

Intergenerational (im)mobility in Pakistan: is the social elevator broken?

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Abstract: There is a large literature on intergenerational social and educational mobility in developed countries, but the evidence in developing countries is still scant. In the current literature, household background has been predicted as a significant determinant of individuals' current and future social status because it influences almost every aspect of their lives. We examine various channels through which household socio-economic background and other household and individual characteristics affect individuals' educational and social opportunities in a developing economy, Pakistan. To accomplish the objectives, we have used a rich dataset: the Pakistan Standards of Living Measurement (PSLM) survey 2019-20, which contains information on individuals and their real parents. The empirical analysis highlights that the level of parents' education is more relevant than the level of parents' occupation skills in individuals' social and educational opportunities. In addition, household wealth, region and province of residence, migration status, and disabilities are also significant predictors of intergenerational mobilities in Pakistan. Our results narrate an unequal and dual labour market in Pakistan. Based on empirical outcomes, the study has offered suitable policy implications for developing economies and Pakistan in particular.

Keywords: intergenerational mobility, inequality of opportunities, household characteristics, developing economy, sustainable development goals.

JEL classifications: J08, J21, J24

1. Introduction

The prior literature illustrates that inequality in income distribution often reflects an incomplete criterion to examine fairness in conventional societies (Pignataro, 2012; Katic and Ingram, 2018). However, as per various recent studies on intergenerational mobility, the part of

inequality is entirely unacceptable depends on different households' characteristics and circumstances, i.e., household backgrounds, gender, race and ethnicity, and since the individual cannot choose their family backgrounds when they are born, they have to suffer from the unprecedented consequences of these inequalities. In some cases, even their hard work does not pay them well and does not make them better off compared to someone from an affluent background (Corak, 2013; Torche, 2015; Bjorklund and Jantti, 2020). According to Roemer (1998), it is called the "inequality of opportunity". The inequality of opportunities is reflected in various (4,5,8 and 10) sustainable development goals (SDGs).

Nonetheless, the issue becomes worse when, in a society or economy, inequalities in opportunities increase to a higher level, and individuals have to be bound by the circumstances in which they are born and raised. The interplay among families, labour markets, and public policies influences an individual's prospects and the degree to which their income or social status is associated with their family background (Jemmali and Amara, 2015; Aklin et al., 2022). These factors operate in distinct manners across various countries. However, there is a need to redesign public policy to promote access to human capital in marginalised communities so that they can access relatively more significant benefits, irrespective of their family backgrounds.

Even though there are various factors behind the inequality of opportunities, the family background is one of the strongest drivers because it influences almost every aspect of life. For example, household background is a pertinent factor affecting the living standard reflected by the neighbourhood or residential area and the quality of schooling the parents can afford and provide to their children (Bourguignon, 2001; Chetty et al., 2014). It is a well-observed phenomenon that inequality in access to opportunities, in most cases directed to loss of human capital in society, creates frustrations among youth and forces them to commit various crimes. Therefore, intergenerational mobility is lower in those societies where inequality of opportunity is higher. The starting point of this synthesis is that inequality skews opportunities and lowers intergenerational mobility (Bourguignon et al., 2001; Zheng and Graham, 2022).

Pakistan is home to 241.49 million people with an annual growth rate of 2.55 per cent, as per the results of the recently conducted census. Pakistan is located in the South Asian region and is the 6th most populous country in the world, with a GDP growth rate of 6.1 per cent in 2022 (Pakistan Economic Survey, 2023). Pakistan is divided into four provinces, Punjab, Sind, Khyber Pakhtunkhwa (KP) and Baluchistan, and each province has different labour dynamics and social indicators. Punjab and Sind provinces have the highest labour force participation and literacy rates (both for males and females), and KP and Baluchistan provinces have the lowest labour force participation and literacy rates due to strong cultural norms. However, educational reforms have recently been introduced for girls' education in KP province. The previously mentioned background and labour market dynamics make Pakistan an interesting study to examine the case for intergeneration mobility.

Accordingly, to the best of our knowledge, this is the first study to apply the distributional approach to examining the impact that overeducation has on the earnings of private and public sector workers in Trinidad and Tobago, by also exploring the role of higher education. In the present study, we have used the latest data from the Pakistan Standards of Living Measurement Survey (PSLM) survey, 2019-20, which contains information on intergenerational mobility. The survey allows us to measure the educational and socio-economic background of older

generations on their children's (sons and daughters) education and their professional careers in Pakistan. We also test heterogeneity within the country for rigorous and specific policy insights. We have opted to perform the said analysis for various reasons. First, Pakistan is a developing economy, and it has a low level of social mobility. Pakistan has four provinces and four different labour markets. Another interesting aspect of the data is that it has information on parents' and children's education levels and also parents' and their sons'/daughters' occupational groups as given in the International Standard Classification of Occupations (ISCO). To the best of our knowledge, this is the first study to investigate educational and social intergenerational mobility in the case of Pakistan. In the present study, we have taken a more specific case to measure intergenerational mobilities for sons and daughters. To measure the intergenerational mobilities, we have defined four different yet relevant cases for parents, i.e., parents with higher education and in high-skill occupations, low education and low-skill occupations, low education and high-skill occupation, high education and low-skill occupations. For children, or, more specifically, for sons and daughters, we include secondary and higher levels of education and high occupation skill levels, representing the glass ceiling.

We apply probit models by dividing data into two samples to accomplish our objectives. We have taken an entire sample when we elucidate the education opportunities, i.e., the highest level of education attained; however, while discussing the social opportunities, we have only taken the sample of employed individuals. We have taken the first three occupations (professionals, managers, technicians and associate professionals) from the ISCO, which commonly refer to white-collar jobs and represent the higher socio-economic background compared to if a person is employed in any other occupation. In this way, the present research is also focused on the glass ceiling, which is one of the significant drivers of social mobility in developing economies like Pakistan. To check the robustness of the empirical analysis, we desegregate the data by different education levels and occupations and evaluate their influences on children's education and social status (section 4.4).

By taking the insights from the prior literature (Bonacini et al., 2021), another objective of the present research is to discuss the significance of within-country heterogeneity concerning intergenerational mobility. This will give us a clear picture of each province, gender, age group, wealth quintile and migration status in Pakistan. Based on the analysis, we could find out which dimension (education or acquisition of skills) is stronger in a province, region, for the specific gender, age group, wealth strata, and migrated or natives to formulate policies accordingly.

In a nutshell, the present research will contribute to the existing literature in various ways. 1) the research will establish a new and updated version of the affirmation of intergenerational mobility in Pakistan. The research will estimate the influence of household background, represented by higher education and higher skills of parents, on multidimensional outcomes. To clarify the analysis, we have kept the other notable variables constant. 2) The research disaggregates data by gender, region of residence and province, age groups and wealth strata; it will help us to capture the heterogeneity within the Pakistani economy. 3) Based on previously mentioned facts, the present research will serve as a starting point for policy practitioners to formulate tailored policies for regional and provincial contexts, which help intergenerational mobility in Pakistan and similar economies.

The research is organised in the following manner: Section 2 elucidates the previously done scholarly work on intergenerational mobility in developed and developing nations. Section 3

will confabulate the survey data used in our research and describe the variables. Section 4 elucidated descriptive narratives of the chosen variables. In sections 5 and 6, the main results are highlighted, and the robustness of the analysis is also checked. Lastly, in section 7, the research offers few suitable policies.

2. Literature review

This section confabulates the prior scholarly work on intergenerational occupation and education mobility. After a glance at the previous literature, we infer that vast literature is available for developed economies and that most researchers believe there is a strong interconnection between parents' characteristics and children's education and occupational outcomes. On the same lines, the most notable studies for the UK and the USA are done by eminent researchers, including Ginsberg (1929), Glass (1954), Blau and Duncan (1967), Featherman and Hauser (1978) and Goldthrope (1980). In another interesting study, Behrman et al. (2001) elucidated the evidence of intergenerational occupational mobility for Latin American economies and the USA and illustrated that there is a positive connotation between parents' education and children's occupational mobility. For Sweden, Sjogren (2000) revealed that in most cases, children are hesitant to opt for new occupations; on the contrary, they feel familiar with their parents' occupations.

For the UK, Ermisch and Francesconi (2006) also confabulated that as compared to older children, intergenerational occupation is much more evident in younger children. According to the study, younger children are more likely to opt for their parents' occupations. Emran and Shilpi (2011) have taken the examples of developing nations, Nepal and Vietnam. The study's empirical outcomes reveal that, as opposed to the sons, occupational persistence is much stronger for daughters. However, in Vietnam, the empirical estimates elucidated that in most cases, daughters like to opt for their mothers' occupations. Nguyen and Getinet (2003) discussed the educational and occupational mobilities in the USA, and the study used the national longitudinal survey data. According to empirical estimates, irrespective of the gender of the child, the father's education creates a much more substantial impact on the children's educational outcomes. However, when the analysis is segregated for sons and daughters, the empirical results revealed that daughters are more likely to opt for their mothers' occupations, and sons mostly opt for their fathers' professions. The study found strong occupational persistence in the case of high-skill occupations.

Holmlund (2008) used administrative data to discuss intergenerational educational mobility in Sweden and elucidated the role of assortative mating. The study has considered the educational reform initiated by the Swedish government in 1950 to reduce inequalities in education. The study has found that educational reform has increased income mobility. However, the study's outcomes could not find any noticeable impact of assortative mating on educational mobility. Van Bavel (2011) concluded that household size is a pertinent factor in occupational mobility. The large household size is interconnected with poverty and, thus, downward occupational mobility because most parents cannot spend on their children's education Bonacini et al. (2021) investigate channels by which household background determines an individual's educational and social opportunities in Italy. In another study based on Italy, Brunetti and Fiaschi, (2023) show that intergenerational occupational mobilities have three main drivers: i) equality of opportunities) income incentives, and iii) changes in the composition of occupations. The empirical estimates confirm that children whose fathers are in low-level occupations

experience less upward mobility, and downward mobility is observed for those children who belong to the upper middle class. In addition to this, equality of opportunity is low for individuals who were born after 1951. De Pablos Escobar and Gil Izquierdo (2016) have concluded that in the Spanish economy, there is an increase in education mobility but no improvement in occupational mobility.

Notwithstanding that most of the literature focus on developed economies, the analysis of developing countries is a bit limited. and frequently limited by measurement problems. For Bangladesh, Huq et al. (2021) describe that region of residence is a pertinent factor of mobility, as individuals who reside in urban areas are more likely to experience upward mobility in education and occupations than their rural counterparts. A promising finding is that illiterate parents prefer investing in their daughters' education to their sons'. Motiram and Singh (2012) observe a strong persistence in occupations in India. The study also elucidated that the region of residence is an essential determinant of upward or downward mobility in professions. For instance, a person residing in a rural area is more likely to experience downward occupational mobility and vice versa. Similarly, Kundu and Sen (2023) manifested the multigenerational occupational mobility for the Indian economy. The empirical estimates elucidate an upward increase in educational mobility but not occupational mobility among the three generations. However, the findings are different across various social groups and communities. For example, Muslim communities are experiencing downward mobilities concerning education and occupations as compared to Hindu communities. Zhuo et al. (2023) examined the same policy issue for the Chinese economy and elucidated that parents' education level and training are two essential determinants for individuals to opt for higher professions. Moreover, workforce training is the single most important factor that helps farmers' children experience upward mobility in their occupations.

After glancing at the prior literature, we conclude that most studies have focused on developed countries and on the impact of parents' education or occupations on children's education and occupation. To our knowledge, this is the first empirical article that investigates how the household background determines an individual's educational and social opportunities in Pakistan. In our present study, we intend to conduct a comprehensive analysis that considers the parents' education and occupation together and assesses their joint impact on children's education and social opportunities in Pakistan. It will provide us with an edge to evaluate the issue of intergenerational mobility in a better way in the context of a developing economy.

3. Data and methods

In the ongoing research on intergenerational occupation and education mobilities, we have used the individual and household level data from the Pakistan Standards of Living Measurement Survey (PSLM) 2019-20 data. The data collection authority is the Pakistan Bureau of Statistics (PBS). We have used district-level data, which provides us with rich information about the household and individual characteristics, and the sample size is more significant than any other survey for the analysis of education and occupation mobilities in Pakistan. The PSLM survey has an advantage over Labour Force Surveys because it collects income and expenditures information. The PSLM survey collects information through a well-developed questionnaire. The data is collected from four provinces of Pakistan.

The PSLM survey is the most appropriate for analysing Pakistan's social mobility. Additionally, it includes data on the educational attainment and occupations of both the individuals being interviewed and their parents. The occupations follow the standard occupation classification called the ISCO. The ISCO categorises a particular occupation's complexity and scope of tasks and responsibilities. The comprehensive details offered by the questionnaire help us to accurately assess various impacts of household background while also accounting for certain variables associated with the socio-economic circumstances of individuals.

As reported by the prior literature (Stuhler, 2018), it is not a straightforward analysis to ascertain what kind of interconnection should be examined while investigating intergeneration mobility. In our present research, we will follow the viewpoint put forward by Goldthorpe and Jackson (2008), as their study examines two different perspectives together: the educational outcomes, which they believe have the potential to achieve a specific socio-economic position, and social outcomes, i.e., living standards of individuals.

As a first step, the present research will concentrate on the interconnection between parents' background and the main driver of social mobility, i.e., education level. We have used the level of education attained as a proxy for education opportunities, which is generally a significant mediator to achieving better occupation and, consequently, higher income opportunities. As a second step, we explore the importance of parents' background for the attainment of the socio-economic status of individuals. For the purpose, we have used occupational categories as a proxy for social opportunities as defined by the ISCO classification, which has nine categories. It includes managers, professionals; technicians and associate professionals; clerical support workers; services and sales workers; skilled agricultural, forestry, and fishery workers; craft and related trade workers; plant and machine operators and assemblers; and elementary occupations.

First, we need to elucidate our two dependent variables to develop our econometric framework on the impacts of parental background. The first dependent variable is high education level (HEL), a binary variable that takes the value of 1 if the highest level of education obtained is a secondary degree and 0 otherwise. For the current analysis, we have followed Luca et al. (2021); however, in their study, they have taken university education as the primary variable to represent Italy. We have taken the inspiration for our work from their research. Still, based on our data analysis and the context of a developing economy, we have used secondary education as the main category to represent HEL. Our second dependent variable is high skill level (HSL), and it is a dummy variable that takes the value of 1 if an employee (here, we are referring to son/daughter) is working in the first three occupations as defined in the ISCO and 0 otherwise. We used various specifications for both dependent variables as a sensitivity analysis (see Section 6).

In the present analysis, we have used the proxy for the household background by combining the two previously mentioned dependent variables but we have constructed these variables for father only (but in the remaining text we generally use the word parents). In case of mother there are very few variables available. In a traditional society like Pakistan, most of the women in the previous generation are not encouraged to work. We have constructed our four explanatory variables in the following manner: father(s) with both a HEL and HSL; father(s) with a HEL but no HSL; father(s) with an HSL and no HEL; father(s) with neither HEL nor an HSL. These explanatory variables will give us a clear and disaggregate influence of social and

educational background. In addition to these variables, we have included various relevant demographic and socio-economic characteristics of the individuals. For instance, we have included gender, different age categories (aged 15-19, aged 20-24, aged 25-29, aged 30-30, aged 40 and above), wealth quantiles, migration (migrants and non-migrants), disability (disability and no disability), region (rural and urban) and provinces (Punjab, Sind, Baluchistan, Khyber Pakhtunkhwa). A detailed illustration of the explanatory variables is given in Table A1.

Our sample contains individuals aged 15 to 60 because most people aged 60 are retired in Pakistan, and most people younger than 15 are in education. The age groups we have adopted are more comprehensive than usual because we want to examine the heterogeneous effects of households by different age groups. As a first step, we cleaned the data and dropped the missing values. Our total sample comprised 150,622 individuals for elucidation on education opportunities; however, it was reduced to 62,736 observations when we analysed the social opportunities because here, our centre of attention is working individuals only.

To examine the effects of household background on individuals' social and educational opportunities, we have used the following form of probit model for the empirical estimations.

$$y_{ij} = \gamma_j se_i + \delta_j x_i + z_i \quad i = 1,2 \dots$$

In the equation, y is the dependent variable, i.e., HSL or HEL. The explanatory variables are represented by se . It means the previously mentioned four combinations of HEL and HSL for parents. In addition to this, x_i is the vector of covariates. To further explain the evidence of intergenerational mobility in a developing country, Pakistan, we estimate the heterogeneous influences by region, gender, age groups, wealth quantiles, provinces and migration status.

In our empirical analysis, we have differentiated three different model specifications, Model 1 explains the four combinations of household socio-economic background variables; Model 2 adds the set of demographic variables and region and province of residence; in Model 3, we have included the wealth status of the household as an additional variable, we have also included the migration status and disability of the son/daughter.

4. Results and discussions

4.1. Descriptive statistics

This section will construct the descriptive statistics based on our data analysis from the latest available PSLM survey. In our sample, we observe that 63 per cent of individuals do not attain a secondary education, and even a sizeable proportion of employees (88 per cent) are not working in high-skill occupations even if we consider their parents, 94 per cent of parents are not able to attain high skill level occupations. Interestingly, individuals who have parents with HEL are more likely to have HEL. Still, considering 56,240 individuals who achieved HEL, only 25,666 individuals come from households where their parents have a HEL, whereas the remaining 30,574 is not from households with parents who attained HEL. It has an important implication that social mobility has been increasing in Pakistan over time. However, in recent years, education and occupational skills have generally increased due to overall awareness of messes.

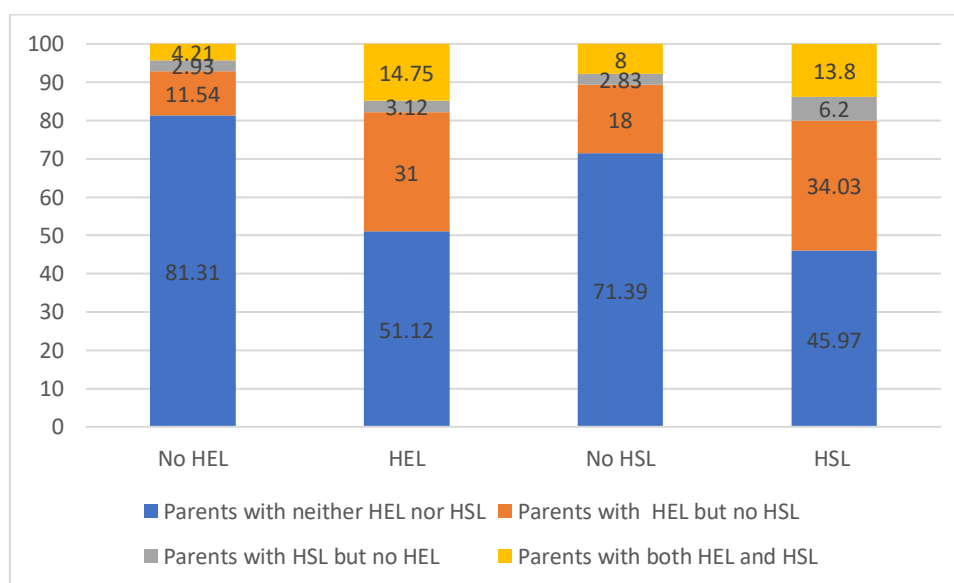
Table 1: Observations included in the sample, HEL, HSL, and household background

Children with HEL	Parents with HEL		
	No	Yes	Total
No	52.79 79,516	9.86 14,866	62.66 94,382
Yes	20.28 30,574	17.04 25,666	37.33 56,240
Total	73.09 110,090	26.90 40,532	100 150,622
Children with HSL	Parents with HSL		
	No	Yes	Total
No	84.22 52,839	3.33 2,094	87.56 54,933
Yes	9.94 6,242	2.48 1,561	12.43 7,803
Total	94.17 59,081	5.82 3,655	100 62,736

Source: PSLM survey, 2019-20

Through Figure 1, we have learned about the interconnections between individuals' education, skill level and household background. The figure corroborates that parents' occupation skills and education levels are the most significant drivers in achieving a HEL or HSL for an individual. Most individuals (81 per cent) with no HEL have parents with neither HEL nor HSL. However, this proportion decreases when parents have either HEL, HSL, or both. Moreover, the household background significantly affects an individual's educational attainment. Even when the parents have both HEL and HSL, only 22 per cent of individuals have attained HEL. The empirical outcome elucidates that, in the context of Pakistan, intergenerational mobility is very low.

Figure 1 – Household background by individuals' education level



Source: PSLM survey, 2019-20

4.2. Estimations and interpretations

Table A2 elucidates the empirical estimations of the probit models. It highlights the probability of obtaining a higher educational level – HEL and a higher skill level – HSL. We have found a few fascinating empirical insights from our empirical estimations.

We have found similar results for the models 1, 2, 3. An individual with parents with a HEL and HSE will have a higher probability of obtaining secondary and higher education than one with no HEL and no HSL. In the same manner, we have observed from the empirical outcomes that the probability of a person obtaining secondary and higher education is higher if his parents have either a HEL or HSL as compared to when his parents do not possess a HEL or HSL. Regarding the empirical outcomes for the social opportunities, the effects of household background predictors are significantly and strongly associated with children's social status. For instance, the probability for the children is higher if they have parents with both HSL and HEL than if parents have none. Similarly, if parents have either HSL or HEL, children will be able to achieve better socio-economic status than if their parents do not have HEL and HSL. However, it is revealed from the empirical results that parents with HEL exert a stronger influence on sons and daughters' social status than those having parents with HSE; the situation is equally applicable to the individuals' educational outcomes.

Our models have included various household and individual characteristics, i.e., different age groups, gender, wealth quintiles, region and province of residence, migration status and disability. In the case of education, there is a higher probability for a person to obtain a secondary or higher level of education if he belongs to the older age group, as compared to the base category of 15 to 19 years. Household wealth is an essential factor in influencing education attainment. It is a well-proven fact from the prior literature, and our empirical estimates reveal that individuals who belong to affluent households or higher income quintiles are more likely to attain HEL. Interestingly, our analysis shows that compared to males, a female is more likely to obtain secondary and higher education. Migration is negatively associated with obtaining a HEL for an individual, even though it is a surprising result. In our sample, most individuals move from one province to another for family or jobs related reasons. In most cases, they do not migrate for education. Disability is an obstacle for the individual to obtain education. Individuals are more likely to reside in urban areas and get a better education. Similarly, compared to the base category Khyber Pakhtunkhwa province, if an individual resides in any other province, there is less probability that the individual obtains better educational opportunities.

We have also regressed the same household and individual level factors for social opportunities. Individuals who reside in urban areas can access better social opportunities. Even though, as previously mentioned, women are more likely to access better education, they are still unable to access better social opportunities. Migration is positively connected with access to social opportunities. Disability has a negative connotation with social opportunities. However, individuals from higher income quintiles are more likely to be in better occupations.

In developing economies, women face many constraints to access education and high-skilled occupations (SDGs 4,5,8 and 10). Pakistan has had the lowest labour force participation rates in the South Asian region for the last many years, and more than 70 per cent of women are in vulnerable employment. Even though the situation has improved in the last decade concerning the net enrollment rate for girls, still at a higher level of education, gender inequality is very prevalent in different provinces and regions in Pakistan. Only if women access and acquire

higher education, they will be able to apply for and work in high-skill occupations. To capture the same situation, we have also included gender interactions with regional and provincial dummies in our analysis (Table A3). Women residing in urban areas are more likely to access HEL than women and men residing in rural and urban areas. At the same time, the situation is equally interesting in the case of provinces. Overall, women are more likely to perform well than men if given opportunities to acquire higher education. Women residing in KP province are more likely to obtain HEL than men and women residing in any other province. Men residing in KP province, Punjab province, and Sind province come after KP province regarding HEL for women.

4.3.Heterogeneous effects by individual characteristics

This section estimates the heterogenous effects on outcome variables by region, provinces, gender, age groups, migration status, and income groups.

While examining the heterogeneous effects on social and educational opportunities by age groups, we inferred that household background is a significant factor in attaining an HSL or HEL. The empirical outcomes estimated for various age groups outlined in Tables A4 and A5 explain that for the youngest (15 to 19 years old) sons and daughters, the parents' education is a more significant factor in attaining higher education and social status than the parents' high-skill occupations. But for every other age group included in the sample, parents' occupations or social status is an integral part of their social status. This outcome indicates that parents' social backgrounds are less pertinent for educational opportunities and more relevant for social status.

We have included household wealth in our model and examined household background factors' influence on different wealth quantiles. We found out that parents' education plays a significant role in educational opportunities for individuals, whereas in social opportunities, parents' occupations exert a stronger influence in each wealth strata.

We have estimated the impact of household background on education and social opportunities by region. It is evident from the estimated outcomes that individuals residing in urban areas are more likely to attain better education and socioeconomic status. In the urban region, we have observed from the estimated coefficients that, compared to parents' occupation, parents' education exerts a more substantial influence on children's education and social opportunity attainment. On the other hand, if individuals reside in rural areas, then to attain education and social opportunities, parents' occupations play an essential role compared to parents' education. More precisely, the results depict that in the case of urban areas, having parents with HEL and HSL and HEL and No HSL exerts a strong influence on children's education and socio-economic attainments as compared to the rest of the two categories for parents, i.e., no HEL and no HSL or no HEL and HSL. It means parents' education plays a pertinent role compared to their occupations. However, in the case of rural areas, the situation is the opposite.

We have also segregated our analysis concerning gender and examined the impact of household background on males' and females' education and socio-economic opportunities. The empirical research confabulates that parents' education is a more significant factor for both genders to attain education; however, when we compare both genders, then it is evident from the empirical estimations that for females' education attainment, parents' HSL is exerting a more substantial influence even when there is no HEL. On the other hand, when we glance at socio-economic opportunities, compared to females, for male children, parents, HEL and HSL and no HEL but

an HSL exert a stronger effect. Therefore, sons are at an advantage compared to daughters for social opportunities. Parents' HSL are more pertinent than parents' HEL for attaining social opportunities, and sons have a comparative advantage.

We also have segregated our sample concerning provinces and observed household background's impact on children's education and socio-economic opportunities. Compared to any other province, children residing in Punjab province have the comparative advantage of attaining education and socio-economic opportunities. However, parents' education substantially influences children's education more than parents' HSL. On the contrary, when we estimated the household background characteristics on children's socio-economic status attainment, it is evident from the analysis that parents' HSL plays a strong role compared to parents' HEL.

4.4. Robustness checks

This section elaborates on the robustness checks on the main empirical findings. It includes the specification of the variable of interest, i.e., the specification of our dependent variable. In addition, we have included new (and possibly endogenous) covariates in our model under consideration.

As a first task, we have used some alternative but relevant variables as proxies for household background variables, previously our variable of interest. In our prior discussion, we included four combinations of HEL and HSL and examined their impact on individual education and social status. Still, we have included six dummy variables for parents' education (no education as base category, below primary, primary, lower secondary, upper secondary and post-secondary). Moreover, we have included eight dummy variables for the occupational statuses of parents, whereas elementary occupations are the reference category. Table A6 revealed the empirical outcomes.

We have observed that individuals whose parents have secondary or upper secondary levels of education are more likely to attain HEL or HSL than those whose parents are either uneducated or have no education or primary or lower secondary levels of education. The impact of parents' education on children's education is higher with every successive degree, so the effect is stronger when parents have an upper secondary level of education. In addition, we have confabulated that the influence of household background variables is associated with the occupational skill level of individuals. As expected, parents working as managers, professionals, technicians, and clerical support staff significantly influence their children's social status.

To improve the estimation efficiency and check the robustness differently, we have changed the dependent variables and taken various dummies for education and occupations. In a specific context, we have replicated our primary empirical outcomes but with a different set of dependent variables; for instance, instead of taking HEL, we have taken three discrete ordered variables for education (no education, lower secondary and upper secondary), and also we have followed the ISCO nine occupational categories instead of HSL. As per the ordered logit empirical outcomes, we can infer that our findings in Table A7 are aligned with our main results. However, the most pertinent findings include the following points. First, having parents with HEL independently or with HSL decreases individuals' probability of attaining lower education levels than secondary.

On the other hand, parents having HSL but no HEL significantly increase the probability of sons/daughters obtaining a high school diploma in the Pakistani economy, and the reference category is parents who have neither HEL nor HSL. Second, the empirical outcomes obtained through ordered logit revealed the prevalence of a "glass ceiling " in the Pakistani economy because most individuals working in high-skill jobs come from backgrounds where their parents also work in high-skill jobs. Therefore, it is sadly proved by the empirical analysis that for a person whose parents are working in low-skill occupations, there is a very low probability for them to climb the ladder and end up in highly paid and prestigious occupations.

5. Conclusions and policy implications

Recent estimations on wage persistence elasticities reveal that children of lower-income families will have to take over five generations to attain the average income in some OECD countries (OECD, 2018). This notion highlights a common trend towards the petrification of social classes across generations. On the same lines, our research aims to determine the importance of parental background from a multidimensional perspective and to investigate the role of socio-economic and demographic characteristics in accounting for social differences, making it a potential starting point for building focused policy recommendations designed to advancing for a less class-based society.

According to the preliminary findings of the PSLM survey for the year 2019, there is a pertinent interconnection between the socio-economic background of individuals (specifically, the education level and professional skill level of their parents) and their educational and interpersonal prospects. The data suggests that individuals with parents with a higher education level (HEL), higher skill level (HSL), or both are more likely to achieve a higher education level or skill level. This indicates that the overall social structure in Pakistan plays a significant role in determining educational and social opportunities for individuals, and findings are equally applicable to developing nations with the same kind of employment figures.

The empirical findings consistently validate that the social background exerts a robust and noteworthy influence on both of the examined effects, mainly while accounting for a range of pertinent social and demographic aspects of individuals. Specifically, based on empirical outcomes, having parents with advanced degrees significantly impacts children's academic trajectories and subsequent professional achievements more than having parents in high-skill occupations.

Analysing demographic information and interpersonal factors reveals that parents' profession substantially impacts Punjab and Sind more. Interestingly, women rely more on family background factors to obtain better education opportunities, while men prioritise it for social opportunities. Pakistan is a country characterised by a persistent rural-urban divide. Notably, the provinces (KP and Baluchistan) with the lowest labour force participation rate also exhibit the strongest association between individuals' social opportunities and family backgrounds. The primary conclusions of our study affirm that the Pakistani labour market exhibits characteristics of duality and inequality, particularly when considering different generations.

Our investigation concludes that both parents' education and professional skill levels have distinct impacts on the socio-economic conditions of the children, with parental education being more significant than professional skill levels. Based on this information, intergenerational mobility concerns in developing economies are diversified over several

distinct interrelated levels. To foster social mobility, enhancing and understanding the equal opportunity mechanisms and directing public policies in the right direction is imperative. The primary sociopolitical implication of our findings pertains to formulating policies that advocate for advancing tertiary schooling among young individuals from non-graduate and sometimes economically disadvantaged households, with a particular emphasis on economic and cultural aspects. These measures should be prioritised in rural Pakistan and Khyber Pakhtunkhwa, Baluchistan provinces.

Furthermore, it is imperative to evaluate personal traits, specifically when implementing standards in educational institutions, as they must account for the specific circumstances of women, specifically for those women who belong to rural Pakistan or are from Khyber Pakhtunkhwa and Baluchistan. An example of this could be the implementation of financial assistance specifically targeted at assisting young women from disadvantaged economic circumstances while applying for and attaining their higher education degrees. Achieving genuine equality of opportunities is a pressing concern for a developing nation. The greater the extent to which one's advancement is contingent upon individual effort alone, the more prevalent social justice will be in society.

References

- Aklin, M., Cheng, C. Y., & Urpelainen, J. (2021). Inequality in policy implementation: caste and electrification in rural India. *Journal of Public Policy*, 41(2), 331-359.
- Behrman, J. R., Gaviria, A., & Szekely, M. (2001). *Intergenerational Mobility in Latin America*: Working Paper Number 352. Inter-American Development Bank
- Bonacini, L., Gallo, G., & Scicchitano, S. (2021). Sometimes you cannot make it on your own. How household background influences chances of success in Italy, GLO Discussion Paper Series 832, Global Labor Organization (GLO).
- Björklund, A., & Jäntti, M. (2020). Intergenerational mobility, intergenerational effects, sibling correlations, and equality of opportunity: a comparison of four approaches. *Research in Social Stratification and Mobility*, 70, 100455.
- Blau, P. M., & Duncan, O. D. (1967). *The American occupational structure*. New York: John Wiley and Sons.
- Bourguignon, F., Ferreira, F., & Menéndez, M. (2001). Inequality of outcomes, inequality of opportunities and intergenerational education mobility in Brazil. *Inequality and Economic Development in Brazil*, 149.
- Brunetti, I., & Fiaschi, D. (2023). Occupational mobility: theory and estimation for Italy. *The Journal of Economic Inequality*, 1-21.
- Cheema, A., & Naseer, M. F. (2013). Historical Inequality and Intergenerational Educational Mobility: The Dynamics of Change in Rural Punjab. *The Lahore Journal of Economics*, 18(special edition), 211.
- Chetty, R., Hendren, N., Kline, P., Saez, E., & Turner, N. (2014). Is the United States still a land of opportunity? Recent trends in intergenerational mobility. *American Economic Review*, 104(5), 141-147.

- Corak, M. (2013). Income inequality, equality of opportunity, and intergenerational mobility. *Journal of Economic Perspectives*, 27(3), 79-102.
- Corak, M., Lindquist, M. J., & Mazumder, B. (2014). A comparison of upward and downward intergenerational mobility in Canada, Sweden and the United States. *Labour Economics*, 30, 185-200.
- De Pablos Escobar, L., & Gil Izquierdo, M. (2016). Intergenerational educational and occupational mobility in Spain: does gender matter?. *British Journal of Sociology of Education*, 37(5), 721-742.
- Ermisch, J., & Francesconi, M. (2002). Intergenerational mobility in Britain: New evidence from the BHPS. *Generational income mobility in North America and Europe* (Cambridge University Press: Cambridge).
- Featherman, D. L., & Hauser, R. M. (1978). *Opportunity and change*. New York: Academic Press.
- Ginsberg, M. (1929). Interchange between social classes. *The Economic Journal*, 39(156), 554-565.
- Glass, D. V. (ed) (1954). *Social Mobility in Britain*. London: Routledge
- Goldthorpe, JH (1980). *Social Mobility and Class Structure in Modern Britain*. Oxford University Press, Oxford.
- Goldthorpe, J. & Jackson, M. (2008). Education-based meritocracy: The barriers to its realisation. In A. Lareau and D. Conley (eds.), *Social Class: How Does it Work?*, 93–117. New York: Russell Sage Foundation.
- Holmlund, H. (2008). Intergenerational Mobility and Assortative Mating: Effects of an Educational Reform. CEE DP 91. *Centre for the Economics of Education (NJI)*.
- Huq, M. N., Hossain, M., Abdulla, F., & Yeasmin, S. (2021). Intergenerational educational mobility in Bangladesh. *Plos one*, 16(7), e0255426.
- Javed, S. A., & Irfan, M. (2015). Intergenerational Mobility: Evidence from Pakistan Panel Household Survey. *Pakistan Development Review*, 53(2), 175-203
- Jemmali, H., & Amara, M. (2015). Assessing inequality of human opportunities: A new approach for public policy in Tunisia. *Applied research in quality of life*, 10, 343-361.
- Katic, I., & Ingram, P. (2018). Income inequality and subjective well-being: Toward an understanding of the relationship and its mechanisms. *Business & Society*, 57(6), 1010-1044.
- Kundu, A., & Sen, K. (2023). Multigenerational mobility among males in India. *Review of Income and Wealth*, 69(2), 395-418.
- Nguyen, A., & Getinet, H. (2003). *Intergenerational mobility in educational and*

occupational status: evidence from the US (No. 1383). University Library of Munich, Germany.

Motiram, S., & Singh, A. (2012). How Close Does the Apple Fall to the Tree? Some Evidence on Intergenerational Occupational Mobility from India. *Economic and Political Weekly*, 47(40).

OECD (2018b). A broken social elevator? How to promote social mobility. OECD Publishing, Paris, <https://doi.org/10.1787/9789264301085-en>.

Pignataro, G. (2012). Equality of opportunity: Policy and measurement paradigms. *Journal of Economic Surveys*, 26(5), 800-834.

Stuhler, J. (2018). A review of intergenerational mobility and its drivers. *JRC Working Papers*, JRC112247. Joint Research Centre (Seville site).

Roemer, J.E. (1998) *Equality of Opportunity*. Cambridge, MA: Harvard University Press.

Torche, F. (2015). Intergenerational mobility and equality of opportunity. *European Journal of Sociology/Archives Européennes de Sociologie*, 56(3), 343-371.

Van Bavel, J., Moreels, S., Van de Putte, B., & Matthijs, K. (2011). Family size and intergenerational social mobility during the fertility transition: Evidence of resource dilution from the city of Antwerp in nineteenth century Belgium. *Demographic Research*, 24, 313.

Zheng, A., & Graham, J. (2022). Public education inequality and intergenerational mobility. *American Economic Journal: Macroeconomics*, 14(3), 250-282.

Zhuo, N., Ye, C., & Ji, C. (2023). Human capital matters: intergenerational occupational mobility in rural China. *Applied Economics*, 55(1), 1-19.

Appendix

Table A1: Description of the variables used in the analysis

Variable(s)	Description	N	Mean	SD
Dependent variables				
High education level (HEL)	= 1 if the highest education level attained is a secondary level degree and 0 otherwise.	150,622	0.373	0.483
High skill level (HSL)	= 1 for employees who are working in white collar occupations and 0 otherwise.	150,622	0.054	0.226
Household background				
Parents with a HEL but no HSL	= 1 if father have a high education level (HEL) but no high occupational skill level (HSL).	150,622	0.029	0.170
Parents with an HSL but no HEL	= 1 if father have a HSL but no HEL.	150,622	0.187	0.390
Parents with both a HEL and HSL	= 1 if father have both HEL and HSL. The reference group is father with neither a HEL nor an HSL.	150,622	0.081	0.273
Control variables				
Gender of a child				
Female	=1 if gender is female, 0 otherwise, male is the reference category.	150,622	0.337	0.472
Age groups				
15-19	=1 if a son/daughter's age is 20 to 24 years, 0 otherwise.	150,622	0.478	0.499
20-24	=1 if a son/daughter's age is 25 to 29 years, 0 otherwise.	150,622	0.271	0.444
25-29	=1 if a son/daughter's age is 30 to 39 years, 0 otherwise.	150,622	0.127	0.334
30-39	=1 if a son/daughter's age is 40 to 60 years, 0 otherwise. (Age 15 to 19 is the base category).	150,622	0.093	0.291
Wealth quintiles				
Q2	= 1 if household belong to quantile 2, 0 otherwise	150,622	0.198	0.398

Q3	= 1 if household belong to quantile 3, 0 otherwise	150,622	0.204	0.403
Q4	= 1 if household belong to quantile 4, 0 otherwise	150,622	0.213	0.409
Q5	= 1 if household belong to quantile 5, 0 otherwise, quantile 1 is the base category.	150,622	0.208	0.406
Migration status				
Migration	=1 if a son/daughter is migrated, 0 otherwise, native is the reference category.	150,622	0.033	0.178
Disability				
Disability	=1 if a son/daughter has any disability, 0 otherwise, no disability is the reference category.	150,622	0.051	0.221
Region				
Urban	=1 if a son/daughter is residing in urban areas, 0 otherwise, rural area is the reference category.	150,622	0.331	0.470
Province				
Punjab	=1 if a son/daughter is residing in Punjab, 0 otherwise	150,622	0.522	0.499
Sind	=1 if a son/daughter is residing in Sind, 0 otherwise	150,622	0.180	0.384
Baluchistan	=1 if a son/daughter is residing in Baluchistan province, 0 otherwise Khyber Pakhtunkhwa is the reference category	150,622	0.093	0.290

Source: PSLM survey, 2019-20

Table A2: Probit marginal effects – the effects of household background on educational and occupational skill levels:

Variable(s)	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	HEL			HSL		
Household background						
Parents with no HEL but no HSL	0.283 (0.001)	0.294 (0.001)	0.325 (0.001)	0.076 (0.001)	0.085 (0.001)	0.095 (0.001)
Parents with no HEL but a HSL	0.404 (0.008)	0.400 (0.008)	0.376 (0.007)	0.318 (0.013)	0.317 (0.012)	0.297 (0.012)
Parents with a HEL but no HSL	0.630 (0.003)	0.608 (0.003)	0.543 (0.003)	0.315 (0.005)	0.253 (0.004)	0.207 (0.004)
Parents with both a HEL and HSL	0.691 (0.004)	0.674 (0.004)	0.568 (0.004)	0.535 (0.012)	0.447 (0.011)	0.360 (0.010)
Gender						
Male	-	0.388 (0.001)	0.390 (0.001)	-	0.121 (0.001)	0.121 (0.001)
Female	-	0.406 (0.002)	0.403 (0.002)	-	0.373 (0.007)	0.378 (0.007)
Age groups						
15-19	-	0.282 (0.001)	0.297 (0.001)	-	0.045 (0.002)	0.058 (0.002)
20-24	-	0.511 (0.002)	0.502 (0.002)	-	0.118 (0.002)	0.121 (0.002)
25-29	-	0.496 (0.003)	0.475 (0.003)	-	0.180 (0.003)	0.170 (0.003)
30-39	-	0.462 (0.004)	0.432 (0.004)	-	0.203 (0.003)	0.183 (0.003)
40-60	-	0.474 (0.007)	0.448 (0.007)	-	0.225 (0.007)	0.198 (0.006)
Wealth quintiles						

Q1	-	-	0.154 (0.002)	-	-	0.052 (0.002)
Q2	-	-	0.273 (0.003)	-	-	0.079 (0.003)
Q3	-	-	0.372 (0.002)	-	-	0.105 (0.003)
Q4	-	-	0.453 (0.002)	-	-	0.140 (0.003)
Q5	-	-	0.581 (0.003)	-	-	0.231 (0.004)
Migration status						
Native	-	-	0.395 (0.001)	-	-	0.136 (0.001)
Migrant	-	-	0.376 (0.006)	-	-	0.161 (0.006)
Disability						
No disability	-	-	0.399 (0.001)	-	-	0.137 (0.001)
Disability	-	-	0.304 (0.005)	-	-	0.139 (0.006)
Region						
Rural	-	0.340 (0.001)	0.380 (0.001)	-	0.101 (0.001)	0.119 (0.001)
Urban	-	0.471 (0.002)	0.413 (0.002)	-	0.187 (0.002)	0.158 (0.002)
Province						
KP	-	0.421 (0.003)	0.416 (0.003)	-	0.165 (0.003)	0.164 (0.003)
Punjab	-	0.403 (0.001)	0.378 (0.001)	-	0.133 (.001)	0.124 (0.001)
Sind	-	0.371 (0.002)	0.436 (0.003)	-	0.127 (0.003)	0.151 (0.003)
Baluchistan	-	0.297 (0.004)	0.354 (0.005)	-	0.146 (0.006)	0.179 (0.006)

Source: PSLM survey, 2019-20, standard errors in parenthesis.

Table A3: Probit marginal effects - the effects of household background on educational levels by individual characteristics: HEL

Household background	Male	Female	Migrant	Native	Rural	Urban	KP	Punjab	Sind	Baluchistan
Parents neither HEL nor HSL	0.285 (0.001)	0.279 (0.002)	0.288 (0.009)	0.283 (0.001)	0.239 (0.001)	0.371 (0.003)	0.297 (0.003)	0.293 (0.002)	0.273 (0.003)	0.179 (0.005)
Parents no HEL but HSL	0.393 (0.010)	0.423 (0.014)	0.499 (0.043)	0.404 (0.008)	0.339 (0.010)	0.468 (0.012)	0.412 (0.019)	0.423 (0.011)	0.414 (0.021)	0.238 (0.023)
Parents HEL but no HSL	0.647 (0.004)	0.603 (0.005)	0.717 (0.015)	0.602 (0.003)	0.546 (0.004)	0.701 (0.004)	0.591 (0.008)	0.646 (0.004)	0.632 (0.006)	0.524 (0.016)
Parents both HEL & HSL	0.704 (0.006)	0.671 (0.007)	0.766 (0.018)	0.686 (0.004)	0.602 (0.007)	0.737 (0.005)	0.629 (0.011)	0.715 (0.006)	0.711 (0.008)	0.563 (0.017)
N	100,029	50,890	5,026	145,893	100,919	50,000	30,751	78,804	27,263	14,101
Household background	Wealth Q1	Wealth Q2	Wealth Q3	Wealth Q4	Wealth Q5	15-19 years	20-24 years	25-29 years	30-39 years	40-60 years
Parents neither HEL nor HSL	0.088 (0.002)	0.190 (0.002)	0.295 (0.003)	0.389 (0.003)	0.535 (0.005)	0.198 (0.002)	0.380 (0.003)	0.357 (0.004)	0.320 (0.005)	0.328 (0.009)
Parents no HEL but HSL	0.091 (0.014)	0.253 (0.019)	0.340 (0.017)	0.445 (0.016)	0.582 (0.016)	0.284 (0.010)	0.544 (0.015)	0.544 (0.024)	0.439 (0.038)	0.442 (0.087)
Parents HEL but no HSL	0.268 (0.013)	0.407 (0.009)	0.529 (0.007)	0.615 (0.006)	0.769 (0.004)	0.439 (0.004)	0.792 (0.005)	0.795 (0.007)	0.786 (0.008)	0.830 (0.014)
Parents both HEL & HSL	0.321 (0.031)	0.455 (0.018)	0.584 (0.013)	0.629 (0.010)	0.772 (0.005)	0.524 (0.007)	0.878 (0.005)	0.887 (0.009)	0.879 (0.014)	0.832 (0.054)
N	26,382	29,943	30,848	32,194	31,552	72,352	40,958	19,290	14,104	4,215

Source: PSLM survey, 2019-20, standard errors in parenthesis.

Table A4: Probit marginal effects – the effects of household background on occupational skill levels by individual characteristics: HSL

Household background	Male	Female	Migrant	Native	Rural	Urban	KP	Punjab	Sind	Baluchistan
Parents neither HEL nor HSL	0.066 (0.001)	0.207 (0.008)	0.093 (0.008)	0.075 (0.001)	0.055 (0.001)	0.121 (0.003)	0.840 (0.003)	0.076 (0.001)	0.069 (0.003)	0.066 (0.004)
Parents no HEL but HSL	0.304 (0.013)	0.534 (0.058)	0.530 (0.068)	0.308 (0.013)	0.279 (.017)	0.356 (0.020)	0.301 (0.030)	0.328 (0.017)	0.268 (0.030)	0.398 (0.054)
Parents HEL but no HSL	0.281 (0.005)	0.655 (0.019)	0.526 (0.028)	0.302 (0.005)	0.216 (0.006)	0.393 (0.008)	0.332 (0.014)	0.314 (0.007)	0.313 (0.011)	0.242 (0.026)
Parents both HEL & HSL	0.501 (0.013)	0.822 (0.028)	0.677 (0.045)	0.525 (0.013)	0.396 (0.019)	0.614 (0.015)	0.500 (0.030)	0.544 (0.017)	0.559 (0.024)	0.404 (0.048)
N	58,255	4,518	2,275	60,498	44,253	18,520	12,485	33,058	10,990	6,240
Household background	Wealth Q1	Wealth Q2	Wealth Q3	Wealth Q4	Wealth Q5	15-19 years	20-24 years	25-29 years	30-39 years	40-60 years
Parents neither HEL nor HSL	0.020 (0.001)	0.039 (0.002)	0.069 (0.002)	0.107 (0.003)	0.187 (0.005)	0.025 (0.001)	0.071 (0.002)	0.105 (0.003)	0.114 (0.004)	0.126 (0.007)
Parents no HEL but HSL	0.203 (0.036)	0.214 (0.028)	0.266 (0.027)	0.269 (0.025)	0.498 (0.027)	0.161 (0.020)	0.298 (0.022)	0.418 (0.029)	0.445 (0.015)	0.552 (0.093)
Parents HEL but no HSL	0.037 (0.010)	0.101 (0.010)	0.169 (0.011)	0.245 (0.010)	0.465 (0.009)	0.564 (0.007)	0.239 (0.010)	0.396 (0.011)	0.430 (0.012)	0.461 (0.024)
Parents both HEL & HSL	0.087 (0.040)	0.239 (0.040)	0.377 (0.034)	0.372 (0.027)	0.672 (0.015)	0.210 (0.029)	0.467 (0.021)	0.626 (0.020)	0.679 (0.026)	0.806 (0.079)
N	13,554	13,008	12,127	12,620	11,464	15,625	19,091	13,175	11,371	3,511

Source: PSLM survey, 2019-20, standard errors in parenthesis.

Table A5: Probit marginal effects - the influence of household background on the educational outcomes (gender analysis)

Variables	Coefficients	Standard errors
Household background		
Parents neither HEL nor HSL	0.081	0.001
Parents no HEL but HSL	0.300	0.012
Parents HEL but no HSL	0.282	0.005
Parents both HEL & HSL	0.480	0.012
Interaction terms		
Gender and region		
Rural males	0.089	0.001
Urban males	0.169	0.003
Rural females	0.187	0.007
Urban females	0.569	0.015
Gender and provinces		
Male KP	0.155	0.003
Male Punjab	0.120	0.001
Male Sind	0.105	0.003
Male Baluchistan	0.126	0.005
Female KP	0.452	0.023
Female Punjab	0.332	0.008
Female Sind	0.252	0.013
Female Baluchistan	0.226	0.033

Source: PSLM survey, 2019-20.

Table A6: Probit marginal effects – the influence of household background on the educational and occupational skill level of individuals (additional covariates)

Variables	HEL	HSL	HEL	HSL	HEL	HSL
Fathers' education						
No education	0.237 (0.001)	0.068 (0.001)	-	-	0.237 (0.002)	0.068 (0.002)
Below primary	0.298 (0.007)	0.084 (0.006)	-	-	0.296 0.008	0.077 (0.007)
Completed primary	0.362 (0.003)	0.109 (0.003)	-	-	0.351 (0.004)	0.096 (0.004)
Lower secondary	0.464 (0.004)	0.159 (0.005)	-	-	0.446 (0.005)	0.140 (0.006)
Upper secondary	0.590 (0.003)	0.265 (0.005)	-	-	0.547 (0.003)	0.184 (0.005)
Post secondary	0.724 (0.004)	0.556 (0.011)	-	-	0.655 (0.007)	0.323 (0.015)
Father's occupation						
Managers	-	-	0.609 (0.009)	0.485 (0.018)	0.477 (0.009)	0.378 (0.017)
Professionals	-	-	0.620 (0.007)	0.429 (0.017)	0.410 (0.007)	0.248 (0.015)
Technicians and associate	-	-	0.540 (0.008)	0.381 (0.016)	0.436 (0.007)	0.307 (0.014)
Clerical support workers	-	-	0.589 (0.012)	0.322 (0.023)	0.432 (0.011)	0.218 (0.019)
Service and sales workers	-	-	0.410 (0.003)	0.103 (0.003)	0.394 (0.003)	0.097 (0.003)
Skilled agricultural, forestry and fishery workers	-	-	0.338 (0.003)	0.070 (0.002)	0.380 (0.003)	0.080 (0.002)
Craft and related trades workers	-	-	0.367 (0.004)	0.088 (0.004)	0.388 (0.004)	0.094 (0.005)
Plant and machine operators, and assemblers	-	-	0.344 (0.005)	0.092 (0.005)	0.367 (0.005)	0.099 (0.005)
Elementary occupations	-	-	0.236 (0.005)	0.055 (0.003)	0.295 0.003	0.071 (0.003)
Region						
Rural	0.339 (0.001)	0.099 (0.001)	0.316 (0.001)	0.083 (0.001)	0.330 (0.001)	0.088 (0.001)
Urban	0.468 (0.002)	0.191 (0.003)	0.466 (0.003)	0.156 (0.003)	0.445 (0.002)	0.146 (0.003)
Province						
KP	0.429 (0.003)	0.171 0.004	0.394 (0.004)	0.123 (0.003)	0.404 (0.003)	0.127 (0.004)
Punjab	0.399 (0.001)	0.137 0.001	0.394 (0.002)	0.118 (0.002)	0.389 (0.001)	0.117 (0.002)
Sindh	0.367 (0.003)	0.113 0.003	0.355 (0.003)	0.096 (0.003)	0.351 (0.003)	0.093 (0.003)
Baluchistan	0.305 (0.004)	0.140 (0.006)	0.252 (0.005)	0.084 (0.005)	0.281 (0.005)	0.096 (0.006)
N	150,919	62,773	150,919	62,773	150,919	62,773

Source: PSLM survey, 2019-20, standard errors in parenthesis.

Table A7: Ordered probit marginal effects – the influence of household background on the educational and occupational skill level of individuals

Household background	No education	Below secondary	Upper secondary	Managers	Professionals	Technicians	Clerks	Service workers	Skilled agriculture	Craft workers	Plant operators	Elementary
Parents neither HEL nor HSL	0.288 (0.001)	0.436 (0.001)	0.274 (0.001)	0.011 (0.000)	0.039 (0.000)	0.029 (0.000)	0.013 (0.004)	0.177 (0.001)	0.201 (0.001)	0.160 (0.001)	0.084 (0.001)	0.282 (0.002)
Parents no HEL but HSL	0.180 (0.004)	0.408 (0.003)	0.410 (0.007)	0.036 (0.002)	0.111 (0.006)	0.072 (0.003)	0.029 (0.001)	0.294 (0.004)	0.197 (0.004)	0.104 (0.004)	0.043 (0.002)	0.109 (0.006)
Parents HEL but no HSL	0.079 (0.001)	0.281 (0.002)	0.638 (0.003)	0.041 (0.001)	0.112 (0.003)	0.077 (0.002)	0.031 (0.001)	0.300 (0.002)	0.190 (0.002)	0.097 (0.001)	0.040 (0.001)	0.098 (0.002)
Parents both HEL & HSL	0.061 (0.001)	0.237 (0.003)	0.701 (0.004)	0.094 (0.005)	0.227 (0.007)	0.113 (0.003)	0.041 (0.001)	0.288 (0.004)	0.121 (0.004)	0.050 (0.002)	0.019 (0.000)	0.043 (0.002)
N	36,065	58,253	55,923	1,112	3,505	2,218	968	11,898	14,025	8,651	4,780	15,579

Source: PSLM survey, 2019-20, standard errors in parenthesis.