# Influences of parental occupation on children's occupational choices

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## Abstract

**Purpose** – This study examines the relationships between parents' and children's occupations to determine the existence of intergenerational transmission of occupations.
**Design/methodology/approach** – To achieve the purpose of the study, four predominant occupational types based on the International Standard Classification of Occupations (ISCO): agriculture and forestry; services and sales; managerial/administrative; and professional/technical are examined using data from the latest (7th) round of the Ghana Living Standards Survey (GLSS). Two complementary methods involving the correlational analysis and regression-based techniques are used.
**Findings** – The findings indicate the presence of parental influences on children's occupational choices (same-sex and cross-sex) in the Ghanaian labour market, with maternals and same-sector effects having a more substantial influence on children's occupational choices, especially in agriculture and forestry, and services and sales sectors.
**Research limitations/implications** – The lack of panel data in observing children's occupational choices over time makes it challenging to assume direct causation.
**Originality/value** – The study is the first to highlight the relative strengths of paternal influence (father's effect) and maternal impact (mother's effect) on sons' and daughters' occupational choices in Africa. The findings have several implications for intergenerational (im)mobility of occupations including how policymakers can make career guidance more effective.
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## Introduction

Historically, social scientists have been interested in intergenerational mobility, which generally refers to the extent and pattern of association between parents and children's socioeconomic standing (Torche, 2015). In economics, the theoretical background of intergenerational mobility is traceable to Becker and Tomes (1979). They argue that because parents care about the lifetime earnings of their children, they seek to maximize their utility subject to choosing between their consumption and investment in the earning capacity of their children (Bingley and Cappellari, 2017). Based on this reasoning, early empirical

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economic research focused on intergenerational income mobility and assessed the association between fathers and sons' earnings (Becker and Tomes, 1986; Behrman and Taubman, 1990) or daughters' earnings (Chadwick and Solon, 2002).

Studies on intergenerational mobility of occupational choices have shown that children of entrepreneurial or self-employed parents are likelier to become entrepreneurs or self-employed (Hoffmann *et al.*, 2015; Moreno-Gómez *et al.*, 2020, 2022). The reasons are that children of self-employed parents may: (a) gain relevant experience by working in their parents' business which may prepare them to start their own business (i.e. human-capital explanation) (Lentz and Laband, 1990; Dunn and Holtz-Eakin, 2000; Twumasi Baffour and Abbey, 2023); (b) inherit parents' abilities or preferences either genetically or socially if parents serve as role models (i.e. preference explanation) (Hout and Rosen, 2000); and (c) overcome any capital market imperfections or constraints by substituting family funds or wealth for access to funds from capital or credit markets (i.e. financial explanation) (Dunn and Holtz-Eakin, 2000).

In 2016, data scientists, Adamic and Filiz, analysed 5.6 M Facebook data on parent–child occupational choices and found that the likelihood of a child's occupation falling into any given category varied by occupation. However, sons and daughters of parents in a given occupation were more likely to be in that occupation than the children of other parents who were not in that occupation. An analysis conducted by The New York Times revealed that working sons were on average 2.7 and 2.0 times as likely to have the same job as their working fathers and mothers respectively while working daughters were 1.7 and 1.8 times as likely to have the same job as their working fathers and mothers respectively (Bui and Miller, 2017). More recently, a survey of 810 working people and 210 parents sampled by Joblist (2021) in the United States showed that more than half (57%) of the respondents indicated that their parents wanted them to work in the same industry they did. In the end, nearly half (48%) of the respondents felt their career choices were strongly influenced by their parents while almost 40% stated that they felt pressured. Across different generations, there were notable differences. Almost two out of five of the children (35.6%) and parents (37.6%) stated that they were influenced or pushed into certain careers to preserve the family tradition.

Despite these descriptive research, econometric analysis of the linkages between parent and children is limited and skewed towards the western world and developed countries with African studies lacking. Besides, most of the studies on occupational choices have approached the selection of occupation from the human capital approach, which associates occupational selection with human capital factors such as education, intelligence and experience (Constant and Zimmermann, 2003; Polachek, 1981). One exception to these studies, which seems to take the parental role model approach, is Tsukahara (2007), who investigated the effect of the father's occupation and parents' years of schooling on children's occupational choices in Japan. In this paper, we seek to contribute to the limited empirical evidence on parental role models in occupational choice by building on the work of Tsukahara (2007) and applying it to an African country, Ghana. The application to Ghana, like any other African country, is motivated by differences in the family system, socialization process, cultural values and the absence (or limited availability) of formal career guidance institutions, which could limit the transferability of the findings.

Apart from the contextual differences, our study is further differentiated in its methodological approach, offering deep and fresh insights. First, unlike Tsukahara's (2007) study, we distinguished between paternal and maternal effects and investigated the individual and joint influence of these parental effects on the occupational choices of children (sons and daughters). Second, and most importantly, we estimated separate regressions for the four dominant occupational types: agriculture and forestry; services and sales; managerial/administrative; and professional/technical. This way, we are able to observe

the differential effects among various occupations and demonstrate that the family system of land ownership and inheritance in Ghana and the agrarian economy makes it easy for intergenerational mobility towards farm-sector occupations or agriculture much stronger.

The key findings are that, whereas parental role models are evident in our data, maternal role models have a stronger influence on children's occupational choices than paternal role models. Also, parental role models are more pronounced in the traditional sectors of agriculture and forestry as well as services and sales. The remainder of the paper presents the literature review, the methodology, findings, conclusions and policy recommendations.

## Literature review

### *Conceptual definitions and theoretical foundation of occupational choice*

Social scientists over the years have been concerned with the question, "why do people enter different occupations?" (Blau *et al.*, 1956). Various answers have been provided to this question from the perspectives of psychology, sociology and economics. Integrating the perspectives from these three disciplines, Blau *et al.* (1956) provide an inclusive conceptual framework of occupational choice and selection that views occupational choice as a developmental process of compromise between preference for and expectations of being able to get into various occupations that extends over many years. Throughout the developmental process, social experiences (i.e. interaction with other people) are important in shaping the occupational preferences that finally crystallize. Blau *et al.* (1956) argue that "the social structure affects occupational choice in two analytically distinct respects: as a matrix of social experience which channels the personality development of potential workers, and as the conditions of occupational opportunity which limit the generalization of their choices" (p. 542).

In economic literature, the neoclassical human capital theory (Becker, 1964) has traditionally been adopted to explain occupational choice (Polachek, 1981). This theory assumes that an individual's decisions regarding occupations or earnings are made over the life cycle to maximize the present value of potential net benefits given a finite and certain lifetime (Polachek, 1981). Thus, workers choose occupations that: (a) maximize the discounted present value of potential lifetime earnings; (b) entail the lowest training cost; and (c) offer the lowest discounted present value of expected earnings forgone due to unemployment (Boskin, 1974).

### *Intergenerational mobility, parental role models and occupational choice*

In the social sciences, intergenerational mobility has been operationalized as the extent of associations between parents and adult children's socioeconomic standing (mostly captured by social class, occupational status, individual earnings and family income), where higher associations are interpreted as immobility or less mobility (Torche, 2015). Specifically, intergenerational mobility occurs when the status of parents is transferred to the children. Di Pietro and Urwin (2003), Banerjee and Newman (1993), Becker and Tomes (1986) and Lam and Schoeni (1993) have argued that there are two main channels by which children's socioeconomic status might be associated with those of their parents. First, they posit that children are naturally more likely to inherit their parents' innate qualities and abilities (Becker and Tomes, 1986) and utilize the network of their family's social capital (Lam and Schoeni, 1993) and other "endowments" of their family. Second, they argue that imperfections in capital markets constrain investment in human capital (Banerjee and Newman, 1993). Therefore, children whose parents have the wealth to overcome these capital market imperfections are unlikely to be impacted negatively.

In occupational choice studies, researchers have drawn associations between parents' occupations and their children to provide evidence for intergenerational mobility of occupation (Pablo-Lerchundi *et al.*, 2015; Krumboltz *et al.*, 1976). Some empirical studies have drawn inspiration from role model theories and suggested that an individual's decision to engage in a particular occupation may be influenced by others who serve as role models (Pablo-Lerchundi *et al.*, 2015). As espoused by Gibson (2004), the term role model derives its connotations from two theoretical constructs. These constructs are the concept of a *role* which refers to the tendency of individuals to identify with other people occupying critical social roles, and the idea of *modelling*, which refers to the psychological matching of cognitive skills and patterns of behaviour between a person and an observing individual. In this sense, a role model refers to an individual who inspires others, consciously or unconsciously, to emulate their examples (positive role models) or avoid specific attributes (negative role models).

Of the many potential role models, parental role models are particularly relevant for the intergenerational transmission of occupations. Logically, children are mostly exposed to their parents' occupations first and may observe their behaviour (Chlosta *et al.*, 2012). However, the influential role of parents on children is understood from sociological and psychological theories that focus on the socialization and development of children, namely social learning theory (Bandura, 1977) and cognitive development theory (Kohlberg, 1966). With its roots in behaviourism, the social learning theory assumes that "of the numerous cues that influence behaviour at any given moment, none is more common or informative than the actions of others" (Bandura, 1986, p. 206). The cognitive development theory emphasizes the developmental nature of the socialization process. It argues that children freely choose whom to imitate and often choose adults of the same sex. However, their views about what is appropriate for males and females change as they age, reflecting their cognitive developmental process (Stockard, 2000; Kohlberg, 1966).

From the preceding discussion on the literature, we formulate three hypotheses as follows:

*Observation effect*: Children observe the occupational choices of their parents and are more likely to choose the same occupation as their parents. Therefore, the hypothesis is that:

*H1*. There are significant parental role model effects on the occupational choices of children.

*Same-sex effect:* In gendered societies, male children are more likely to spend more time with their fathers, and likewise, female children are more likely to spend more time with their mothers. Therefore, it is hypothesized that:

*H2*. The father's occupation will have a stronger influence on the male children's occupation (i.e. paternal role model effect on sons), while the mother's occupation will have a stronger influence on the female children's occupation (i.e. maternal role model effect on daughters)

*Same sector effect (H3):* Parents' occupations influence their children's occupations such that the latter's likelihood of choosing an occupational sector is greater when both parents work in that sector. Therefore, it is hypothesized that:

*H3*. The influence of the parents' occupational choice is stronger on the children when both parents work in the same sector.

### *Empirical literature*

While intergenerational studies evolve in economics, there appears to be some emerging consensus. First, the studies suggest that intergenerational transmission of occupations from fathers to sons is more dominant (Beller and Hout, 2006). In the United States, for example, Beller and Hout (2006) reported average correlations ranging from 0.3 to 0.4 for occupations

and 0.4 for earnings. Similar results have been found in the UK by Carmichael (2000), indicating that the sons' occupational attainment is dependent on the socioeconomic status of their fathers. Second, the studies have suggested that occupational mobility is not constant over time. Mobility studies in the United States have indicated that compared with the 1940–1960s, occupational mobility during the 1970s increased, but in the 1980 and 1990s, it declined (Beller and Hout, 2006).

Other intergenerational studies have examined the determinants of occupational choices across generations and established the importance of family background, of which parental influence is paramount. In a comparative study by Checchi (1997), sons' occupations highly depended on their fathers' achievements. Analysing the relationship between the occupational status of parents and their children in Italy, Di Pietro and Urwin (2003) found results consistent with Checchi's (1997), suggesting a significant link between parental occupation and children's achievement. Furthermore, Di Pietro and Urwin's (2003) study revealed that although the social status of both male and female children depends more on the father's occupational status than the mother's, the father-to-son effect is much stronger than the father-to-daughter linkage.

Although other channels exist, the role model explanation appears important, as it is predominantly used in studies (e.g. Van Auken *et al.*, 2006; Haapanen and Tervo, 2009; Andersson and Hammarstedt, 2011; Bosma *et al.*, 2012; Chlosta *et al.*, 2012; Lindquist *et al.*, 2015; Hoffmann *et al.*, 2015; Vladasel *et al.*, 2021). As argued by Fairlie and Robb (2007) and supported by Blanchflower (2009), the importance of the preference channel in intergenerational transmission of self-employment is partly rooted in very few entrepreneurs with self-employed parents. Furthermore, they argued that successful self-employed parents might function as a stronger role model, which is consistent with the preference effect.

Several studies point to the existence of parental role models (Chlosta *et al.*, 2012) and their positive effect on self-employment with notable gender differences (Haapanen and Tervo, 2009; Andersson and Hammarstedt, 2011; Hoffmann *et al.*, 2015). Chlosta *et al.*'s (2012) study found evidence for a parental role model but did not distinguish between the different effects on sons and daughters. However, Haapanen and Tervo's (2009) study found evidence to support the same-sex hypothesis. They observed that the coefficient of a dummy for self-employment experience of the father/mother was largest for men/women. Andersson and Hammarstedt's (2011) analysis of the intergenerational transmission of self-employment among Swedish immigrants produced similar results. Using the Danish register data, Hoffmann *et al.* (2015) also reported that the effect of a self-employed father (mother) is much higher for males (females). Pablo-Lerchundi *et al.* (2015) analysed data from engineering and architectural students in Madrid and concluded that parental occupation influences children's occupational choices. Finally, Gubler *et al.* (2017) analysed data from the mid-1960s to the late 1990s on Swiss teachers and concluded that occupational inheritance has long-term effects on individual career behaviour.

In Africa, research on intergenerational transmission of occupations is scanty. The few ones have focused on intergenerational mobility of economic outcomes and the influence of parental background. In Senegal, Lambert *et al.* (2014) found that inheritance of non-land assets and parents' education and occupation (especially the mother) and their choices about children's schooling are more important to adult welfare than property inheritance. In another study involving five African countries, namely, Côte d'Ivoire, Ghana, Guinea, Madagascar and Uganda, Bossuroy and Cogneau (2013) examined differences in intergeneration occupational mobility between farm and non-farm sectors and analysed the determinants. The findings revealed high intergenerational mobility towards non-farm sectors in Côte d'Ivoire and Guinea but more flows towards the farm sector in Ghana and Uganda, with Madagascar exhibiting less mobility in either direction. The study also emphasized the role of education as a vehicle for the high reproduction of occupations in Madagascar.

The lack of research on intergenerational transmission of occupation and the influence of paternal and maternal role models in Ghana, as in most African countries makes it imperative for this study to make a contribution to the literature and policy.

## Methodology

Two main methodologies emerge from the literature on intergenerational mobility. The first, relates children's economic outcomes to their parents through regression-based techniques to obtain the intergenerational regression coefficient (IGRC). In contrast, the second approach uses correlational analysis (Pearson or Spearman rank) to estimate the intergenerational correlation (IGC) (Chetty *et al.*, 2014). In both methodologies, a significant positive association between a parent's occupation and a child's occupation is interpreted as intergenerational transmission of occupation or intergenerational immobility of occupation (or persistence). In this study, we adopt both the IGRC and IGC approaches to enable the triangulation of results.

### *Empirical specification*

Using the International Standard Classification of Occupations (ISCO), the empirical analyses are conducted for four occupational types: agriculture and forestry, services and sales, managerial/administrative and professional/technical. For each of these occupational types, we determine whether there is evidence of parental role models and, if yes, whether there are gender differences in the paternal and maternal effects to draw lessons on paternal and maternal role models. Accordingly, we constructed six primary samples from our dataset (i.e. father-son, father-daughter, mother-son, mother-daughter, father-mother-son and father-mother-daughter) to answer the following six questions:

(1) Do sons tend to be in the same occupation as their fathers?

(2) Do daughters tend to be in the same occupation as their fathers?

(3) Do sons tend to be in the same occupation as their mothers?

(4) Do daughters tend to be in the same occupation as their mothers?

(5) Do sons tend to be in the same occupation as their fathers and mothers?

(6) Do daughters tend to be in the same occupation as their fathers and mothers?

To address these questions and by extension, test the same-sex, cross-sex, same-sector and observational effect hypotheses stated in the literature, we define our outcome variables as son or daughter is found in a given occupational type or not. Given the categorical nature of these outcome variables, we specified empirical models as binary multivariate probit equations in line with the research questions. In a linearised form, the transformed probit models are as follows:

$$SO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 FO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (1)$$

$$DO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 FO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (2)$$

$$SO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 MO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (3)$$

$$DO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 MO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (4)$$

$$SO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 FMO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (5)$$

$$DO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 FMO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (6)$$

where $SO_i^k, DO_i^k, FO_i^k$ and $MO_i^k$ $FMO_i^k$ indicate that son, daughter, father, mother and father–mother are in occupation $k$ (and $k$ = agriculture and forestry, services and sales, managerial/administrative, or professional/technical) respectively. $X_{ji}$ is a vector of control variables for son's and daughter's characteristics. Specifically, we controlled for age, education, marital status, number of children under five, religion and locality (urban or rural) based on established determinants of occupational choice in the literature. The coefficients of $FO_i^k, MO_i^k$ and $FMO_i^k$ are the intergenerational regression coefficients (IGRCs) used to test the hypotheses.

To compare gender differences and the relative importance of father and mother effects on sons and daughters, two additional equations (7 and 8) are estimated, and chi-squared tests are conducted to compare the coefficients of $FO_i^k$ and $MO_i^k$.

$$SO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 FO_i^k + \beta_2 MO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (7)$$

$$DO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 FO_i^k + \beta_2 MO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (8)$$

The variables' definitions are the same as above.

*Data*

The empirical analyses of this paper rely on the Ghana Living Standard Survey Round 7 (GLSS 7) collected by the Ghana Statistical Service in 2016/2017 (GSS, 2018). The survey randomly sampled and interviewed 59,864 individuals from 1,000 clusters across all the regions of the country. Of this sample, 28,976 were males and 30,888 were females. As a multidimensional household survey, the GLSS 7 data contain information on age, ISCO occupation classification (for both parent and children), education and employment status of the individual. Due to sample size adequacy concerns, we restricted our analysis to four ISCO occupational types: agriculture and forestry, services and sales, managerial/administrative, and professional/technical. As a result, our eventual sample size was 10,373 individuals comprising 5,111 males and 5,262 females. Table 1 presents the descriptive statistics of the sample.

As shown in Table 1, agriculture and forestry constitute the dominant occupation type for both parents (fathers and mothers) in the sons and daughters' sub-samples. These represent 68 and 60% of the father's and mother's occupations, respectively, in the sons' sample, with the corresponding figures in the daughters' sample being 65 and 59%. On the contrary, managerial/administrative has the smallest share of parental occupation, accounting for less than 4% for both the son and daughter samples. Consistent with the percentage of parental occupation in agriculture and forestry, most sons were in agriculture and forestry. However, the majority of daughters were working in services and sales. While this outcome may not be surprising, it indicates that Ghana's services and sales sectors are female-dominated. Additionally, our sample shows that the majority of the sampled respondents are educated to the secondary school level

| Variable | Male/Son | Female/Daughter |
|---|---|---|
| *Father's occupation* | | |
| Agriculture and forestry | 0.68 | 0.65 |
| Services and sales | 0.19 | 0.22 |
| Managerial/administrative | 0.03 | 0.03 |
| Professional/technical | 0.10 | 0.10 |
| *Mother's occupation* | | |
| Agriculture and forestry | 0.60 | 0.59 |
| Services and sales | 0.37 | 0.39 |
| Managerial/administrative | 0.01 | 0.00 |
| Professional/technical | 0.02 | 0.02 |
| *Son/daughter's occupation* | | |
| Agriculture and forestry | 0.50 | 0.39 |
| Services and sales | 0.31 | 0.53 |
| Managerial/administrative | 0.02 | 0.00 |
| Professional/technical | 0.18 | 0.08 |
| *Education* | | |
| No education and primary | 0.20 | 0.34 |
| Secondary | 0.63 | 0.57 |
| Tertiary | 0.17 | 0.09 |
| *Marital status* | | |
| Single | 0.24 | 0.18 |
| Married | 0.72 | 0.68 |
| Divorced | 0.03 | 0.06 |
| Widowed | 0.02 | 0.08 |
| *Religion* | | |
| Other religion | 0.11 | 0.05 |
| Christianity | 0.74 | 0.84 |
| Islam | 0.15 | 0.12 |
| *Locality* | | |
| Urban | 0.43 | 0.45 |
| Rural | 0.57 | 0.55 |
| Age | 41 | 38 |
| Sample size (*N*) | 5,111 | 5,262 |

**Table 1.** Descriptive statistics

**Source(s):** Authors' construction based on GSS (2018)

(63% for sons and 57% daughters), married (72% for sons and 68% for daughters), Christians (74% for sons and 84% for daughters) and located in rural areas (57% for sons and 55% for daughters). The average ages of sons and daughters were 41 and 38 years, respectively.

## Results

Results of the intergenerational correlation coefficients between sons/daughters and parents (father and mother) as they pertain to the occupational types using the Kendall tau-b are presented in Table 2 with emphasis on the principal diagonal. The results indicate intergenerational transmission of the respective occupations between parents and children; that is, the presence of parental role models in the respective occupations. The significant positive values of these correlations support the observational effect hypothesis, which states that there are parental role model effects in the occupational choices of children with both same-sex and cross-sex effects.

| | Agriculture and forestry | Services and sales | Managerial/ administrative | Professional/ technical |
|---|---|---|---|---|
| Correlation for sons ($N$ = 5,111) | | | Son's occupation | |
| *Father's occupation* | | | | |
| Agriculture and forestry | 0.4307* | −0.3375* | −0.1096* | −0.1887* |
| Services and sales | −0.2837* | *0.3015** | 0.0424* | 0.0341 |
| Managerial/ administrative | −0.1055* | 0.0501* | *0.1067** | 0.0482* |
| Professional/technical | −0.2242* | 0.0862* | 0.0674* | *0.2123** |
| *Mother's occupation* | | | | |
| Agriculture and forestry | *0.4667** | −0.4407* | −0.0654* | −0.0985* |
| Services and sales | −0.3151* | *0.3152** | 0.017 | 0.0102 |
| Managerial/ administrative | −0.1086* | 0.0935* | *0.1020** | 0.0085 |
| Professional/technical | −0.2351* | 0.2027* | 0.0375* | *0.1262** |
| Correlation for daughters ($N$ = 5262) | | | Daughter's occupation | |
| *Father's occupation* | | | | |
| Agriculture and forestry | *0.3907** | −0.3162* | −0.0856* | −0.1690* |
| Services and sales | −0.3037* | *0.2670** | 0.0590* | 0.1045* |
| Managerial/ administrative | −0.0557* | 0.0335* | *0.0413** | 0.0262 |
| Professional/technical | −0.1992* | 0.1155* | 0.0537* | *0.1472** |
| *Mother's occupation* | | | | |
| Agriculture and forestry | *0.4798** | −0.4617* | −0.0334* | −0.0940* |
| Services and sales | −0.3982* | *0.3987** | 0.0012 | 0.0229 |
| Managerial/ administrative | −0.0630* | 0.0477* | *−0.0019* | 0.0678* |
| Professional/technical | −0.1881* | 0.1488* | 0.0754* | *0.1492** |

**Note(s):** * Significant at 5%
**Source(s):** Authors' construction based on GSS (2018)

**Table 2.**
Kendall tau-b correlation results

However, when the same-sex associations are compared for father-son and mother-daughter, the associations are stronger for mother-daughter transmission. Similarly, the cross-sex comparisons of father-daughter and mother-son transmission of occupation indicate that mother-son reproduction of occupation is stronger. These two contrasting results partially support the same-sex effect hypothesis, which states that fathers' occupations have a stronger association with sons' occupations just as mothers' occupations have a stronger association with daughters' occupations and demonstrates a stronger effect for maternal role models in children's occupational choices.

Next, we present the summary results from the IGRC methodology in Table 3. The detailed results of the analyses based on the empirical specification of equations (1) – (8) for the various occupations are presented in Tables A1–A4 in the Appendix. In Table 3, eight models highlighting the IGRCs of fathers and mothers for the various occupations are presented. The results of models (1)–(6) directly address the six research questions under each occupation. Taking, for example, the results under Agriculture and Forestry, the IGRCs under:

**Table 3.**
Results of multivariate probit estimates (dependent variable is child's occupation)

| | Model 1 Son | Model 2 Daughter | Model 3 Son | Model 4 Daughter | Model 5 Son | Model 6 Daughter | Model 7 Son | Model 8 Daughter |
|---|---|---|---|---|---|---|---|---|
| *1. Agriculture and forestry* | | | | | | | | |
| Father's occupation is agriculture and forestry | 0.624*** (0.048) | 0.561*** (0.048) | | | | | 0.4030*** (0.0535) | 0.2368*** (0.0537) |
| Mother's occupation is agriculture and forestry | | | 0.651*** (0.045) | 0.861*** (0.047) | | | 0.4760*** (0.0511) | 0.7637*** (0.0520) |
| Both father and mother's occupations are agriculture and forestry | | | | | 0.628*** (0.043) | 0.741*** (0.043) | | |
| *2. Services and sales* | | | | | | | | |
| Father's occupation is services and sales | 0.566*** (0.0520) | 0.425*** (0.049) | | | | | 0.4478*** (0.0522) | 0.1918*** (0.0525) |
| Mother's occupation is services and sales | | | 0.432*** (0.043) | 0.675*** (0.043) | | | 0.2897*** (0.0463) | 0.6199*** (0.0452) |
| Both father and mother's occupations are services and sales | | | | | 0.551*** (0.054) | 0.560*** (0.058) | | |
| *3. Manager and administrative* | | | | | | | | |
| Father's occupation is managerial and administrative | 0.641*** (0.162) | 0.514 (0.320) | | | | | 0.5635*** (0.1715) | – |
| Mother's occupation is managerial and administrative | | | 0.994*** (0.281) | – | | | 0.8393*** (0.2854) | – |
| Both father and mother's occupations are managerial and administrative | | | | | 1.315*** (0.421) | | | |
| *4. Professional and technical* | | | | | | | | |
| Father's occupation is professional and technical | 0.529*** (0.067) | 0.289*** (0.085) | | | | | 0.511*** (0.066) | 0.261*** (0.086) |
| Mother's occupation is professional and technical | | | 0.443*** (0.156) | 0.394** (0.159) | | | 0.263* (0.150) | 0.320** (0.152) |

(*continued*)

Table 3.

| | Model 1 Son | Model 2 Daughter | Model 3 Son | Model 4 Daughter | Model 5 Son | Model 6 Daughter | Model 7 Son | Model 8 Daughter |
|---|---|---|---|---|---|---|---|---|
| Both father and mother's occupations are professional and technical | | | | | 0.517** (0.210) | 0.234 (0.231) | | |
| N | 5,111 | 5,262 | 5,111 | 5,262 | | | 5,111 | 5,262 |

**Note(s):** Standard errors in parentheses; *$p < 0.10$, **$p < 0.05$ ***$p < 0.01$; - insufficient observations for daughters in models 4 and 6 under managerial/administrative
**Source(s):** Authors' construction based on GSS (2018)

(1) Model 1 gives the likelihood of a son being in agriculture and forestry when the father is in agriculture and forestry

(2) Model 2 gives the likelihood of a daughter being in agriculture and forestry when the father is in agriculture and forestry

(3) Model 3 gives the likelihood of a son being in agriculture and forestry when the mother is in agriculture and forestry

(4) Model 4 gives the likelihood of a daughter being in agriculture and forestry when the mother is in agriculture and forestry

(5) Model 5 gives the likelihood of a son being in agriculture and forestry when both the father and mother are in agriculture and forestry

(6) Model 6 gives the likelihood of a daughter being in agriculture and forestry when both the father and mother are in agriculture and forestry

Similar interpretations are given to the IGRCs under services and sales, manager and administrative, as well as professional and technical.

Information on the coefficients of all control variables is provided in Tables A1–A4 in Appendix. From the results in these tables, we find that higher levels of educational attainment are positively associated with managerial/administrative and professional/technical occupations but not agriculture and forestry. Given that agriculture in Ghana is still a labour-intensive and low-paying job, it is not surprising that the sector is less attractive to individuals with high levels of education. Other control variables influencing occupational choice were marital status, religion, locality and age. Primarily, married people, Christians and Muslims were less likely to be in Agriculture and Forestry while rural dwellers and older people were more likely to be working in the sector. For the women in our sample, the number of children (a proxy for care duty) has significant positive and negative effects on choosing agriculture and forestry, and services and sales, respectively. We believe this could be due to these occupations' informal and formal nature.

The coefficients of the variables of interest are summarized in Table 3. Here, we compare the paternal effect of each occupation (i.e. father's occupation) on sons and daughters by looking at the coefficients of models 1 and 2 or the maternal effect of each occupation (i.e. mother's occupation) on sons and daughters by looking at the coefficients of models 3 and 4. Consequently, three main observations are noteworthy: (1) Across all the occupational types, the father's effect on sons or daughters' choice of the same occupation is stronger for sons than daughters; (2) In agriculture and forestry, and services and sales, the mother's effect on sons or daughters' choice of the same occupation is stronger for daughters than sons; and (3) In professional and technical, the mother's effect on sons or daughters choice of the same occupation is stronger for sons than daughters. Perhaps, the reason why the mother's effect on sons is stronger in observation (3) could be due to within-family power structures that go with the higher education and salary for working in a professional or technical sector, making it attractive for both sons and daughters. There were no sufficient observations for daughters and mothers in manager and administrative to compare the mother effect on daughters.

In order to compare paternal vs maternal effects on sons' and daughters' occupations, we test whether there are differences in the coefficients of fathers and mothers working in the same occupation. To do this, we run models 7 and 8, and capture the individual contributions of father and mother working in the same occupation to the likelihood of son and daughter working in the same occupation. Afterwards, a chi-square test is conducted to compare coefficients to determine if there are significant differences. The results of the test for significant differences are in Table 4.

| Occupation | Son | Daughter |
|---|---|---|
| *Agriculture and forestry* | | |
| $\chi^2$ | 0.67 | 35.23 |
| *p*-value | 0.4121 | 0.000 |
| *Services and sales* | | |
| $\chi^2$ | 3.79 | 28.92 |
| *p*-value | 0.0516 | 0.0000 |
| *Managerial/administrative* | | |
| $\chi^2$ | 0.60 | |
| *p*-value | 0.4395 | |
| *Professional/technical* | | |
| $\chi^2$ | 2.07 | 0.10 |
| *p*-value | 0.1506 | 0.7526 |

**Source(s):** Authors' construction based on GSS (2018)

**Table 4.** Test for difference in coefficients for fathers and mothers

From the results in Table 4, two main deductions are made. First, there is no difference in the paternal and maternal influences on the occupational choices of sons. Thus, for each occupation, the paternal role model effect is not statistically different from the maternal role model effect. Second, in the case of daughters, mothers in agriculture and forestry, as well as services and sales, have a stronger influence on daughters choosing their occupations than fathers' influence in the same occupations. This finding means that, the maternal role model effects in agriculture and forestry and services and sales are stronger on daughters than the paternal role model effects on daughters.

Evidently, there exist a significant positive relationship between parents' and children's occupations in Ghana. Across all the selected occupations – agriculture and forestry, services and sales, managerial/administrative and professional/technical – we observed significant positive correlations and intergenerational regression coefficients between parents' occupation in a sector and children's occupation in that sector. These results imply that there are intergenerational transmissions of occupations from parents to children, confirming the hypothesis that there are positive parental role model effects on the occupational choices of children.

## Discussion

The literature on intergenerational mobility is replete with studies from the western world, most of which suggest the dominance of the father's effect on sons (Beller and Hout, 2006; Carmichael, 2000). In most African countries including Ghana, the family system and cultural values are very different from the western context (Lambert *et al.*, 2014; Bossuroy and Cogneau, 2013). First, mothers spend more time giving care to their children than fathers. Due to this, mothers tend to choose more flexible occupations. Second, children are socialized to believe that girls imitate or follow their mothers while boys follow their fathers, thereby creating gendered roles in families. Third, parents put value or premium on having their children as heirs to their occupation so parental role modelling is taken more seriously. Lastly, the family system of land ownership and inheritance and the agrarian nature of African economies make it easy for intergenerational mobility towards farm-sector occupations or agriculture. Owing to these reasons, the findings in the western world may not be entirely applicable in the African context, hence, the value of this study is to tell an African story from the Ghanaian perspective.

Not surprisingly, the findings of this study highlight some important gender and sector differences in children's occupational choices that contrast with the western world but can be

explained by the aforementioned family system and cultural values. First, the study revealed that fathers' occupations have a stronger effect on sons' occupations, and mothers' occupations have a stronger effect on daughters' occupations. In Ghana, the socialization process embeds in children the mindset that boys imitate their fathers while girls follow their mothers. Therefore, it is not uncommon to hear expressions like this work is not for boys or girls. This implies that the socialization that is given to the Ghanaian children may be influencing the girls to follow their mother's occupation while the boys follow their father's occupation.

Second, the study findings showed that whereas father and mother occupations in the same sector have equal effect on sons' occupation, the influence of the mother's occupations relative to the father's occupation in the sector is stronger for the daughters in agriculture and forestry, and services and sales. This finding means that although sons and daughters are influenced to go into certain occupations when their fathers and mothers are in the same occupation, the relative effect of the mothers' influence is stronger for daughters. This finding is somewhat contradictory to Di Pietro and Urwin (2003) but can be justified on cultural values or norms and family system of agricultural land ownership. In their study, Di Pietro and Urwin (2003) reported that mothers' occupational status had a much lesser impact on children's occupation in Italy and other similar studies in developed countries, including the study in Britain by Carmichael (2000). The rationalization for the stronger maternal effect in Ghana could be related to the traditional gendered roles of parents enshrined in certain cultures, where mothers spend more time with their children than fathers. Hence, children are more likely to develop a closer bond with their mothers, leading to their higher influential roles as models imitated by their children. Considering that 55% of our sample comes from rural areas, where agriculture is dominant, and the majority are women, the family system of agricultural land ownership and inheritance in Ghana may be facilitating the easy movement of women and their daughters toward farm-sector occupations or agriculture.

## Conclusion and policy implications

This study aimed to contribute empirical evidence on the transmission of occupations from parents to children (i.e. parental role modelling) and how the parental influence differs according to gender and sector of employment. Using intergenerational coefficients, the evidence obtained indicates that there are significant positive influences of parental occupation on children's occupations in the Ghanaian labour market. In particular, mothers' occupational choices have a more substantial effect on the occupational choices of the children, especially in the agriculture and forestry, and services and sales sectors. The value of these findings is that they underscore the influential role of mothers in the Ghanaian family system and cultural values attached to parents having their offspring walk in their footsteps.

From these findings, we conclude that parental role models, both paternal and maternal, with evidence of same-sex and cross-sex effects, are present in the Ghanaian labour market. Thus, the same-sex, cross-sex and same-sector hypotheses are confirmed for the Ghanaian labour market. These findings have implications for intergenerational (im)mobility of occupations. In this regard, social policy should promote parental role modelling in critical sectors in the economy while designing efficient policies to prevent the intergenerational transmission of disadvantages. More importantly, it is crucial to provide support and opportunities through education as a means to social advancement to children from deprived backgrounds.

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**Table A1.** Agriculture and forestry

| Variable | Model 1 Son | Model 2 daughter | Model 3 son | Model 4 daughter | Model 5 son | Model 6 daughter | Model 7 son | Model 8 daughter |
|---|---|---|---|---|---|---|---|---|
| Father's occupation is agriculture and forestry | 0.624*** (0.048) | 0.562*** (0.048) | | | | | 0.4030*** (0.0535) | 0.238*** (0.054) |
| Mother's occupation is agriculture and forestry | | | 0.651*** (0.045) | 0.861*** (0.047) | | | 0.4760*** (0.0511) | 0.763*** (0.052) |
| Both father and mother's Occupations are agriculture and forestry | | | | | 0.628** (0.043) | 0.741*** (0.043) | | |
| *Education (base = no education and primary)* | | | | | | | | |
| Secondary | −0.486*** (0.056) | −0.278*** (0.043) | −0.511*** (0.057) | −0.280*** (0.044) | −0.498*** (0.057) | −0.262*** (0.044) | −0.4871*** (0.0562) | −0.265*** (0.044) |
| Tertiary | −1.494*** (0.084) | −1.323*** (0.135) | −1.512*** (0.085) | −1.263*** (0.137) | −1.503*** (0.085) | −1.279*** (0.135) | −1.4674*** (0.0809) | −1.222*** (0.122) |
| *Marital status (base = single)* | | | | | | | | |
| Married | −0.129** (0.059) | 0.020 (0.061) | −0.143** (0.059) | −0.022 (0.063) | −0.134** (0.060) | −0.009 (0.062) | −0.1437** (0.0582) | −0.030 (0.064) |
| Divorced | −0.098 (0.145) | −0.013 (0.107) | −0.177 (0.146) | −0.066 (0.109) | −0.138 (0.144) | −0.039 (0.108) | −0.1344 (0.1426) | −0.068 (0.107) |
| Widowed | 0.064 (0.187) | −0.087 (0.101) | 0.047 (0.182) | −0.156 (0.104) | 0.066 (0.185) | −0.155 (0.103) | 0.0475 (0.1791) | −0.167 (0.101) |
| *Religion (base = other religion)* | | | | | | | | |
| Christian | −0.228*** (0.071) | −0.283*** (0.095) | −0.202*** (0.072) | −0.299*** (0.097) | −0.211*** (0.072) | −0.381*** (0.097) | −0.1985*** (0.0700) | −0.285*** (0.096) |
| Muslim | −0.261*** (0.088) | −0.131 (0.109) | −0.195** (0.088) | −0.132 (0.112) | −0.230*** (0.088) | −0.149 (0.112) | −0.2146** (0.0849) | −0.128 (0.112) |
| Locality (base = urban) | 1.300*** (0.044) | 1.404*** (0.046) | 1.230*** (0.045) | 1.303*** (0.047) | 1.247*** (0.045) | 1.331*** (0.046) | 1.2103*** (0.0452) | 1.288*** (0.047) |
| Age | 0.016*** (0.002) | 0.011*** (0.002) | 0.016*** (0.002) | 0.010*** (0.002) | 0.015*** (0.002) | 0.011*** (0.002) | 0.0151*** (0.0018) | 0.010*** (0.002) |
| Number of children under five | | 0.062** (0.032) | | 0.058* (0.033) | | 0.060* (0.032) | | 0.060* (0.032) |
| N | 5,111 | 5,262 | 5,111 | 5,262 | 5,111 | 5,262 | 5,111 | 5,262 |

**Note(s):** Standard errors in parentheses; * significant at the 10% level, ** significant at 5%, *** significant at 1%; Model 1 = father-son; Model 2 = father-daughter; Model 3 = mother-son; Model 4 = mother-daughter; Model 5 = father-mother-son; Model 6 = father-mother-daughter

**Source(s):** Authors' construction based on GSS (2018)

**Table A2.**
Services and sales

| Variable | Model 1 son | Model 2 daughter | Model 3 son | Model 4 daughter | Model 5 son | Model 6 daughter | Model 7 son | Model 8 daughter |
|---|---|---|---|---|---|---|---|---|
| Father's occupation is services and sales | 0.566*** | 0.425*** | | | | | 0.4478*** | 0.192*** |
| | (0.050) | (0.049) | | | | | (0.0522) | (0.052) |
| Mother's occupation is services and sales | | | 0.432*** | 0.676*** | | | 0.2897*** | 0.620*** |
| | | | (0.043) | (0.043) | | | (0.0463) | (0.045) |
| Both father & Mother's Occupations are services and sales | | | | | 0.551*** | 0.560*** | | |
| | | | | | (0.054) | (0.058) | | |
| *Education (base = no education and primary)* | | | | | | | | |
| Secondary | 0.304*** | 0.207*** | 0.299*** | 0.182*** | 0.305*** | 0.209*** | 0.2919*** | 0.178*** |
| | (0.055) | (0.041) | (0.056) | (0.041) | (0.055) | (0.041) | (0.0567) | (0.043) |
| Tertiary | −0.231*** | −0.821*** | −0.251*** | −0.924*** | −0.224*** | −0.0842*** | −0.2712*** | −0.946*** |
| | (0.075) | (0.078) | (0.075) | (0.080) | (0.075) | (0.079) | (0.0724) | (0.073) |
| *Marital status (base = single)* | | | | | | | | |
| Married | 0.056 | −0.073 | 0.057 | −0.036 | 0.061 | −0.067 | 0.0636 | −0.034 |
| | (0.055) | (0.056) | (0.055) | (0.057) | (0.055) | (0.056) | (0.0537) | (0.056) |
| Divorced | 0.205 | 0.036 | 0.238* | 0.069 | 0.223* | 0.037 | 0.2243 | 0.073 |
| | (0.134) | (0.097) | (0.134) | (0.098) | (0.134) | (0.098) | (0.1366) | (0.098) |
| Widowed | 0.009 | 0.061 | 0.016 | 0.126 | 0.008 | 0.057 | 0.0208 | 0.128 |
| | (0.176) | (0.093) | (0.177) | (0.095) | (0.175) | (0.094) | (0.1764) | (0.092) |
| *Religion (base = other religion)* | | | | | | | | |
| Christian | 0.118* | 0.275*** | 0.087 | 0.273*** | 0.115* | 0.279*** | 0.0947 | 0.267*** |
| | (0.070) | (0.093) | (0.071) | (0.093) | (0.070) | (0.092) | (0.0706) | (0.094) |
| Muslim | 0.093 | 0.147 | 0.055 | 0.150 | 0.075 | 0.138 | 0.0615 | 0.142 |
| | (0.084) | (0.106) | (0.084) | (0.106) | (0.084) | (0.105) | (0.0837) | (0.108) |
| Locality (base = urban) | −0.999*** | −1.191*** | −0.962*** | −1.084*** | −0.996*** | −1.173*** | −0.9322*** | −1.071*** |
| | (0.043) | (0.041) | (0.044) | (0.043) | (0.043) | (0.042) | (0.0438) | (0.042) |
| Age | −0.011*** | −0.006*** | −0.011*** | −0.006*** | −0.011*** | −0.006*** | −0.0106*** | −0.006*** |
| | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.0017) | (0.002) |
| Number of children under five | | −0.059** | | −0.061** | | −0.062** | | −0.061** |
| | | (0.030) | | (0.030) | | (0.030) | | (0.030) |
| *N* | 5,111 | 5,262 | 5,111 | 5,262 | 5,111 | 5,262 | 5,111 | 5,262 |

**Note(s):** Standard errors in parentheses; * significant at the 10% level, ** significant at 5%, *** significant at 1%; Model 1 = father-son; Model 2 = father-daughter; Model 3 = mother-son; Model 4 = mother-daughter; Model 5 = father-mother-son; Model 6 = father-mother-daughter
**Source(s):** Authors' construction based on GSS (2018)

**Table A3.** Managerial and administrative

| Variable | Model 1 son | Model 2 daughter | Model 3 son | Model 4 son | Model 5 son | Model 6 daughter |
|---|---|---|---|---|---|---|
| Father's occupation is managerial and administrative | 0.641*** | 0.515 | | 0.5635*** | | |
| | (0.162) | (0.320) | | (0.1715) | | |
| Mother's occupation is managerial and administrative | | | 0.994*** | 0.8393*** | | |
| | | | (0.281) | (0.2854) | | |
| Both father and mother's occupations are managerial and administrative | | | | | 1.315*** | |
| | | | | | (0.421) | |
| *Education (base = no education and primary)* | | | | | | |
| Secondary | 0.464* | 0.111 | 0.476* | 0.4616* | 0.480*** | 0.154 |
| | (0.244) | (0.326) | (0.244) | (0.2469) | (0.244) | (0.330) |
| Tertiary | 1.108*** | 1.707*** | 1.134*** | 1.0921*** | 1.146*** | 1.724*** |
| | (0.244) | (0.310) | (0.245) | (0.2501) | (0.244) | (0.307) |
| *Marital status (base = single)* | | | | | | |
| Married | 0.190 | 0.008 | 0.178 | 0.1887 | 0.178 | 0.011 |
| | (0.132) | (0.255) | (0.132) | (0.1350) | (0.132) | (0.251) |
| Divorced | 0.345 | 0.175 | 0.208 | 0.1851 | | 0.251 |
| | (0.375) | (0.391) | (0.156) | 0.612 | | (0.145 |
| Widowed | 0.373 | −0.024 | 0.391 | 0.3802 | 0.388 | −0.045 |
| | (0.294) | (0.342) | (0.298) | (0.3344) | (0.298) | (0.335) |
| *Religion (base = other religion)* | | | | | | |
| Christian | 0.138 | −0.358 | 0.148 | 0.1269 | 0.154 | −0.355 |
| | (0.202) | (0.410) | (0.201) | (0.2216) | (0.200) | (0.403) |
| Muslim | 0.174 | 0.184 | 0.178 | 0.1811 | 0.172 | |
| | (0.231) | (0.321) | (0.230) | (0.2458) | (0.229) | |
| Locality (base = urban) | −0.581*** | −0.197 | −0.590*** | −0.5848*** | −0.590*** | −0.230 |
| | (0.110) | (0.208) | (0.110) | (0.1110) | (0.110) | (0.206) |
| Age | 0.006 | 0.024*** | 0.006 | 0.0062 | 0.006 | 0.024*** |
| | (0.004) | (0.007) | (0.004) | (0.0041) | (0.004) | (0.007) |
| Number of children under five | | 0.030 | | | | 0.024 |
| | | (0.143) | | | | (0.141) |
| *N* | 5,111 | 5,262 | 5,111 | 5,111 | 5,111 | 5,262 |

**Note(s):** Standard errors in parentheses; * significant at the 10% level, ** significant at 5%, *** significant at 1%; Model 1 = father-son; Model 2 = father-daughter; Model 3 = mother-son; Model 4 = mother-daughter

**Source(s):** Authors' construction based on GSS (2018)

**Table A4.** Professional and technical

| Variable | Model 1 son | Model 2 daughter | Model 3 son | Model 4 daughter | Model 5 son | Model 6 daughter | Model 7 son | Model 8 daughter |
|---|---|---|---|---|---|---|---|---|
| Father's occupation is professional and technical | 0.529*** (0.067) | 0.290*** (0.085) | | | | | 0.511*** (0.066) | 0.262*** (0.086) |
| Mother's occupation is professional and technical | | | 0.443*** (0.156) | 0.397** (0.159) | | | 0.263* (0.150) | 0.322** (0.152) |
| Both father and mother's occupations are professional and technical | | | | | 0.510*** (0.210) | 0.234 (0.231) | | |
| *Education (base = no education and primary)* | | | | | | | | |
| Secondary | 0.497*** (0.081) | 0.622*** (0.102) | 0.509*** (0.080) | 0.624*** (0.101) | 0.5510** (0.080) | 0.630*** (0.101) | 0.497*** (0.082) | 0.616*** (0.102) |
| Tertiary | 1.637*** (0.089) | 2.292*** (0.113) | 1.660*** (0.089) | 2.296*** (0.113) | 1.669*** (0.088) | 2.319*** (0.113) | 1.627*** (0.089) | 2.267*** (0.113) |
| *Marital status (base = single)* | | | | | | | | |
| Married | 0.089 (0.063) | 0.117 (0.087) | 0.085 (0.063) | 0.120 (0.087) | 0.084 (0.063) | 0.116 (0.087) | 0.087 (0.062) | 0.122 (0.086) |
| Divorced | −0.036 (0.176) | −0.116 (0.181) | −0.030 (0.173) | −0.113 (0.180) | −0.029 (0.172) | −0.109 (0.181) | −0.041 (0.172) | −0.119 (0.180) |
| Widowed | −0.279 (0.255) | −0.151 (0.185) | −0.275 (0.247) | −0.154 (0.184) | −0.278 (0.248) | −0.159 (0.184) | −0.275 (0.227) | −0.145 (0.176) |
| *Religion (base = other religion)* | | | | | | | | |
| Christian | 0.246*** (0.094) | 0.450 (0.301) | 0.285*** (0.094) | 0.481 (0.305) | 0.285*** (0.094) | 0.473 (0.301) | 0.246** (0.095) | 0.467 (0.294) |
| Muslim | 0.323*** (0.108) | 0.404 (0.313) | 0.334*** (0.109) | 0.419 (0.318) | 0.329*** (0.109) | 0.409 (0.314) | 0.326*** (0.109) | 0.422 (0.307) |
| Locality (base = urban) | −0.340*** (0.048) | −0.254*** (0.064) | −0.352*** (0.048) | −0.258*** (0.064) | −0.354*** (0.048) | −0.260*** (0.064) | −0.336*** (0.048) | −0.252*** (0.066) |
| Age | −0.008*** (0.002) | −0.013*** (0.003) | −0.008*** (0.002) | −0.012*** (0.003) | −0.008*** (0.002) | −0.012*** (0.003) | −0.008*** (0.002) | −0.013*** (0.003) |
| Number of children under five | | 0.031 (0.047) | | 0.032 (0.047) | | 0.029 (0.047) | | 0.033 (0.047) |
| *N* | 5,111 | 5,262 | 5,111 | 5,262 | 5,111 | 5,262 | 5,111 | 5,262 |

**Note(s):** Standard errors in parentheses; * significant at the 10% level, ** significant at 5%, *** significant at 1%; Model 1 = father-son; Model 2 = father-daughter; Model 3 = mother-son; Model 4 = mother-daughter; Model 5 = father-mother-son; Model 6 = father-mother-daughter

**Source(s):** Authors' construction based on GSS (2018)