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Working Paper

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WIDER Working Paper, No. 2021/66

Provided in Cooperation with:
United Nations University (UNU), World Institute for Development Economics Research (WIDER)

Suggested Citation: Twumasi Baffour, Priscilla; Turkson, Festus Ebo; Mohammed, Ibrahim; Rahaman, Wassiuw Abdul (2021) : Intergenerational mobility in occupational choices: Are there gender differences in Ghana?, WIDER Working Paper, No. 2021/66, ISBN 978-92-9267-004-7, The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki, https://doi.org/10.35188/UNU-WIDER/2021/004-7

This Version is available at:
https://hdl.handle.net/10419/243392

UNITED NATIONS UNIVERSITY
UNU-WIDER

WIDER Working Paper 2021/66

Intergenerational mobility in occupational choices

Are there gender differences in Ghana?

Priscilla Twumasi Baffour,[1] Festus Ebo Turkson,[2] Ibrahim Mohammed,[3] and Wassiuw Abdul Rahaman[4]

April 2021

United Nations University World Institute for Development Economics Research
wider.unu.edu

Abstract: Historically, the issue of intergenerational evolution of income, wealth, and socioeconomic status has been the subject of considerable research in the analysis of inequality. Such intergenerational linkages are anticipated to come from two sources: first, the inheritance of innate abilities and social network of family from parents by children; and second, capital market imperfections which present barriers to human capital investment. Consequently, using the correlation matrix and multivariate probit model, this study investigates the extent to which the occupational choices of mothers and fathers are intergenerationally transmitted to their offspring using the latest round of the Ghana Living Standards Survey. Findings indicate that intergenerational linkages are important in Ghana; specifically, the results show a positive significant influence of parents' occupation on children's occupation. Mother's occupation is found to have a much greater impact on offspring's occupation than that of fathers. In terms of gender differences, there is the evidence of a dependency burden in the occupational choice of daughters, as having children under five is found to be negatively associated with the participation of women in formal occupations such as services and sales. The findings highlight the fact that children of parents employed in high-paying and prestigious occupations in Ghana are more likely to be employed in similar occupations themselves. In order to bridge the gap in social mobility, policy-makers need to channel attention towards the elimination of capital market imperfections to encourage investment in human capital among the poor in society and to facilitate social mobility through the provision of economic opportunities.

Key words: intergenerational transmission, socioeconomic status, multivariate probit, occupation, human capital, gender

JEL classification: C35, J16, J24, J62

[1] Department of Economics, University of Ghana, Accra, Ghana; corresponding author: pristwumasi@yahoo.com; [2] Department of Economics, University of Ghana; [3] University of Professional Studies, Accra, Ghana; [4] Department of Economics, University of Ghana.

This study has been prepared within the UNU-WIDER project Social mobility in the Global South—concepts, measures, and determinants.

Information and requests: publications@wider.unu.edu

ISSN 1798-7237 ISBN 978-92-9267-004-7

https://doi.org/10.35188/UNU-WIDER/2021/004-7

Typescript prepared by Luke Finley.

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The Institute is funded through income from an endowment fund with additional contributions to its work programme from Finland, Sweden, and the United Kingdom as well as earmarked contributions for specific projects from a variety of donors.

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1 Introduction

Occupational choice has important implications for economic outcomes generally, and in particular for inequality of individuals' incomes. As a result, discussions on income inequality at the policy level have focused on examining not only the extent to which incomes are unequal but also the extent to which family background contributes to unequal outcomes. These discussions in turn have generated a great deal of interest in the determinants of occupational choices and, for that matter, the extent of family effect on occupational choices. Historically, the subject of occupational reproduction in families (or more broadly, intergenerational transmission of occupations) has its roots in sociology. However, Bingley and Cappellari (2017) trace the theoretical background of studies on family effects in economics to the contributions of Becker and Tomes (1979). In their model, Becker and Tomes (1979) argue that parents care about the lifetime earnings of their children and therefore behave rationally by maximizing utility subject to choosing between their own consumption and investment in the earning capacity of their children.

Other studies (e.g. Banerjee and Newman 1993; Becker and Tomes 1986; Lam and Schoeni 1993) have identified two main channels by which children's occupation or economic outcomes may be associated with those of their parents. First, they argue that there exists a likelihood that children will inherit the innate ability (Becker and Tomes 1986), a network of family contacts (Lam and Schoeni 1993), and the productive endowments of their parents or family background, which can lead to offspring surpassing their parents. Second, it is argued that intergenerational linkages between children and their parents may persist based on the assumption of capital market imperfections which present a significant barrier to human capital investment (Becker and Tomes 1986; Banerjee and Newman 1993). Thus, the income and wealth position of parents may have a direct impact on their children's educational attainment and subsequent occupational choice. This second channel, according to Becker and Tomes (1986), is the main source of transmission of inequality because market imperfections mean that the poor are unable to invest in human capital, making long-run income equalization difficult and consequently causing the intergenerational transmission of poverty.

In this paper, we attempt to contribute to the literature on intergenerational transmission of occupation by examining the extent to which the occupational choices of mothers and fathers are intergenerationally transmitted to their daughters and sons. To address this objective, we focus on Ghana, where due to the power distance culture and the absence of formal career guidance institutions, children normally look to their parents and other elderly extended family members as role models or for career guidance. Importantly, the focus on Ghana adds empirical evidence from the perspective of a developing country to the narrative of intergenerational transmission of occupation, which so far has concentrated on advanced countries, where adequate data exist to allow the examination of whether selection of occupation is intergenerationally transmitted.

Our effort in this regard makes three important contributions to the existing literature. First, our study examined, for the first time, the effect of mother's-fathers' occupations on daughters'-sons' occupations using four of the International Labour Organization's International Standard Classification of Occupations categories (ISCO, namely agriculture and forestry; services and sales; managerial/administrative; and professional/technical) to determine in which occupations the associations are weaker and in which they are stronger. This approach, unlike past studies that have considered occupations as ordinal classifications, is more informative in bringing out the nuances in occupational choices. Second, our study also uniquely examined the joint effect on children's occupational choice of having both parents in the same occupation. Third, our study demonstrates the effect of a dependency burden on the occupational choice of women. The key

findings are that mother's occupation has a much greater impact on offspring's occupation than father's occupation does, in all the occupational types with the exception of services and sales. Also, there is evidence of a dependency burden in the occupational choice of daughters, as having children under five is found to be negatively associated with the participation of women in formal occupations such as services and sales. These findings, we believe, can be explained by the traditional gendered roles of Ghanaian parents, where typically mothers spend more time with their children than fathers and may therefore play a more influential role in their occupational choices.

The rest of the paper is organized as follows. Section 2 presents a review of literature; this is followed by Section 3 on the methodology and data. Section 4 discusses our empirical findings, while the conclusions and policy recommendations emanating from the study are presented in Section 5.

2 Literature review

For several decades now, inequality has been a major concern to policy-makers and social scientists. Some of the extant literature recognizes that analysis of inequality must be conducted in a dynamic framework to understand the degree to which status is passed along generations (Banerjee and Newman 1993; Checchi 1997; Galor and Zeira 1993; Olivetti and Paserman 2015). Thus, theories of persistent inequality have linked the phenomenon to intergenerational mobility, concluding that a low degree of intergenerational mobility can undermine the notion of equality of opportunity, which may lead to persistent inequality (Olivetti and Paserman 2015). In the social sciences, intergenerational mobility has been operationalized as the extent and pattern of associations between parents' and adult children's socioeconomic standing (mostly captured by social class, occupational status, individual earnings, and family income), where higher association means less mobility (Torche 2015). In term of practical analysis, status mobility has been operationalized as absolute status mobility or relative status mobility, where the latter is measured by a regression model in which child's status is regressed on parental status to measure status persistence, and the former is measured by the change in average status over time (Torche 2015).

In a review of theories of persistent inequality and intergenerational mobility, Piketty (2000) classifies the studies into five areas: persistent inequality and the family transmission of wealth; persistent inequality and the family transmission of ability; persistent inequality and the imperfect capital market; persistent inequality and local segregation; and persistent inequality and self-fulfilling beliefs. These classifications, in a sense, suggest the mechanisms through which persistent inequality and intergenerational mobility are related.

Focusing on intergenerational mobility, Di Pietro and Urwin (2003) have pointed out that there appear to be two possible channels by which achievement and socioeconomic status are transmitted from parents to children. First, it is argued that children are naturally more likely to inherit the innate qualities and abilities of their parents (Becker and Tomes 1986) and to utilize the network of their family's contacts or social capital (Lam and Schoeni 1993) and other 'endowments' of their family. These opportunities predispose children to walk in the shoes of their parents. Second, there is an argument that due to imperfections in capital markets, which serve as a significant barrier to investment in human capital (Banerjee and Newman 1993), children's educational attainment is directly impacted by their parents' income and wealth.

Empirical studies on intergenerational mobility have a relatively longer history in sociology than in economics. Generally, the studies in sociology have measured mobility in terms of occupation

while studies in economics have looked at mobility in terms of income (Beller and Hout 2006). The emerging consensus among the occupational mobility studies, especially in the US, is that the average correlation between fathers' and sons' occupations ranges from 0.3 to 0.4, signifying that most of the variation in the ranking of occupations is independent of social origin, while the income mobility studies indicate that the elasticity between fathers' and sons' earnings is about 0.4 (Beller and Hout 2006). Across time, the mobility studies in the US have indicated that compared with the 1940s–1960s, occupational mobility during the 1970s increased but in the 1980s and 1990s it declined, while income mobility showed no clear trends until the 1990s, when it increased (Beller and Hout 2006).

Besides the comparative studies, there are also studies that have examined the covariates of intergenerational mobility and the mediating factors in the mobility process. These variables have included parents' status and education, adult children's education, cognitive ability, the influence of significant other, status in first and current job, and parents' or children's membership of voluntary associations (Chase 1975; Checchi 1997; Torche 2015; Van Houten et al. 2013), with notable differences across gender (Chase 1975), race (Mazumder 2014), or social class (Majumder 2010). With reference to education, Torche (2015) notes that one important finding is that education is *both* the main vehicle for intergenerational reproduction and the main avenue for mobility. Education is the main vehicle for reproduction because most of the intergenerational association is mediated by children's educational attainment (Hout and DiPrete 2006). In a comparative study of Germany, Italy, and the US, Checchi (1997) estimated that educational attainment is responsible for almost 50 per cent of observed mobility.

Another important finding relating to parental influence on intergenerational mobility is that an individual's economic or social success is shaped by their parents' economic or social position. In a comparative study by Checchi (1997), sons' occupation was found to be highly dependent on their fathers' achievement. Analysing the relationship between the occupational status of parents and their children in Italy, Di Pietro and Urwin (2003) found results consistent with Checchi (1997), suggesting that there is a significant link between parental occupation and children's achievement.

Furthermore, the study by Di Pietro and Urwin (2003) revealed that although the social status of both male and female children depends more on father's occupational status than mother's, the father-to-son effect is much stronger than father-to-daughter linkage. In the UK, similar results have been found by Carmichael (2000). Results suggest that individual attainment is strongly influenced by parental status. In particular, the occupational attainment of sons is found to depend significantly on the socioeconomic status of their fathers.

In Africa, research evidence on intergenerational mobility in occupation is scant. However, the small but growing literature has underscored the role of parental influence on intergenerational mobility. In Senegal, Lambert et al. (2014) found that inheritance of non-land assets and the education and occupation of parents (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 study results 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.

In Ghana, there has been a lacuna in research on the extent to which intergenerational mobility in occupational choice is influenced by parents. Meanwhile, considering the power distance culture in Ghana, where children normally look up to their parents as role models, it can be expected that parents' socioeconomic outcomes or occupational choice may greatly influence their children's socioeconomic status and occupational status. Thus, this study attempts to fill this gap in the literature by contributing empirical evidence on intergenerational mobility in occupational choice in Ghana, between mothers and daughters, mothers and sons, father and daughters, and fathers and sons, taking into account individual and household characteristics that are important in the African context.

3 Methodology

In intergenerational economic mobility studies, there are two methodologies, with a couple of variants that are widely used to estimate the degree of intergenerational association between parental economic outcomes and children's economic outcomes. The first methodology relates children's (usually sons') economic outcomes (absolute or relative) to those of their parents (absolute or relative) through regression-based techniques to obtain the intergenerational regression coefficient (IGRC), while the second uses correlational analysis (Pearson or Spearman rank) to obtain the intergenerational correlation (IGC) (Chetty et al. 2014). Of the two, the most widely used methodology in development literature is the IGRC. In both methodological approaches, significant positive associations between parents' occupation and children's occupation are interpreted to imply intergenerational transmission of occupation, or intergenerational immobility of occupation (or persistence). We use both methodologies in this study.

3.1 Empirical specification

In this study, occupation is classified into four categories: agriculture and forestry; services and sales; managerial/administrative; and professional/technical. For each of these occupations, the study sought to address the following 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 both their fathers and mothers? (6) Do daughters tend to be in the same occupation as both their fathers and mothers? To address these questions, we construct six primary samples of father-son, father-daughter, mother-son, mother-daughter, father-mother-son, and father-mother-daughter and use these for the analysis.

Given the categorical nature of the outcome variables (i.e. son or daughter is found in a particular occupation or not), we use binary multivariate probit regressions to obtain six regressions for each of the occupations in line with the research questions. In a linearized form, the transformed probit models are specified as:

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

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

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

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

$$SO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 FO_i^k + \beta_2 MO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (5)$$

$$DO_i^k = ln\left(\frac{e^{x'\beta}}{1-e^{x'\beta}}\right) = \beta_0 + \beta_1 FO_i^k + \beta_2 MO_i^k + \sum \beta_j X_{ji} + \varepsilon_i \quad (6)$$

Where SO_i^k, DO_i^k, FO_i^k, and MO_i^k indicate that son, daughter, father, and mother are in occupation k (and k = agriculture and forestry, services and sales, managerial/administrative, or professional/technical). 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).

3.2 Data

The data for this paper are sourced from the Ghana Living Standard Survey Round 7 (GLSS 7; see GSS 2018). This survey was conducted in 2016/17 with a random sample of 59,864 individuals, of whom 28,976 were male and 30,888 were female, interviewed in clusters of 1,000 spread across the ten regions of the country. This is a multidimensional household survey that contains information on age, ISCO occupation classification (for both parent and child), education, and employment status of the individual. Specifically, in this study, four ISCO occupation types are considered: agriculture and forestry; services and sales; managerial/administrative; and professional/technical. Consequently, our sample consists of 10,373 individuals, of whom 5,111 are male and 5,262 are female. Table 1 provides information on the descriptive statistics of the sample.

As shown in the Table 1, agriculture and forestry is the dominant parental occupation in both the son and the daughter samples; it accounts for 68 per cent and 60 per cent of father's and mother's occupation respectively for the son sample and 65 per cent and 59 per cent of father's and mother's occupation respectively for the daughter sample. Managerial/administrative has the smallest share of parental occupation, accounting for less than 4 per cent for both the son and daughter samples. The majority of sons were in agriculture and forestry while most daughters were found in services and sales. This is not surprising given that services and sales are female-dominated occupation in Ghana. In addition, the majority of sons and daughter had secondary education (63 per cent for sons and 57 per cent for daughters), are married (72 per cent for sons and 68 per cent for daughters), are located in rural areas (57 per cent for sons and 55 per cent for daughters), and are Christian (74 per cent for sons and 84 per cent for daughters). The average age of sons and daughters is 41 and 38 years respectively.

Table 1: Descriptive statistics

Variable	Son	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

Source: authors' construction based on GSS (2018).

4 Empirical results

Our empirical analysis begins with an investigation into the correlation that exists between sons' and daughters' occupation and those of their parents using the Kendall tau-b correlation matrix. Results for sons and daughters are presented in Tables 2 and 3, respectively. The focus here is on the principal diagonal for both tables, where we trace a link between the same occupation of father and son and mother and son (Table 2), and father and daughter and mother and daughter (Table 3). Indeed, as noted by Chetty et al. (2014), an intergenerational correlation exists between fathers and sons and fathers and daughters and between mothers and sons and mothers and daughters in the Ghanaian economy. Specifically, we find that in all instances, there exists a strong positive correlation between the occupation of the parent and the occupation of their children (along the principal diagonal) regardless of the gender of the child, at the 5 per cent level of

significance (in Tables 2 and 3). In particular, we find that the correlation between occupations for mothers and daughters is higher (corelation coefficient) than that for fathers and daughters.

Table 2: Kendall tau-b correlation for sons (N = 5,111)

				Son's occupation
Father's occupation	Agriculture and forestry	Services and sales	Managerial/ administrative	Professional/ technical
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*

Note: * significant at 5%.

Source: authors' construction based on GSS (2018).

Table 3: Kendall tau-b correlation for daughters (N = 5,262)

				Daughter's occupation
Father's occupation	Agriculture and forestry	Services and sales	Managerial/ administrative	Professional/ technical
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: * significant at 5%.

Source: authors' construction based on GSS (2018).

A further interrogation of the data is conducted using the IGRC methodology to obtain the exact predictive power of parents' occupation on the occupations of children in the Ghanaian economy. Detailed results of these analyses based on the empirical specification in Section 3.1 for the specific occupations are presented in Appendix Tables A1 to A4.

We present six models using the occupations of fathers and mothers in addition to individual and demographic characteristics to explain the occupations of individuals in the four ISCO categories. A summary of the results based on the occupations of offspring and their parents across the four classifications is presented in Table 4. For information on the coefficients of the control variables, please refer to Tables A1 to A4.

Table 4: Results of multivariate probit estimates (dependent variable = offspring's occupation)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
1. Agriculture and forestry	Son	Daughter	Son	Daughter	Son	Daughter
Father's occupation (agriculture and forestry)	0.624***	0.561***			0.4030***	0.2368***
	(0.048)	(0.048)			(0.0535)	(0.0537)
Mother's occupation (agriculture and forestry)			0.651***	0.861***	0.4760***	0.7637***
			(0.045)	(0.047)	(0.0511)	(0.0520)
2. Services and sales						
Father's occupation (services and sales)	0.566***	0.425***			0.4478***	0.1918***
	(0.050)	(0.049)			(0.0522)	(0.0525)
Mother's occupation (services and sales)			0.432***	0.675***	0.2897***	0.6199***
			(0.043)	(0.043)	(0.0463)	(0.0452)
3. Manager and administrative						
Father's occupation (Managerial/administrative)	0.641***	0.514			0.5635***	–
	(0.162)	(0.320)			(0.1715)	
Mother's occupation (Managerial/administrative)			0.994***	–	0.8393***	–
			(0.281)		(0.2854)	
4. Professional and technical						
Father's occupation (professional/technical)	0.529***	0.289***			0.511***	0.261***
	(0.067)	(0.085)			(0.066)	(0.086)
Mother's occupation (professional/technical)			0.443***	0.394**	0.263*	0.320**
			(0.156)	(0.159)	(0.150)	(0.152)
N	5,111	5,262	5,111	5,262	5,111	5,262

Note: 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: authors' construction based on GSS (2018).

Overall, we find a positive significant effect of parents' occupations on children's occupations in Ghana for both sons and daughters, particularly for the specified occupations. This is evidence of the existence of intergenerational transmission of occupations in Ghana. Across all occupations—agriculture and forestry, services and sales, managerial/administrative, and professional/technical—there exists a significant positive influence of parents' presence in a given occupation on the likelihood of children being in the same occupation. It is observed that mother's occupation has a much greater impact on the likelihood of the offspring's occupation being in the same occupational classification than father's occupation does, except in services and sales). This is contrary to the findings of Di Pietro and Urwin (2003), who found that mother's occupational status had a much lesser impact on children's occupation in Italy, and of similar other studies on developed countries including the study on Britain by Carmichael (2000). Our speculation is that the traditional gendered roles of Ghanaian parents, where typically mothers spend more time with

their children than fathers, may account for this sharp contrast, since mothers are likely to play influential roles or serve as role models for their children and hence for their occupational choices.

In particular, we find that the effect of mother's occupation is strongest in relation to daughter's occupation, particularly in Models 5 and 6 where we control for the occupations of both mother and father. Also, except in professional/technical occupations, the mother-to-daughter transmission effect is much greater in magnitude than the mother-to-son effect. A test of the difference between coefficients, presented in Table 5, indicates that in general, there exists a significant difference between the coefficients.

Table 5: Test for difference in coefficients for fathers and mothers

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: authors' construction based on GSS (2018).

With reference to the full results for the models estimated for specified occupations, presented in Tables A1 to A4, we find that in general, higher levels of educational attainment are positively associated with managerial/administrative and professional/technical occupations. Also, while secondary education has a positive association with services and sales relative to lower educational levels, tertiary education is negatively associated with services and sales. Also, we find all levels of education relative to primary and no education to be negatively correlated with agriculture and forestry. Due to the subsistence nature of agriculture in Ghana, which is labour-intensive and requires low skills levels, it is not surprising that the sector is attractive to individuals with low levels of education. Other variables that are identified as influencing the occupations of individuals include marital status, religion, locality, and age. In terms of age, we find that the likelihood of being in agriculture and forestry or in managerial/administrative occupations increases with age, while the likelihood of being in services and sales or in professional/technical occupations decreases.

In order to interrogate how the need to take up additional responsibilities such as family care at the household level influences the choice of occupations of women, the number of children under five was introduced in the models for daughters (who are primarily responsible for caregiving activities at home). Subsequently, we find a positive and negative significant effect for agriculture and forestry and services and sales respectively. Agriculture and forestry occupations are less formal and more flexible; hence, it is not surprising that women with additional responsibilities are more likely to be in such occupations. Services and sales occupations are more formal and require the individual to work within a stipulated period. It is also not surprising, therefore, that women with additional responsibilities are less likely to be in such occupations.

5 Conclusion and policy recommendations

In general, the concept of intergenerational evolution of income, wealth, and socioeconomic status has been the subject of considerable research in the analysis of inequality. Such intergenerational linkages are anticipated to come from two sources: first, the inheritance of innate abilities and social network of family from parents by children; and second, capital market imperfections which present barriers to human capital investment.

The evidence based on our findings in this paper is that intergenerational linkages are important in Ghana—one generation's occupation (achievement) remains strongly connected to those of the previous generation. That is, in Ghana, there is a positive significant influence of parental occupation on children's occupation. In particular, mother's occupation is found to have a much greater impact on the likelihood of offspring's occupation being in the same occupational classification than father's occupation. In addition, we find evidence of a dependency burden in the occupational choice of daughters, as having children under five negatively influences the participation of women in formal occupations such as services and sales.

The findings of this study highlight the fact that children of parents employed in high-paying and prestigious occupations are more likely to be employed in such occupations themselves. Such individuals are therefore advantaged in ways that children of parents who have not achieved as much in terms of their occupational status are not. Consequently, in order to bridge the gap in social mobility, policy-makers need to channel attention towards the elimination of capital market imperfections to encourage investment in human capital among the poor in society and to facilitate social mobility through the provision of economic opportunities. In this regard, based on our findings of the positive effect of education on the likelihood of being in an occupation with better income prospects in Ghana, the current policy of free education up to the secondary level is a good starting point. However, the availability of affordable funding for tertiary education would go a long way towards improving the odds of reducing intergenerational transmission of economic status mainly through occupation.

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Appendix

Table A1: Agriculture and forestry

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

Note: 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: 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
Father's occupation (services and sales)	0.566***	0.425***			0.4478***	0.192***
	(0.050)	(0.049)			(0.0522)	(0.052)
Mother's occupation (services and sales)			0.432***	0.676***	0.2897***	0.620***
			(0.043)	(0.043)	(0.0463)	(0.045)
Education (base = no education and primary)						
Secondary	0.304***	0.207***	0.299***	0.182***	0.2919***	0.178***
	(0.055)	(0.041)	(0.056)	(0.041)	(0.0567)	(0.043)
Tertiary	−0.231***	−0.821***	−0.251***	−0.924***	−0.2712***	−0.946***
	(0.075)	(0.078)	(0.075)	(0.080)	(0.0724)	(0.073)
Marital status (base = single)						
Married	0.056	−0.073	0.057	−0.036	0.0636	−0.034
	(0.055)	(0.056)	(0.055)	(0.057)	(0.0537)	(0.056)
Divorced	0.205	0.036	0.238*	0.069	0.2243	0.073
	(0.134)	(0.097)	(0.134)	(0.098)	(0.1366)	(0.098)
Widowed	0.009	0.061	0.016	0.126	0.0208	0.128
	(0.176)	(0.093)	(0.177)	(0.095)	(0.1764)	(0.092)
Religion (base = other religion)						
Christian	0.118*	0.275***	0.087	0.273***	0.0947	0.267***
	(0.070)	(0.093)	(0.071)	(0.093)	(0.0706)	(0.094)
Muslim	0.093	0.147	0.055	0.150	0.0615	0.142
	(0.084)	(0.106)	(0.084)	(0.106)	(0.0837)	(0.108)
Locality (base = urban)	−0.999***	−1.191***	−0.962***	−1.084***	−0.9322***	−1.071***
	(0.043)	(0.041)	(0.044)	(0.043)	(0.0438)	(0.042)
Age	−0.011***	−0.006***	−0.011***	−0.006***	−0.0106***	−0.006***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.0017)	(0.002)
Number of children under five		−0.059**		−0.061**		−0.061**
		(0.030)		(0.030)		(0.030)
N	5,111	5,262	5,111	5,262	5,111	5,262

Note: 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: authors' construction based on GSS (2018).

Table A3: Managerial/administrative

Variable	Model 1 Son	Model 2 Daughter	Model 3 Son	Model 4 Son
Father's occupation (managerial/administrative)	0.641***	0.515		0.5635***
	(0.162)	(0.320)		(0.1715)
Mother's occupation (managerial/administrative)			0.994***	0.8393***
			(0.281)	(0.2854)
Education (base = no education and primary)				
Secondary	0.464*	0.111	0.476*	0.4616*
	(0.244)	(0.326)	(0.244)	(0.2469)
Tertiary	1.108***	1.707***	1.134***	1.0921***
	(0.244)	(0.310)	(0.245)	(0.2501)
Marital status (base = single)				
Married	0.190	0.008	0.178	0.1887
	(0.132)	(0.255)	(0.132)	(0.1350)
Divorced	0.345	0.175	0.208	0.1851
	(0.375)	(0.391)	(0.156)	0.612
Widowed	0.373	−0.024	0.391	0.3802
	(0.294)	(0.342)	(0.298)	(0.3344)
Religion (base = other religion)				
Christian	0.138	−0.358	0.148	0.1269
	(0.202)	(0.410)	(0.201)	(0.2216)
Muslim	0.174	0.184	0.178	0.1811
	(0.231)	(0.321)	(0.230)	(0.2458)
Locality (base = urban)	−0.581***	−0.197	−0.590***	−0.5848***
	(0.110)	(0.208)	(0.110)	(0.1110)
Age	0.006	0.024***	0.006	0.0062
	(0.004)	(0.007)	(0.004)	(0.0041)
Number of children under five		0.030		
		(0.143)		
N	5,111	5,262	5,111	5,111

Note: 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: authors' construction based on GSS (2018).

Table A4: Professional/technical

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

Note: 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: authors' construction based on GSS (2018).