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KEYWORDS	ABSTRACT
intergenerational occupational mobility; inequality of opportunity; directional mobility; occupational inheritance; Gini coefficient; Pakistan	This paper examines intergenerational occupational transmission as a channel of economic inequality using a household survey conducted in Multan District, Pakistan. We extend the conventional binary measure of occupational persistence in three directions. First, logit and probit models show that gender and own education are the main determinants of occupational following: men are considerably more likely than women to follow a parent's occupation and each additional year of schooling significantly lowers the likelihood of doing so. A Choice of Profession variable provides evidence of direct parental steering which modestly raises the probability of following. Second, we classify occupational movers by the direction of their move using a composite sector-prestige ranking. Most movers move upward while smaller shares move laterally or downward. Low-educated movers face roughly twice the downward-mobility risk of highly educated movers and children from low-status origins move mainly into teaching and small business rather than into the professions. Third, income is far more unequally distributed among occupational followers than among movers on both the Gini coefficient and the mean log deviation even though the two groups share the same median income. Interpreted within the Ferreira-Gignoux inequality of opportunity framework, the results suggest that occupational inheritance concentrates rewards among a minority of heirs and thereby amplifies inequality across generations. The findings point to education, gender-inclusive labour-market policies and merit-based access to the professions as priorities for promoting mobility.
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Introduction

The tendency of children to enter the same occupation as their parents is one of the oldest and most visible channels through which economic advantage and disadvantage are reproduced across generations. Sociologists have studied occupational inheritance since the foundational work of Blau and Duncan (1967) and Featherman and Hauser (1978) and comparative research has shown that the relative chances of entering high-status occupations remain strongly tied to class origins in almost every society studied (Breen, 2004; Erikson & Goldthorpe, 1992; Hout & DiPrete, 2006). Economists reached a similar conclusion from a different starting point. The human capital model of Becker and Tomes (1986) predicts that parents transmit earnings capacity to their children through investment and inherited endowments. Empirical studies of intergenerational income and occupational persistence confirm that family background remains a powerful predictor of adult outcomes (Black & Devereux, 2011; Corak, 2013; Long & Ferrie, 2013; Solon, 1999). The inequality of opportunity literature adds a normative interpretation i.e., inequality that arises from circumstances beyond individual control, including parental occupation, is ethically objectionable rather inequality arising from effort (Ferreira & Gignoux, 2011; Roemer, 1998; Roemer & Trannoy, 2016).

Occupational inheritance matters especially in developing economies. Weak labour-market institutions, large informal sectors, limited access to higher education, the importance of family businesses and inherited land all increase the likelihood that children follow their parents' occupations (Emran & Shilpi, 2011; Narayan et al., 2018). Occupation is also measured more reliably than income. In many developing-country surveys, earnings are often under-reported or irregular and captures resources that pass from parents to children outside formal schooling including occupation-specific skills, clients, licences, networks and reputation (Chetty et al., 2022; Laband & Lentz, 1983; Lentz & Laband, 1989). For these reasons, a growing body of work in South Asia uses occupation to measure mobility. Studies from India show persistent but gradually declining occupational immobility with large differences by caste and region (Azam, 2015; Hnatkovska et al., 2013; Motiram & Singh, 2012; Reddy, 2015) while evidence from rural China and India shows that the divide between farm and non-farm work shapes how advantage is passed on (Emran et al., 2023; Zhuo et al., 2023).

Pakistan is an under-researched in this context. A lower middle-income country of 240 million people, Pakistan has one of the lowest probability of being a 'child of the poor being a poor child' in South Asia, estimated to be 20% by Khan and Patra (2024). Official estimates show an increase in national poverty to 28.9% in 2024-25 as well as the highest level of income inequality since 1998 (Ministry of Planning, Development and Special Initiatives, 2026). However, most Pakistan mobility research is based on education mobility or on a national household survey that provides detailed occupational information but smooths out information at the district level (Cheema & Naseer, 2013; Kishwar & Alam, 2021; Muhammad & Jamil, 2020). Previous studies of household information in Multan District showed intergenerational transmission of education (Sharif et al., 2016) occupational status (Shareef et al., 2021) and social capital (Azid et al., 2021) but failed to

provide an answer to the question of what is occupational mobility and what does it mean for welfare or inequality.

This gap is not unique to the occupational mobility literature. Most of this literature is based on a single summary statistic i.e., the proportion of children who end up in the same occupation or occupational class as their parents (Erikson & Goldthorpe, 1992; Hout & DiPrete, 2006). This persistence rate provides information on the rigidity of the labour market but raises three questions. First, it does not reveal if kids who change occupations move up or down. While a dynamic economy and a stagnant economy may have the same rate of occupational change, their welfare implications may be very different (Long & Ferrie, 2013). Secondly, it fails to reveal if children who are inheriting their parents' job are a homogeneous group or a very stratified group. Inheritance can lead to all followers experiencing uniform stagnation or it can enable a few followers to perpetuate professional practices and a successful business to capture large rents while others remain poor (Aina & Nicoletti, 2018; Mocetti, 2016). Third, standard data is unable to detect whether a child was intentionally placed in the family occupation or independently arrived there (Chetty et al., 2022; Lentz & Laband, 1989).

To answer these questions, we relied on an original household survey of 613 households in Multan District of southern Punjab. The 2023 census showed that the district had a population of 5.36 million and it is home to a big urban centre and predominantly rural tehsils with literacy rates varying from 73.7% in Multan City to 38.5% in Jalalpur Pirwala (Pakistan Bureau of Statistics, 2023). This occupational mix is found in one administrative unit and includes subsistence agriculture, casual labour, informal trade, public-sector jobs and urban professional occupations. Furthermore, this survey includes a rarely collected survey question on Choice of Profession (COP) which asks respondents about how they chose to enter their chosen profession: by choice, parent suggestion, by chance, or role model. It provides an immediate (though preliminary) test of parental agency in occupational transmission.

The results of the analysis can be summarised in three main points. One in five respondents work in the same occupation as a parent. Gender and own education are the most important predictors of occupational following; for each year of schooling, the odds of following a parent decrease by 12% (odds ratio [OR]= 0.880), and men are about twice as likely as women to follow a parent (OR = 2.171). Parental direction of career choice increases the likelihood by 7.3 percentage points but this effect is only significant at 10% level. Second, in the group of children who switch jobs, 76.7% move up to a higher prestige sector, 7.4% move sideways, and 15.8% move down to a lower prestige sector but the risk of downward-mobility is over two times as high for low-educational children compared to highly-educational children (28.0% vs. 12.5%). Third, the distribution of income by occupational followers is significantly more unequal than by movers (Gini of 0.656 against 0.453, MLD of 0.800 against 0.370) reflecting more than the inclusion of a small number of winners but rather that occupational inheritance tends to focus rewards on a minority of heirs.

The paper contributes to the literature in three ways. It extends the binary persistence measure by classifying the direction of occupational moves which links occupational mobility to welfare. It

connects occupational inheritance to income inequality within groups, placing the analysis within the inequality of opportunity framework of Ferreira and Gignoux (2011). It also provides (to our knowledge) the first quantitative estimate of direct parental steering of occupational choice in Pakistan. The remainder of the paper reviews the relevant literature, describes the study area, data and methods, presents the empirical results and discusses their implications for policy and future research.

Literature Review

Inequality of Opportunity and Intergenerational Transmission

The theoretical case for treating occupational inheritance as a source of unfair inequality rests on the distinction between inequalities that arise from circumstances and those that arise from effort (Rawls, 1971). Roemer (1998) formalised this distinction in the equality of opportunity approach in which individuals sharing the same circumstances form a type and equality of opportunity requires that outcome distributions should not differ across types. Ferreira and Gignoux (2011) made the framework operational by decomposing income inequality usually measured by the MLD into a component explained by observed circumstances and a residual. Parental occupation is one of the most important circumstances in this framework because it shapes the occupation a child enters and occupation in turn shapes lifetime earnings.

Recent applications show that circumstances explain a large share of inequality in unequal societies. Using data-driven methods on 27 surveys from nine Latin American countries, Brunori et al. (2025) estimate that inherited circumstances account for roughly 44% to 63% of income inequality and show that countries with more inequality of opportunity also have lower intergenerational mobility consistent with the “Great Gatsby curve” documented by Corak (2013). In Europe, Bussolo et al. (2023) find that inequality of opportunity accounts for 30% to 50% of income inequality and that parental education remains a significant determinant of children’s incomes long after educational expansion. For South Asia, Bussolo et al. (2026) estimate that circumstances explain between 35% and 69% of wage inequality with Pakistan at the upper end of this range.

International Evidence on Intergenerational Occupational Mobility

The classical sociological literature has laid the groundwork for the occupational origin-destination relation across all industrial societies (Blau & Duncan, 1967; Featherman & Hauser, 1978). Even though absolute mobility or the percentage of people who move to a different class can be quite different across countries. Relative mobility or the relationship between origin and destination net of the structural change is quite similar as indicated by Erikson and Goldthorpe (1992). This was also found by Breen (2004) in Europe and by Long and Ferrie (2013) in the United States who demonstrated a reduction in occupational mobility after the nineteenth century. The resulting consensus is summarized by Hout and DiPrete (2006): occupations are consistently ranked in the same order across most societies and the choice of occupation is still highly correlated with

parents' occupation even when there has been an increase in the number of educational opportunities.

Occupational following has been highlighted in economic research particularly with an emphasis on the mechanisms involved. Children resemble their parents because human capital specific to a given occupation is less expensive to obtain within the family and the kids of physicians are more likely to enter medical school as a result of nepotism as Lentz and Laband (1989) demonstrated. Inheritance is known to be strong in regulated professions in Italy when there are high occupational rents (Aina & Nicoletti, 2018; Mocetti 2016). Family businesses also offer a channel since the children of business owners receive the business capital, customers and management skills (Dunn & Holtz-Eakin, 2000; Fairlie & Robb, 2007). In high-income countries, van der Weide et al. (2024) present a similar evidence of that upward mobility is consistently lower than in low-income countries while Britto et al. (2022) report very little income mobility in Brazil, with Gini coefficients of national income in the range of 0.50 to 0.60. For rural China and India, education and skills training are the primary pathways out of farming (Zhuo et al., 2023). However, there are marked differences between the complementarity of paternal occupation and education between these two countries (Emran et al., 2023). The Indian research reveals that there has been a steady decrease in occupational persistence but yet it has remained substantial particularly for historically disadvantaged castes (Azam, 2015; Hnatkovska et al., 2013; Motiram & Singh, 2012; Reddy, 2015).

Evidence from Pakistan

The most recent comprehensive study on intergenerational mobility in Pakistan is by Andlib et al. (2025). They conclude that parental education is more important than the skill acquired by the parent in terms of child's educational and occupational mobility and they describe Pakistan's 'social elevator' as 'broken' based on the data collected from the 2019-20 survey of Pakistan Social and Living Standards. The relationship between educational attainment of fathers and sons is found to be strong and also lower mobility from rural to urban areas as compared to urban to rural areas (Muhammad and Jamil, 2020), children of informally employed fathers are found to be persistently at low levels of educational attainment (Kishwar and Alam, 2021). The impact of historical landed inequalities in rural Punjab on depressed schooling of the non-propertied groups has been traced by Cheema and Naseer (2013) while Kosar (2024) has pointed to the unequal access to education as a constraining factor on social mobility.

Gender is another aspect of the Pakistani context through labour market segmentation. The percentage of women in the labour force is low, the rate of female unemployment is higher than that of males (PBS, 2022) and there is an ongoing gender wage gap (Javed et al., 2022). Low education, marriage and age are associated with informal jobs in southern Punjab while formal education and educated parents are associated with formal jobs (Gillani et al., 2021). Primary sector jobs, low education level of the household head and larger household size are strongly linked to poverty in the region (Shah et al. 2020, 2021). Both these conditions imply that the gender and education of children should be strongly influential in determining their fate in their parents' jobs.

Parental Agency and the Choice of Profession

In the standard human capital models, occupations are assumed to be the result of parental investments and inherited ability not of direct parental steering (Becker & Tomes, 1986). However, the sociological and economic research indicates that the effects of parental networks and contacts are independent from the effects on labour market entry (Granovetter, 1995; Ioannides & Loury, 2004). Fathers' networks have been linked to job entry in South Africa by Magruder (2010) and social-network data of 72 million Americans reveals that connections between social classes is one of the strongest predictors of upward income mobility by Chetty et al. (2022). After controlling for human capital, Zhuo et al. (2023) conclude that parental influences on occupations continue to be found in rural China arguing that this could be due to the influence of network-based steering. Role models also shape aspirations and career decisions especially those of young women (Beaman et al., 2012). Most surveys, however, cannot distinguish a child who was directed into the family occupation from one who chose it independently. The COP variable used in this study offers a direct, self-reported indicator of this channel.

Research Gaps and Hypotheses

Three gaps motivate this study. First, research on Pakistan focuses mainly on educational rather than occupational persistence and relies on national rather than district-level data. Second, the direction of occupational moves, whether upward, lateral, or downward is largely absent from South Asian mobility research which leaves the welfare meaning of mobility rates unclear. Third, no existing study for Pakistan measures the income inequality consequences of occupational following. Drawing on the literature reviewed above, we test four hypotheses:

H1: Men are more likely than women to follow their parents' occupations.

H2: Own education reduces the probability of occupational following and lowers the risk of downward mobility among movers.

H3: Parental direction of career choice increases the probability of occupational following.

H4: Income is more unequally distributed among occupational followers than among movers.

Study Context: Pakistan, Southern Punjab, and Multan District

Pakistan's recent economic record has been one of slow growth, high inflation and rising poverty. The country ranked 164th on the Human Development Index in 2022, down from 161st in the previous report (United Nations Development Programme, 2024). The preliminary official estimate of poverty for 2024-25 is 28.9%, the highest in more than a decade and the national Gini coefficient of 32.7 is the highest since 1998, in Punjab, the Gini coefficient rose from 28.4 to 32.0 over the same period (Ministry of Planning, Development and Special Initiatives, 2026). The labour market is predominantly informal. The informal sector accounts for 72.5% of non-agricultural

employment, 76.2% in rural areas and 68.5% in urban areas and the female labour force participation rate is only 21.4% (PBS, 2022).

Southern Punjab (comprising the Multan, Bahawalpur, and Dera Ghazi Khan divisions) is the most agriculturally dependent and least industrialised part of Punjab, the province that contains about 53% of Pakistan's population (PBS, 2023). Household surveys in the region show that employment in the primary sector and large household size increase the risk of poverty while the education of the household head, physical assets and the labour-market participation of spouses reduce it (Shah et al., 2020, 2021). Informal employment in the region is concentrated among less educated, married and older workers whereas formal training and highly educated parents facilitate entry into formal jobs (Gillani et al., 2021).

The economic heartland of the South of Punjab is Multan District. The 2023 census reveals that it has a total population of 5.36 million with four tehsils namely Multan City (73.7% literacy), Multan Saddar (52.0% literacy), Shujabad (53.9% literacy) and Jalalpur Pirwala (38.5% literacy) that are quite different in terms of human capital. (PBS, 2023) The district economy covers the whole spectrum of occupations that were recorded in the survey ranging from subsistence farmers to informal traders in rural areas to doctors, lawyers and bankers in the city. In the survey, agriculture is the most dominant occupation among fathers of rural households with 122 fathers in the occupation representing 19.9% of the total, business and trade is the most dominant occupation for both generations with 175 fathers and 84 children. The growing public education and private provision of medical services to the extent that they are available to children have given rise to a new strand of teaching with 20.9% (128) of children being taught in this category and to an increase in healthcare services which has grown from 3.4% (21) of fathers teaching children in this category to 7.3% (45) of children. This transition in economies from agriculture and trade in informal goods to education and health services drives the structural context of the mobility pattern assessed below.

Data and Methodology

Survey and Sample

This is a primary household survey conducted with 613 respondents in Multan District including Multan urban and rural areas. The survey enquires about the individual's occupation, both parents occupations, the education attained by the individual, both parents and respondent's and parent's income, area of residence and how the individual came to follow the current profession. Sample sizes are slightly different across analyses due to missing values: 613 respondents were available for sample description, 612 respondents were available for the occupational persistence outcome, 604 respondents were available for the models that include parental income and 443 of the movers were available for the directional mobility analysis.

Variables

The dependent variable is occupational persistence which takes values of 0 or 1 if the respondent is employed in the same occupation as the father or mother and 0 if not. The COP variable indicates how the respondent got into the current profession: via own initiative (63.1%), parental guidance (16.5%), random (17.5%) or role models or mentors (2.9%). Respondent and parental income measured in thousands of Pakistani rupees (PKR) per month, parental income used in the regressions in log form. The circumstance variables are mother's/father's education (high, if they have secondary or more schooling) and the respondent's years of schooling, urban residence, and eldest-child status.

The occupations of respondents and fathers are classified in the following broad sectors for the transition and directional mobility analyses: healthcare, law and other professions, finance and administration, education, business and trade, government and security services, labour and informal work and agriculture. The sectors are ranked according to a composite prestige index that is based on the mean reported income and qualitative socioeconomic status (formality of the occupation, requirement for qualifications, etc. and local perception of the occupation).

Empirical Strategy

We estimate the determinants of occupational persistence using logit models of the form:

$$P(\text{Persist}_i = 1) = \Lambda(\alpha + X_i'\beta + \gamma \ln \text{Plnc}_i + \text{COP}_i'\theta) \quad (1)$$

where $\Lambda(\cdot)$ is the logistic distribution function, X contains father's education, mother's education, male gender, urban residence, eldest-child status and years of own schooling, Plnc is parental income and COP is a vector of indicators for the route of entry into the profession. Model 1 includes only circumstances and own education, Model 2 adds log parental income, Model 3, the preferred specification adds the COP categories with own choice as the reference, and Model 4 re-estimates Model 2 as a probit to check sensitivity to the distributional assumption. We report coefficients, odds ratios and average marginal effects.

Movers are classified as upwardly mobile if their sector ranks above their father's sector, downwardly mobile if it ranks below and laterally mobile if it has the same rank. To measure income inequality within groups of followers and movers, we compute the Gini coefficient, the MLD, the coefficient of variation (CV) and the ratio of the 90th to the 10th income percentile. The MLD, which is the inequality index used in the Ferreira–Gignoux decomposition and is most sensitive to the lower tail of the distribution (Cowell, 2011; Shorrocks, 1980) is defined as:

$$\text{MLD} = (1/N) \sum_i \ln(\bar{y} / y_i) \quad (2)$$

where $\bar{y}$ is mean income. Differences in income distributions between followers and movers are tested with the non-parametric Mann–Whitney U -test (Mann & Whitney, 1947).

Results

Occupational Persistence

We first explore the extent to which children follow their parents’ professions. Overall, 21.6% of respondents (132 of 612) are in the same occupation as their father and/or mother which is in line with the current low mobility reported for Pakistan (Khan & Patra, 2024; van der Weide et al., 2024) and South Asia. Table 1 displays rates of persistence by gender, place of residence and level of education as well as the difference between each of these subgroups and the overall rate of persistence.

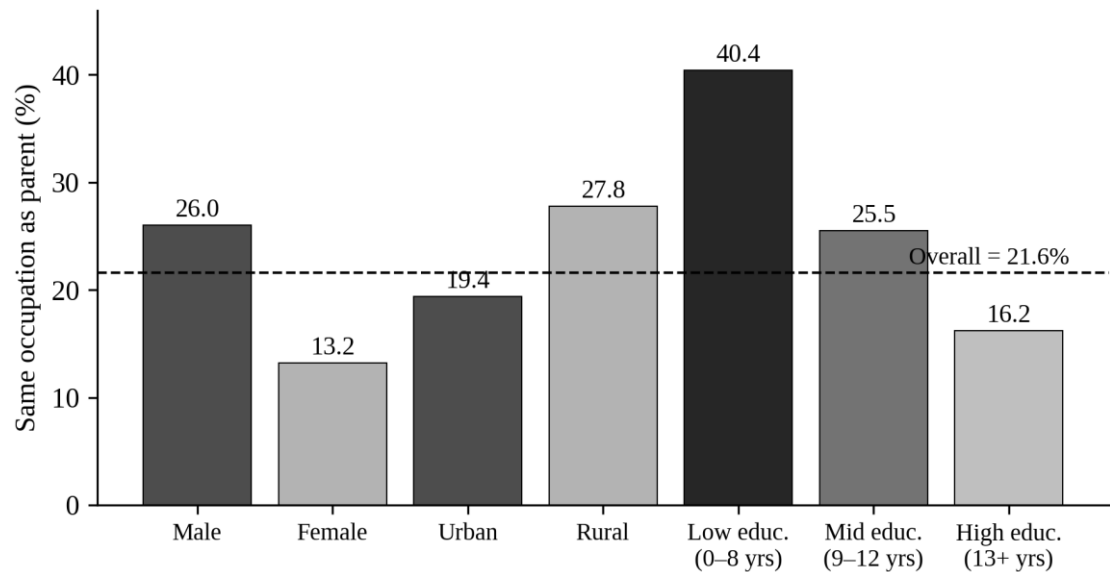
Table 1: Occupational Persistence by Gender, Area, and Education

Subgroup	N	Same occupation	Rate (%)	Difference (pp)
Male	400	104	26.0	+4.4
Female	212	28	13.2	−8.4
Urban	454	88	19.4	−2.2
Rural	158	44	27.8	+6.2
Low education (0–8 years)	99	40	40.4	+18.8
Middle education (9–12 years)	106	27	25.5	+3.9
High education (13+ years)	340	55	16.2	−5.4
All respondents	612	132	21.6	—

Note. pp = percentage points relative to the overall persistence rate of 21.6%. N = 612 respondents with valid data on occupational persistence.

There are three distinct gradients in Table 1. Men follow their parent’s profession twice as much as women (26.0% vs 13.2%) which corroborates with the practice of Patrilineal transmission of family business, land and trades in Pakistan and also the constraint of women in the labour market (Agarwal, 1994; Jayachandran, 2015; Javed et al., 2022). In the rural areas, 27.8% of respondents reported following their parents as compared to 19.4% in urban areas which is consistent with the low mobility of rural Pakistanis (Cheema & Naseer, 2013; Muhammad & Jamil, 2020). The biggest difference however, is in terms of education. Those who have 8 or fewer years of schooling are twice as likely to follow their parents as those with 13 or more years of schooling (40.4% to 16.2%). This pattern aligns with the dominant perspective that education is the primary channel to escape the cycle of inherited occupations (Andlib et al., 2025; Zhuo et al., 2023). The differences are shown graphically in figure 1.

Figure 1: Occupational Persistence Rate by Gender, Area and Education



Note. Bars show the percentage of respondents working in the same occupation as a parent. The dashed line marks the overall rate of 21.6%. Values are taken from Table 1.

The education gradient is steeper than the gender and area gradients as seen in figure 1. The proportion of level 4 persisting falls steadily from 40.4% for the least educated group to 16.2% for the most educated group and the highly educated group are the only one that is less than the average in the sample. Education seems to expand the number of jobs that children have access to jobs that may be unavailable to their parents or jobs for which the parents might not have the skills, contacts or capital needed (Becker & Tomes, 1986; Laband & Lentz, 1983).

Choice of Profession and Parental Agency

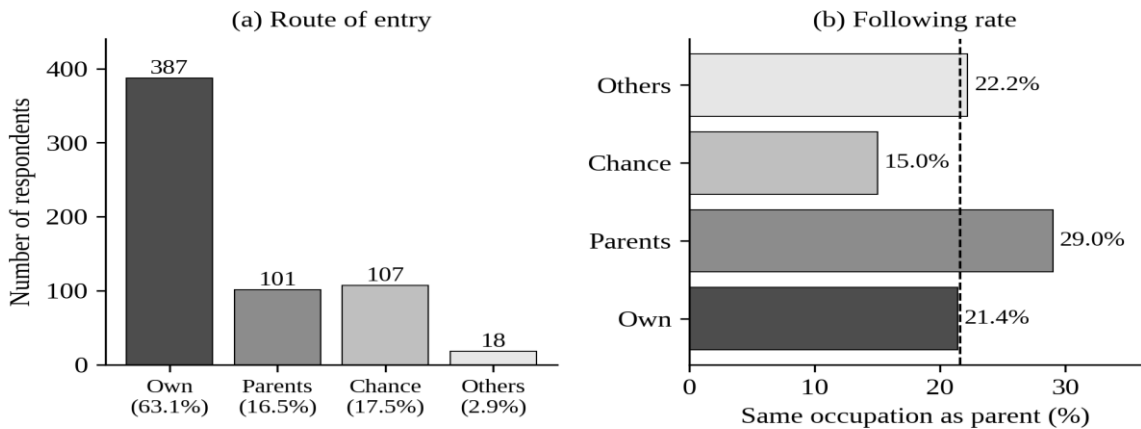
A binary persistence measure cannot show whether children entered their parents' occupation by choice or because their parents directed them there. The COP variable addresses this question directly. Table 2 reports the distribution of respondents across the four routes of entry and the persistence rate within each.

Table 2: *Choice of Profession and Occupational Following*

Route of entry	N	Share (%)	Following rate (%)	Interpretation
Own choice (reference)	387	63.1	21.4	Autonomous choice
Parental direction	101	16.5	29.0	Highest following rate
Chance	107	17.5	15.0	Lowest following rate
Others (role models)	18	2.9	22.2	Role models, mentors

Note. N = 613. Chi-square test of independence between route of entry and occupational persistence: $\chi^2(3) = 6.041$, $p = .110$.

As seen in table 2, the majority of respondents selected their profession (63.1%), some respondents had parents' advice (16.5%) and some respondents entered their jobs by chance (17.5%). The Persistence Rate is highest for those whose parents directed (29.0%) compared to 21.4% for those who made their own choice (7.6 percentage points or 36%). It is lowest for those who have entered by chance (15.0%). This ordering is similar to active parental steering that relies on occupational networks and knowledge of parents to channel children into the family line of work (Chetty et al., 2022; Lentz & Laband, 1989; Magruder, 2010). The chi-square test does not reject independence at the usual levels ($p = .110$) so the association should be considered suggestive. Figure 2 shows the distribution of entry routes and the following rate.

Figure 2: *Routes of Entry into the Current Profession and Occupational Following Rates*

Note. Panel (a) shows the number of respondents by route of entry (N = 613). Panel (b) shows the percentage who work in the same occupation as a parent; the dashed line marks the overall rate of 21.6%.

Figure 2 shows that parental direction is the only route of entry with a following rate clearly above the sample average while entry by chance produces a rate well below it. Additional cross-

tabulations show that about 16% of both men and women and 16.5% of both urban and rural respondents, report parental direction. Parental steering therefore appears to operate across social groups rather than being concentrated among men or in rural areas.

Sectoral Transitions and the Prestige Ranking

We next move from the binary persistence measure to the sectors between which children move. Table 3 reports for each father's sector the share of children who remain in that sector and the two most common alternative destinations.

Table 3: Sector-Level Occupational Persistence (Father's Sector to Child's Sector)

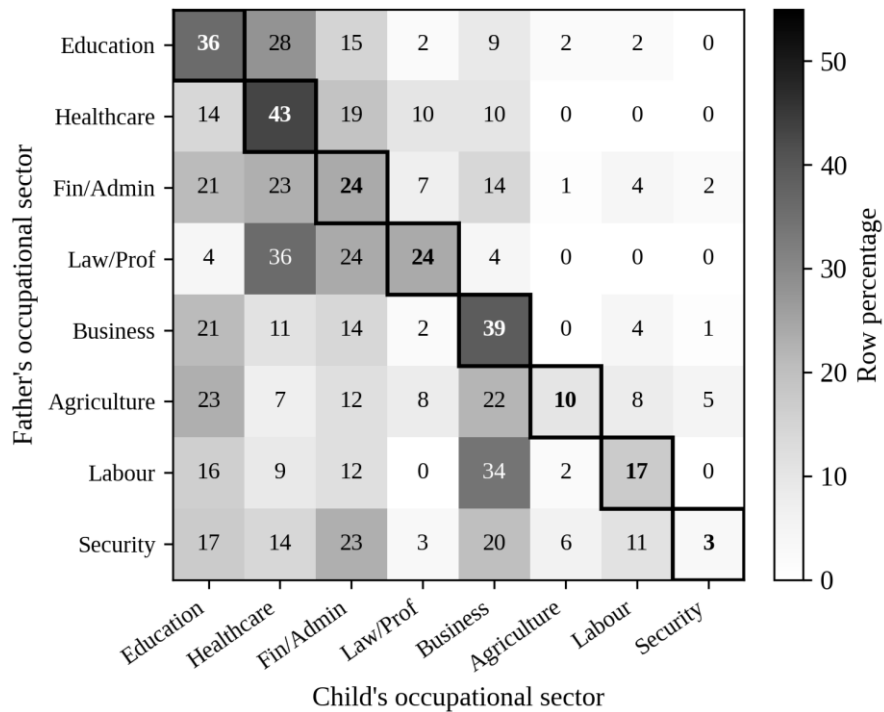
Father's sector	Fathers (N)	Same sector (N)	Persistence (%)	Main alternative destinations
Healthcare	21	9	42.9	Finance/admin (19%), education (14%)
Business/trade	175	68	38.9	Education (21%), finance/admin (14%)
Education	53	19	35.8	Healthcare (28%), finance/admin (15%)
Law/professional	25	6	24.0	Healthcare (36%), finance/admin (24%)
Finance/admin	105	25	23.8	Healthcare (23%), education (21%)
Labour/informal	64	11	17.2	Business (34%), education (16%)
Agriculture	122	12	9.8	Education (23%), business (22%)
Security/other	35	1	2.9	Finance/admin (23%), business (20%)

Note. Father's sector is known for 600 of the 613 respondents; 13 fathers' occupations could not be classified into the eight sectors. Sector-level persistence refers to the same broad sector and therefore differs from the occupation-level persistence rate in Table 1.

Table 3 reveals wide differences in sectoral persistence. Healthcare (42.9%), business and trade (38.9%) and education (35.8%) retain the largest shares of children whereas agriculture (9.8%) and security services (2.9%) retain very few. High persistence in healthcare is consistent with evidence that the children of physicians benefit from occupation-specific knowledge, networks and preferential access to training (Lentz & Laband, 1989) and with the high rents associated with regulated professions (Aina & Nicoletti, 2018; Mocetti, 2016). Persistence in business reflects the

inheritance of capital, premises and customers within family enterprises (Dunn & Holtz-Eakin, 2000; Fairlie & Robb, 2007). The very low persistence in agriculture reflects both the fragmentation of small landholdings and the movement of rural children into non-farm work (a pattern also observed in rural China and India) (Emran et al., 2023; Zhuo et al., 2023). Figure 3 presents the full transition matrix.

Figure 3: Occupational Transition Matrix from Father's Sector to Child's Sector



Note. Cells show row percentages; darker shading indicates a higher share. Outlined diagonal cells show sector-level persistence. Rows may not sum to 100 because of rounding.

Figure 3 shows that children who leave their fathers' sectors do not move at random. Children of agricultural fathers move mainly into education (23%) and business (22%) and children of labourers move mainly into business (34%) often as self-employed traders. Children of lawyers and finance professionals move most often into healthcare. Mobility out of low-status origins therefore tends to lead to middle-ranking sectors rather than to the top professions.

Classifying these moves as upward, lateral or downward requires a ranking of sectors. Table 4 presents the composite prestige ranking used for this purpose.

Table 4: *Composite Sector-Prestige Ranking Used for Directional Mobility*

Rank	Sector	Mean income (PKR '000)	Example occupations	Characteristics
1	Healthcare/medical	46.2	Doctor, nurse, pharmacist	Highest prestige
2	Law/professional	38.5	Lawyer, engineer, accountant	Credentialed professions
3	Finance/admin	29.8	Banker, administrator, manager	Formal salaried
4	Education	17.3	Teacher	Stable, lower pay
5	Business/trade	34.1	Businessman, shopkeeper, merchant	High income variance
6	Government/security	24.6	Civil servant, army, police	Secure tenure
7	Labour/informal	10.4	Labourer, tailor, salesman	Low skill, informal
8	Agriculture	8.2	Farmer, landlord	Lowest monetised income

Note. The ranking combines mean reported income with qualitative socioeconomic standing (formality, credential requirements, and public perception) and is therefore not strictly monotonic in income. Rank 1 is the highest.

Table 4 reveals that the ranking is very similar at the extremes but not in the middle. The mean income of business and trade (PKR 34,100) is higher as compared to that of finance and administration (PKR 33,600), education (PKR 33,500) and government and security (PKR 33,000). This placement is indicative of the relatively informal and precarious nature of a lot of business activity which the “prestige literature” regards as inferior to salaried, professional occupations (Erikson & Goldthorpe, 1992; Hout & DiPrete, 2006). This means that some moves are income-enhancing and direction labels should be interpreted as changes in occupational status and not income.

Directional Mobility

Using the ranking in Table 4, we classify the 443 movers with complete sector information for both generations according to the direction of their move. Table 5 reports the distribution and the mean income of each group.

Table 5: *Directional Mobility among Occupational Movers*

Direction	N	Share (%)	Mean child income (PKR '000)	Definition
Upward	340	76.7	24.6	Higher-prestige sector than father
Lateral	33	7.4	18.0	Same prestige rank, different sector
Downward	70	15.8	32.2	Lower-prestige sector than father

Note. N = 443 movers with complete sector data for both father and child (of 480 movers in total).

As presented in Table 5, 76.7% of movers ascend into a higher prestige sector compared to their fathers indicating the structural transition from agriculture and informal employment to education, business and professional which are higher prestige sectors. Downward mobility is not insignificant (15.8%) but it is not always welfare reducing. Downward movers have a higher mean income (PKR 32,200) than do upward movers (PKR 24,600). This seeming paradox is mainly due to the fact that the children of professionals who enter business are generally regarded as downwardly mobile even if some of them earn incomes well in excess of those of the professionals. The contrast highlights the disparity between absolute and economic position occupational mobility which has been a focus in the literature on mobility (Erikson & Goldthorpe, 1992; Long & Ferrie, 2013). Table 6 breaks down directional mobility into gender, area and education levels.

Table 6: *Directional Mobility by Gender, Area, and Education (Movers Only)*

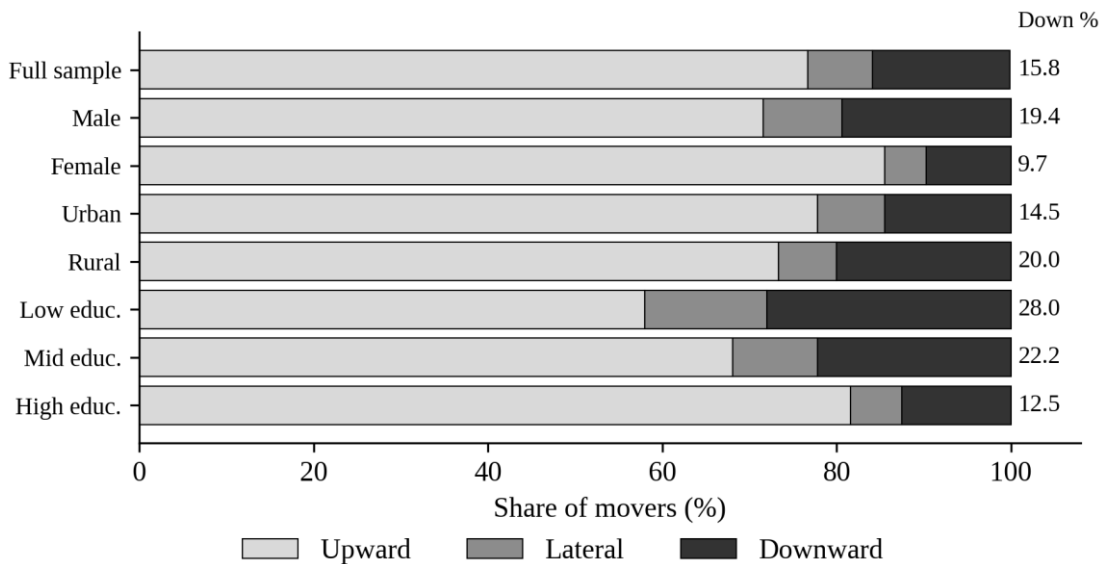
Subgroup	N	Upward (%)	Lateral (%)	Downward (%)
All movers	443	76.7	7.4	15.8
Male	278	71.6	9.0	19.4
Female	165	85.5	4.8	9.7
Urban	338	77.8	7.7	14.5
Rural	105	73.3	6.7	20.0
Low education (0–8 years)	50	58.0	14.0	28.0
Middle education (9–12 years)	72	68.1	9.7	22.2
High education (13+ years)	321	81.6	5.9	12.5

Note. Percentages are row shares of movers in each subgroup. Rows may not sum to 100 because of rounding.

Table 6 shows two salient policy-relevant trends. First, there is a protection for movers against downward mobility through education. There is a greater upward-mobility rate among the highly educated from 58.0% to 81.6% and a higher downward-mobility rate among the low-educated from 28.0% to 33.3%. Thus, education is not only the means by which children outnumber their

parents' jobs but also the engine for upwardly moving their jobs (as reflected in evidence that education and skills training are the primary sources of upward mobility in developing economies; Emran & Shilpi, 2011; Zhuo et al., 2023). Second, the female movers are significantly more likely to move up than the male movers (85.5% compared with 71.6%) and less likely to move down (9.7% compared with 19.4%). In Pakistan, women's participation in paid employment has been limited to a few secure, stable and credentialed jobs, including teaching and nursing which are associated with most of the paternal origins (Aslam 2009, Javed et al., 2022). The positive trend among movers occurs alongside low employment rates of women and higher unemployment rates among women (PBS, 2022) which means it is a positive trend of selection into the labour force rather than an equal opportunity trend. Rural movers also are more likely to be in a downward mobility (20.0%) than urban movers (14.5%). These patterns are summarised in figure 4.

Figure 4: Direction of Occupational Mobility Among Movers by Subgroup



Note. Bars show the percentage of movers who move upward, laterally, or downward in the sector-prestige ranking. Values to the right of each bar give the downward-mobility rate. Values are taken from Table 6.

Figure 4 shows that the downward-mobility segment is largest among the least educated movers and smallest among female and highly educated movers. The contrast across education groups is the widest of any comparison and supports H2. Because the classification depends on the father's starting rank, children of fathers at the bottom of the ranking cannot move down and children of fathers at the top cannot move up. Table 7 therefore reports directional mobility separately by the father's sector.

Table 7: *Directional Mobility by Father's Sector of Origin*

Father's sector (rank)	Movers (N)	Upward (%)	Lateral (%)	Downward (%)
Healthcare (1)	11	0.0	9.1	90.9
Law/professional (2)	25	36.0	16.0	48.0
Finance/admin (3)	6	50.0	16.7	33.3
Education (4)	31	67.7	3.2	29.0
Business/trade (5)	113	68.1	11.5	20.4
Government/security (6)	93	81.7	3.2	15.1
Labour/informal (7)	61	83.6	16.4	0.0
Agriculture (8)	103	100.0	0.0	0.0

Note. Origin sectors follow the prestige classification in Table 4, so the number of movers by origin is not directly comparable with the father counts in Table 3. Estimates for healthcare (N = 11) and finance/administration (N = 6) rest on small samples and are indicative only.

Table 7 confirms that the extreme values are largely mechanical. All movers from agricultural origins and 83.6% of those from labouring origins move upward because there is little or no room to move down whereas 90.9% of movers from healthcare origins move downward because no higher rank exists. The more informative results lie in the middle of the ranking. Nearly half of the movers from law and other professions (48.0%) move downward. Many of them into business while movers from government and security origins move upward in 81.7% of cases mainly into healthcare and education. These results support a “structural ceiling” interpretation. Upward mobility from low-status origins leads mainly to education and small business which pay far less on average than the professions that children of professional families continue to enter. High absolute mobility therefore coexists with persistent relative disadvantage as the distinction between absolute and relative mobility predicts (Breen, 2004; Erikson & Goldthorpe, 1992).

Determinants of Occupational Persistence

The descriptive results show strong gradients by gender and education but these characteristics are correlated with one another and with family background. We therefore estimate the multivariate models described in the methodology. Table 8 reports the coefficients from the three logit models and the probit model.

Table 8: *Logit and Probit Estimates of Occupational Persistence*

Variable	Model 1 (logit)	Model 2 (logit)	Model 3 (logit)	Model 4 (probit)	4
Father's education (high)	0.235 (0.270)	0.160 (0.274)	0.187 (0.277)	0.106 (0.156)	
Mother's education (high)	0.537* (0.281)	0.513* (0.283)	0.493* (0.286)	0.310* (0.161)	
Male	0.754*** (0.255)	0.739*** (0.256)	0.775*** (0.258)	0.420*** (0.143)	
Urban	-0.002 (0.249)	-0.015 (0.250)	0.005 (0.252)	-0.023 (0.145)	
Eldest child	0.237 (0.221)	0.233 (0.221)	0.249 (0.223)	0.128 (0.128)	
Own education (years)	-0.122*** (0.026)	-0.129*** (0.027)	-0.128*** (0.028)	-0.077*** (0.016)	
ln(parental income)		0.111 (0.096)	0.099 (0.097)	0.063 (0.056)	
COP: Parental direction			0.465* (0.264)		
COP: Chance			-0.379 (0.309)		
COP: Others			0.245 (0.596)		
Constant	-0.613 (0.403)	-0.806* (0.438)	-0.862* (0.442)	-0.456* (0.255)	
N	612	604	604	604	
Pseudo R ²	0.063	0.064	0.073	0.065	

Note. Dependent variable: 1 if the respondent works in the same occupation as a parent. Standard errors in parentheses. The reference category for COP is own choice. Model 4 re-estimates the Model 2 specification as a probit. *** p < .01. ** p < .05. * p < .10.

The results in Table 8 are stable across specifications. Male gender and own education are significant at the 1% level in every model, mother's education is significant at the 10% level in every model and the remaining circumstances are not significant. The probit estimates in Model 4 have the same signs and significance levels as the logit estimates so the results do not depend on the

logistic functional form. The pseudo R^2 is modest (0.063 to 0.073) which is typical of cross-sectional models of individual occupational choice and indicates that unobserved factors such as family business ownership, local labour demand and networks also matter. Table 9 converts the preferred Model 3 into odds ratios and average marginal effects which are easier to interpret.

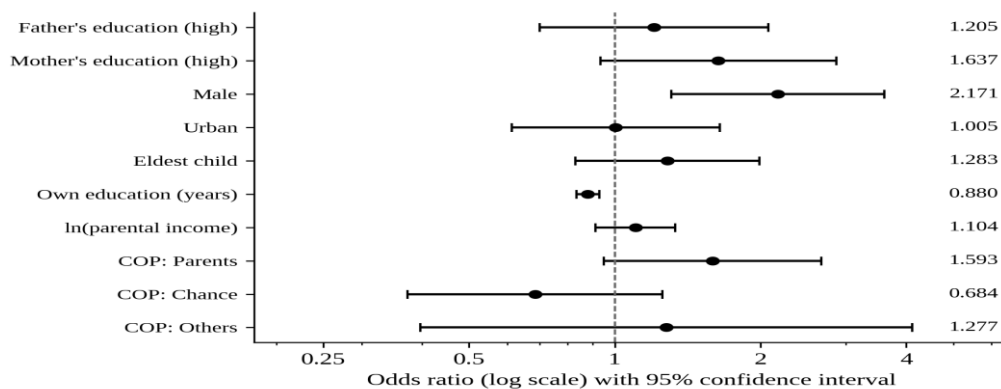
Table 9: Odds Ratios and Average Marginal Effects from the Preferred Logit Model (Model 3)

Variable	Odds ratio	Marginal effect (pp)	SE (pp)	P
Father's education (high)	1.205	+2.9	4.4	.500
Mother's education (high)	1.637	+7.8	4.5	.083
Male	2.171	+12.2	4.0	.002
Urban	1.005	+0.1	4.0	.986
Eldest child	1.283	+3.9	3.5	.263
Own education (per year)	0.880	-2.0	0.41	< .001
ln(parental income)	1.104	+1.6	1.5	.304
COP: Parental direction	1.593	+7.3	4.1	.076
COP: Chance	0.684	-6.0	4.9	.219
COP: Others	1.277	+3.8	9.4	.682

Note. Average marginal effects are percentage-point (pp) changes in the probability of occupational persistence. $N = 604$. The reference category for COP is own choice.

Table 9 shows the magnitude of each effect. Figure 5 plots the odds ratios with their 95% confidence intervals and the discussion that follows explains the sign of each relationship.

Figure 5: Odds Ratios for Occupational Persistence from the Preferred Logit Model



Note. Points show odds ratios from Model 3 in Table 8; horizontal lines show 95% confidence intervals computed from the reported standard errors. The dashed line marks an odds ratio of 1 (no effect). The horizontal axis uses a log scale.

As seen in figure 5, the confidence intervals for the “Male” and “Own education” categories are on the same side of one, the “Parental direction” and “Mother’s education” categories are just touching one. The other variables have large intervals and are centered around 1.

Gender

Men are 2.17 times more likely to persist in the same occupation as their parents ($p = .003$) and they are 12.2 percentage points more likely to persist in the same occupation as their parents than women. This result is consistent with the hypothesis H1. The positive sign is indicating the family business, land and trades are transmitted primarily from father to son in South Asia (Agarwal, 1994; Emran & Shilpi, 2011). Women who work are more likely to be in jobs other than those of their fathers, owing to social norms that limit women’s mobility and their access to many male-dominated jobs (Jayachandran, 2015; Klasen, 2019; Javed et al., 2022).

Own education

These odds are reduced by 12% ($OR = 0.880$, $p < .001$) for each additional year of schooling (or approximately 2.0 percentage points per additional year of schooling). This result is in line with the H2 first. The negative sign reflects the human capital theory. Schooling provides skills and credentials to children that generate access to jobs that will not be available when the child is of working age if he or she has no such credentials or skills and consequently lowers inherited occupational capital (Becker & Tomes, 1986; Laband & Lentz, 1983). A similar effect is found for rural China where education/training appears to be the most important factor to influence upward occupational mobility (Zhuo et al., 2023) and for Pakistan where own education is found to be more important than parental occupation on children’s outcomes (Andlib et al., 2025).

Mother’s education

Respondents whose mothers had at least secondary education are more likely to follow a parent’s occupation ($OR = 1.637$, $p = .085$), a result that is significant at the 10% level in all four models. The positive sign may seem surprising but educated mothers in Pakistan are concentrated in households where parents work in professional, teaching and business occupations that are themselves highly persistent. Educated mothers are also better placed to guide children towards occupations in which the family has knowledge and contacts (Aina & Nicoletti, 2018; Bussolo et al., 2023). Earlier work with the same Multan data found that maternal education has significant effects on children’s occupational destinations (Shareef et al., 2021; Sharif et al., 2016).

Father's education

Father's education has a positive but insignificant coefficient ($OR = 1.205$, $p = .500$). The positive sign is consistent with the idea that educated fathers hold occupations worth passing on but the effect disappears once own education is controlled because much of the influence of fathers' schooling operates through the education of their children (Andlib et al., 2025; Blanden et al., 2007; Muhammad & Jamil, 2020).

Living in an urban area

The difference in persistence between rural and urban is not observed in the multivariate models ($OR = 1.005$, $p = .986$). This finding indicates that much of the rural disadvantage in Table 1 is due to composition with the rural population having less education and adding little even when education is controlled. This is in line with evidence that spatial differences in human capital account for much of the spatial differences in labour market outcomes (Combes et al. 2008; Hicks et al. 2021).

Eldest child

Eldest children have a slightly higher likelihood of following a parent ($OR = 1.283$, $p = .263$). This positive sign is consistent with the usual pattern of eldest sons inheriting the family business taking over land and working with their fathers at an early age (Emerson & Souza, 2008; Jayachandran & Pande, 2017). This effect, however is reduced when parents invest more time in the education of their first born child, creating other opportunities for them (Black et al., 2005; Booth & Kee, 2009). The opposing forces render birth order negligibly zero.

Parental income

Parental income (coded in log form) has a slight positive and non-significant coefficient ($OR = 1.104$, $p = .304$). The passing on of wealthier businesses and practices to wealthier parents makes it more attractive to follow (Dunn & Holtz-Eakin, 2000; Lentz & Laband, 1989). Meanwhile, they can afford the education that enables children to pursue other careers (Becker & Tomes, 1986). The weak overall effect is due to these offsetting channels.

Choice of profession

The likelihood of following a parent's field of work is 59% greater when respondents were directed to the occupation by their parents than when they chose the occupation independently ($OR = 1.593$, $p = .078$) and the probability of persisting in the occupation increases by 7.3 percentage points when parents are the reason for taking the occupation. The positive coefficient is consistent with the H3 hypothesis and in line with the evidence that parental networks and contacts influence children's transition to the labour market (Chetty et al., 2022; Ioannides & Loury, 2004; Magruder, 2010). As predicted a negative coefficient is found for entry by chance ($OR = 0.684$, $p = .220$) since Granovetter (1995) theorized that people who happen to find jobs in non-family occupations are

less likely to be placed in family occupations. The positive but weak coefficient for role models (OR = 1.277, $p = .682$) is in line with research that indicates role models influence aspirations (Beaman et al., 2012), however, this category has only 18 respondents. The parental-direction effect is present only at the 10% level and the chi-square test in Table 2 is not significant thus only suggestive support for H3 is given.

Income Inequality by Occupational Following Status

The previous results describe the structure of occupational transmission but not its consequences for income inequality. If occupational inheritance transmits parental advantage, the income distribution of followers should differ from that of movers. Table 10 compares the two groups using several inequality measures.

Table 10: *Income Inequality by Occupational Following Status*

Measure	Followers	Movers	Full sample
N	132	480	612
Mean income (PKR '000 per month)	43.6	24.9	29.1
Median income (PKR '000 per month)	20.0	20.0	20.0
Standard deviation (PKR '000)	137.8	36.2	72.4
Gini coefficient	0.656	0.453	0.522
Mean log deviation	0.800	0.370	0.492
Coefficient of variation	3.145	1.453	—
P90/P10 ratio	10.00	7.73	—

Note. Income refers to the respondent's monthly income. Mann-Whitney U test of the difference between the income distributions of followers and movers: $p = .399$.

Table 10 shows that followers and movers have the same median income (PKR 20,000) and that the Mann-Whitney test does not detect a significant difference between their income distributions ($p = .399$). Their dispersion however differs sharply. The Gini coefficient for followers (0.656) is 0.203 points higher than for movers (0.453) and the MLD for followers (0.800) is more than twice that for movers (0.370). The coefficient of variation is more than twice as large (3.145 against 1.453) and the P90/P10 ratio is also higher (10.0 against 7.7). The follower Gini exceeds the national range of 0.50 to 0.60 reported for Brazil one of the most unequal countries in the world (Britto et al., 2022). The higher mean income of followers (PKR 43,600 against PKR 24,900) with an identical median shows that the difference comes from the upper tail: a small number of followers earn far more than the rest of their group. This pattern supports H4 and suggests that occupational inheritance amplifies inequality among heirs, as expected where some inherited occupations carry large rents (Aina & Nicoletti, 2018; Mocetti, 2016) while others offer only subsistence incomes. Because the

survey is cross-sectional and the follower group contains a few very high incomes, this comparison should be read as descriptive. Table 11 examines whether the pattern holds across gender and area.

Table 11: *Gini Coefficients for Followers and Movers by Gender and Area*

Subgroup	Followers (N)	Gini (followers)	Movers (N)	Gini (movers)	Gap
Full sample	132	0.656	480	0.453	+0.203
Male	104	0.679	296	0.448	+0.231
Female	28	0.568	184	0.461	+0.107
Urban	88	0.683	366	0.461	+0.222
Rural	44	0.598	114	0.426	+0.172

Note. Gap = Gini (followers) – Gini (movers).

Table 11 shows that the Gini gap between followers and movers is positive in every subgroup, so the association between occupational inheritance and higher inequality does not depend on gender or area of residence. The gap is largest among men (+0.231) and urban respondents (+0.222) and smallest among women (+0.107). This ordering is consistent with the nature of the occupations inherited by each group. Urban and male followers include the heirs of medical and legal practices and established businesses which produce a wide range of incomes whereas rural and female followers are more often found in agricultural and informal occupations with more uniform, low returns (Dunn & Holtz-Eakin, 2000; Lentz & Laband, 1989).

Discussion

Occupational Inheritance as Inequality of Opportunity

Taken together, the results show how parental occupation as a circumstance in the sense of Roemer (1998) and Ferreira and Gignoux (2011) is translated into income inequality. Family background and gender influence whether a child enters the parental occupation. The direction of any move away from that occupation shapes the child's economic position and the income distribution among those who inherit occupations shows that inheritance amplifies rather than merely reproduces inequality. Occupational inheritance thus acts as a structural channel of inequality of opportunity in Multan.

Gender and Education as Transmission Channels

Gender is the most consistent predictor of the persistence in the occupation, but with an asymmetric relationship. Parental occupations are passed on to men more often and women's occupations different from their parents are more likely to be upwardly mobile than male movers. This finding corresponds with the focus of working women on teaching and health-related jobs and their high

participation rate in paid jobs (Klasen, 2019; Javed et al., 2022). Role of education is double. It decreases the likelihood of following a parent and also decides the direction of movement (up or down). Occupational mobility is not necessarily reflected in educational progression and may even imply a significant risk of downward mobility without the latter which is why the binary persistence measure is insufficient.

The Structural Ceiling

The breakdown by the sector of origin shows a structural ceiling. Almost all children of farmers and labourers are considered upwardly mobile, although the professions that they continue to go into (the ones that pay more) are few. Their destinations are largely teaching and small business. This means that the analysis of absolute mobility hides the relative disadvantage consistent with the sociological distinction between absolute and relative mobility (Breen, 2004; Erikson & Goldthorpe, 1992). Rural movers which have the highest downward-mobility rate among the area and gender groups show this point i.e., the mobility is motivated by the declining agriculture, not on the background of equal access to high status jobs.

Policy Implications

There are a number of policy implications arising here. First, the strong education gradient in persistence and direction of mobility suggests that expanding access to secondary and higher education particularly in the rural tehsils with low literacy is the best instrument currently available to reduce occupational immobility (Andlib et al., 2025; Kosar, 2024). Second, the gender results indicate that complementing education policy with other policies that increase female employment rate and expand the spectrum of careers accessible to women should be considered (Klasen, 2019). Third, the structural ceiling does not necessarily signal inequality of opportunity. The recruitment of professionals and other public-sector jobs needs to be made transparent and based on merit so it is not locked up for the children of those who already hold the jobs (Aina & Nicoletti, 2018; Mocetti, 2016). Lastly, the high level of income inequality among the followers suggests that there may be an opportunity to lower income inequality among followers who continue to work in inherited occupations by providing access to small business loans and/or skills training to these individuals (Shah et al., 2021).

Limitations and Future Research

There are several limitations that must be taken into consideration when interpreting the findings. Firstly, the survey has been conducted on one district so the results may not be generalizable to other areas of Pakistan. Second, the data are cross sectional and the comparison of followers and movers cannot fully control for age or career stage effects: If a group of followers is older on average than a group of movers then some part of the inequality gap is likely to be life-cycle effects. Third, the sector-prestige ranking is based upon income plus qualitative judgements and is not monotonic in income and there would be a useful robustness check by using a recognised occupational prestige ranking adapted to Pakistan. Fourth, there are a few cells with few observations in Table 7

for the origin sectors. Fifth, the COP variable is self-reported and retrospective and could be impacted by recall and rationalisation bias. Sixth, the logit models account for a relatively small proportion of variability in persistence and standard errors are not geographically clustered. Further studies should be conducted in other districts that have a larger sample size to replicate the analysis employ panel or age-specific income data and directly measure family business ownership and landholding.

Conclusion

In this paper intergenerational occupational transmission in Multan District Pakistan has been explored and three directions were extended to the conventional binary persistence measure: direction of occupational moves, occupational income inequality and direct parental steering. A quarter (25.0%) of the respondents are employed in the same occupation as their parents. Men have about a 2% higher chance of following a parent for every year of education above that of their parents. There is a 7.3 percentage point increase in the risk of following when parents make a career choice (and only at the 10% level, which needs to be replicated with a larger sample size).

The overall rate of upward mobility for movers (76.7%) conceals important differences. The risk of low educated movers being downwardly mobile is over twice that of highly educated movers (28.0% versus 12.5%), and low educated children are less likely to end up in the professions than in teaching and small business. Income is also much more unequally distributed among followers than among movers with a Gini coefficient 0.203 points higher which suggests that occupational inheritance concentrates rewards among a minority of heirs. Income comparison is cross-sectional so an age or cohort effect is not completely ruled out. The results demonstrate the importance of education as the primary policy tool to address occupational immobility as well as the potential of targeting gender norms and parental steering, and the need to be mindful of the role of absolute mobility as a measure of equality of opportunity. More generally, the integration of the concepts of within-group inequality measures, a direct measure of parental agency and directional mobility offers a framework that is applicable across other developing country contexts where occupational data are more extensive than income data.

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