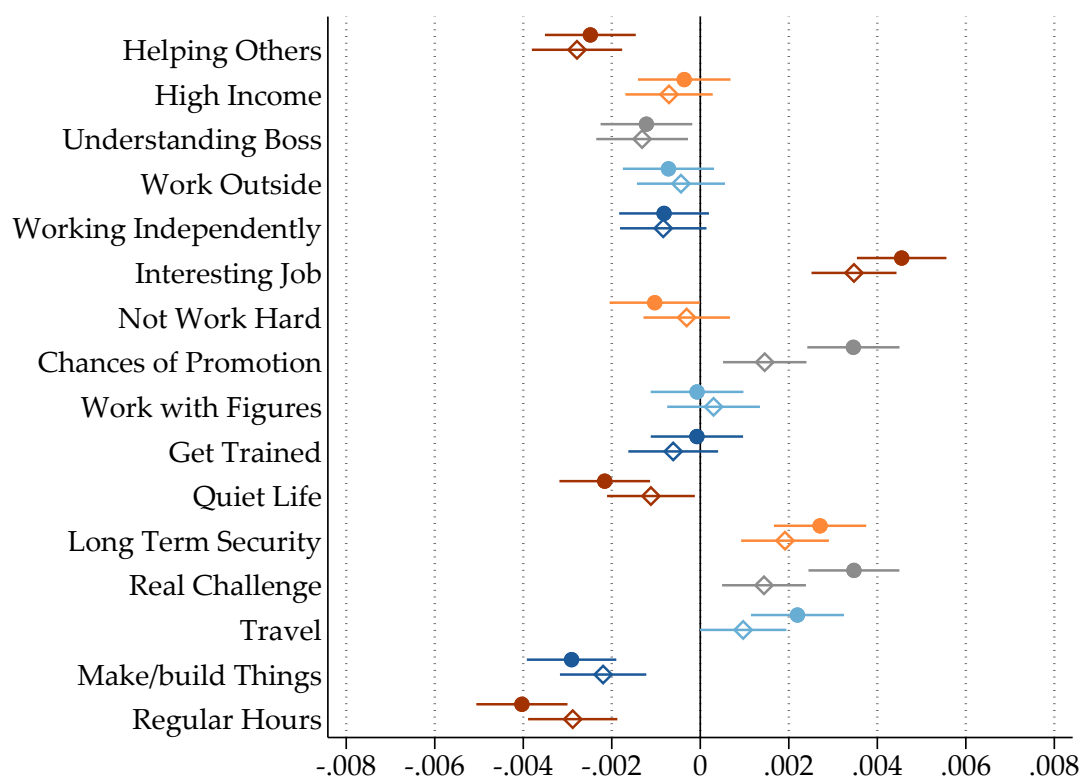
Please now turn to page 4 of the Student Score Form. On that page, in section 5<sup>D</sup>, you will find a set of lozenges headed (a), (b) and (c). Record in these lozenges your answers to each of the questions listed here about what might be important for a job or career. You should record your answers to 1-16 by filling in questions on the score form either lozenge (a), (b) or (c), in a similar way to the example above. Remember not to put your answers on this Test Booklet but in the Student Score Form. Fill in only one lozenge in answer to each question.

KEEP THIS PAGE OPEN, LOOK AT THE FIRST QUESTION No. 1 ABOVE AND THEN FILL IN YOUR ANSWERS ON PAGE 4 OF THE STUDENT SCORE FORM. THEN PROCEED TO QUESTION 2 ... AND SO ON.

To Work  
For Yourself?

Notes: This figure shows a screenshot of the question on career preferences in the BCS questionnaire.

**Figure C.11 – Variation in Career Preferences by Parental Income Rank in the British Cohort Study**



*Notes:* This figure shows point estimates and the corresponding 95% confidence intervals (robust standard errors) of separate regressions of one of the 16 career preferences on parental income rank. The first estimate (circle) in each category is obtained by regressing the respective preference on the mean parental income rank, the second estimate (diamond) by additionally controlling for all other eleven career preferences. The sample consists of 4,365 parent-child pairs.