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The Effect of Parental Self-Employment on Entry Age

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Abstract. An established result of empirical entrepreneurship literature is that parental self-employment has a positive effect on entrepreneurial entry. Far less is known about the parental effect on the important strategic decision about time of entry. This is surprising since the mechanisms behind the parental entrepreneurship effect are similar to those behind the relationship between market entry and a person's age at entry. We find that parental self-employment is associated with a lower age at entry. We also discuss implications of this pattern for the size of start-up and post-entry development. Our evidence is based on a sample of entrepreneurs from two developing countries namely Ghana and Kenya. Our findings are particularly important for developing countries since mostly weak institutional framework conditions provide only few opportunities for acquiring out-of-family entrepreneurship education and training.

Keywords: parental entrepreneurship; intergenerational effect; age; entry decision; developing countries.

1. Introduction

There is mounting work on the effect of parental self-employment on entrepreneurial intention. The literature identifies several channels through which parents affect their children's likelihood to start an own venture. This is the intergenerational transfer of human and financial capital, entrepreneurial taste and values, and genes.[2] Previous literature advanced our understanding of these channels but we know little about how parental background in self-employment affects age at the time of entry. This lack of understanding is surprising since there is also a huge literature on age and entrepreneurship (e.g., Levesque & Minniti, 2006; Azoulay et al., 2020) and since certain mechanisms behind the parental

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2. For example, Lentz & Laband (1990); Crant (1996); Dunn & Holtz-Eakin (2000); Halaby (2003); Georgellis et al. (2005); Niittykangas & Tervo (2005); Schröder & Schmitt-Rodermund (2006); Aldrich & Kim (2007); Fairlie & Robb (2007); Colombier & Masclet (2008); Nicolaou et al. (2008); Chlosta et al. (2012); Laspita et al. (2012); Thurik (2015); Wyrwich (2015); Parker (2018).

entrepreneurship effect (e.g., improved access to financial capital, exposure to role models) are similar to those behind the relationship between market entry and a person's age at entry. For example, children of entrepreneurs can already observe entrepreneurial role models in their childhood, while the likelihood of exposure to entrepreneurial role models also is a function of age via gaining labour market experience. Apart from this example, capital accumulation helping to set-up a venture takes place over the life cycle while children of entrepreneurial parents may already have improved access to financial capital via the parental success in entrepreneurship.

Our paper adds to the literature by studying the relationship between self-employed parents and age of entry while we also explore potential implications of parental self-employment and entry age on initial business size as well as post-entry business development. We argue that children of business owners start their own ventures at younger ages than founders without entrepreneurial parents. Our line of argumentation relies on the central idea that parental self-employment helps in overcoming age-related obstacles to enter the market. Obstacles to starting an own firm occur for people at the beginning and at the end of their professional career. This translates into an inverted U-shape relationship between age and entrepreneurial entry, which is almost a stylized fact (Uusitalo, 2001; Backman & Karlsson, 2018; Stangler & Spulber, 2013; Levesque & Minniti, 2006). Entrepreneurial propensity first rises with age, and then declines in the later stages of one's career. The increase is driven by entrepreneurial resource accumulation especially in terms of skills and finance. It takes time to accumulate wealth holdings that allow financing a start-up or providing sufficient security to obtain bank loans. Similarly, most people start a firm after obtaining some industry-specific labour market experience, which is also helpful for detecting an entrepreneurial opportunity (for details, see Parker, 2018).[3] Against this background, self-employed parents could offer a "shortcut" because they can transfer entrepreneurship-facilitating resources helping their offspring systematically starting their venture at younger ages as compared to founders without self-employed parents.

The relationship between self-employed parents and the entry age to business of children has not been thoroughly explored. One exception was Lentz and Laband (1990) who observed that the second generation of family businesses achieves greater success than the first generation. It was because the later generation is able to found their businesses at younger age with a higher amount of human capital. Nevertheless, the authors only provide descriptive statistics, and focus on business inheritance.

Our analysis is based on a representative survey of entrepreneurs in Ghana and Kenya. The empirical regularities that we find in our analysis indicate that

3. At later ages, self-employment becomes less attractive because a preference for economic activities that generate income streams immediately prevails due to the limited time horizon until retirement (Levesque & Minniti, 2006).

children of business owners start their ventures at younger ages. Furthermore, we find a positive effect of parental self-employment on initial start-up size until the age of 25 years while the effect is negative for children of entrepreneurs that start at a later age. Moreover, we show that businesses started by children of business owners at a younger age perform weaker in terms of post-entry business development, compared to businesses started by similarly young entrepreneurs without self-employed parents. This relationship holds even when controlling for start-up size. Vice versa, we find that children of entrepreneurs that start at a later age reveal a better growth performance than other start-up entrepreneurs (i.e. without self-employed parents) of the same age.

By focusing on two African countries, we also close a worrisome research gap namely that there is hardly any analysis for the impact of parental entrepreneurship on entry decisions in the developing world.[4] It is important to understand intergenerational transmission of entrepreneurship in the African context as entrepreneurship is an important source for achieving economic development in developing countries, particularly in Africa (Ayyagari et al., 2014; GEM, 2015). Indeed, intergenerational transmission of entrepreneurship is a crucial source of the self-perpetuation of entrepreneurship and the formation of an entrepreneurship culture (Hayton et al., 2002; Slavtchev & Wyrwich, 2023). The development of an entrepreneurship culture, in turn, can be a vital source for economic development (Fritsch & Wyrwich, 2017; Glaeser et al., 2015).

Our research finding on the relationship between parental entrepreneurship and entry age has several implications. Younger entrepreneurs act as role models encouraging peers of the same age to try their hand at entrepreneurship, as a prediction of the extensive literature on entrepreneurial role model effects (Bosma et al., 2012; Sørensen, 2007; Van Auken et al., 2006). Thus, understanding the relationship between parental self-employment and entry age is particularly appealing in African countries where a high share of the population is younger in age (United Nations, 2012; Drummond et al., 2014). Furthermore, there are several more implications beyond the developing country context which we will discuss later on in the paper.

The content structure of the paper is as follows. Section 2 reviews the literature dealing with the parental role model, as well as transmission of entrepreneurial intention, and entrepreneurs' age and business size. Our own hypotheses are subsequently developed. The third Section briefly describes the data and variables in our model, while the fourth Section presents the results. The last section summarizes the findings of the paper and offers some concluding remarks.

4. Previous entrepreneurship studies conducted with primary data in Africa focus, for example, on constraints and challenges in forming and running businesses (Mabe et al., 2013; Bowen et al., 2009; Martey et al., 2013), motivation (Chu et al., 2007) or growth and performance (Setsoafia et al., 2015; Appiah-Fening et al., 2008). Pasquier-Doumer (2013) and Nordman & Pasquier-Doumer (2015); Cala et al. (2017) and Fragoso & Pereira (2022) study determinants of entry decisions.

2. The Intergenerational Effect of Parental Self-Employment

2.1. Parental Entrepreneurship and Resource Access

A significant amount of studies on entrepreneurial role models emphasize the dominant parental role (Mungai & Velamuri, 2011; Chlosta et al., 2012; Schmitt-Rodermund, 2004; Schröder & Schmitt-Rodermund, 2006; Vladasel et al., 2021).[5] Parents can be considered natural "mentors" and impart entrepreneurship skills to their children (Kim et al., 2006), by fulfilling four dominant functions of role models: learning by example, learning by support, increasing entrepreneurial self-efficacy, and instilling inspiration/motivation (Bosma et al., 2012; Hoffmann et al., 2015; Lindquist et al., 2015; Bloemen-Bekx et al., 2019).

The role model effects on entrepreneurial self-efficacy, inspiration and motivation are grounded in social learning theory (e.g., Bandura, 1986). According to this approach, children observe the behavior and actions of their (self-employed) parents. They view them, although not necessarily consciously, as role models. This pattern triggers internalization of norms, behavior and codes of conduct that subsequently affect their own behavior and taste for entrepreneurship. At the same time, parents can influence their children by transmitting their own values (e.g., Halaby, 2003; Aldrich & Kim, 2007; Chlosta et al., 2012; Dohmen et al., 2012).

Apart from instilling the "taste for entrepreneurship", role modeling can be regarded as a nurturing effect, which implies access to resources via social interaction. Wyrwich (2015) summarizes the channels by which parents provide access to tangible and intangible resources. First, parents can (1) transfer financial resources, which relax liquidity constraints of their children. They can (2) provide the opportunity to acquire industry-specific knowledge and experience, for instance, by letting the children work in the business. By visiting entrepreneurial parents' work places and discussion with their parents, children learn insider information about the business sector. This social interaction also enhances pro-business attitudes.[6] Gaining easy access to parental business networks can also be helpful in identifying industry-specific entrepreneurial opportunities (see also Fairlie & Robb, 2007). Finally, (3) watching and learning how their parents conduct business can result in the acquisition of general human capital and

5. There is also a theory that explains the effect of parental entrepreneurship by genetic inheritance. The theory posits that there is an "entrepreneurship gene" that explains intergenerational correlation in entrepreneurial choice (e.g., Nicolaou et al., 2008; Nicolaou & Shane, 2010). The theory has no firm implications for the nexus between entry age, start-up size, and entrepreneurship.
6. This pattern may also hold in case parents struggle with their business because observing parents still provides the opportunity for learning. The role of entreprenuerial success of parents is not well understood. Criaco et al. (2017) even argue that success may make entrepreneurship in certain contexts less desirable.

entrepreneurial ability that allows for the identification of other opportunities beyond the industry context of the family business (for details, see Parker, 2018).

Seen from a course of life perspective, Aldrich and Kim (2007) distinguish three periods of parental self-employment effects on the offspring: childhood, adolescence and adulthood. During childhood, defined as under the age of 12, genes and nurturing are the most important transmission factors. During adolescence, from 12 to 21 years of age, the acquisition of human capital plays the dominant role. Finally, it is during the years of adulthood that social and physical capital become key. Hence, the four role model functions play a different role over the lifespan of the offspring of entrepreneurs.

2.2. The Role of Parental Self-Employment for Entry Age: Hypothesis

We argue that parental self-employment affects the entry age of business owners because it provides important resources for starting a venture. Children with parents who are paid employees must accumulate these resources over their professional career without specific parental support. The need to accumulate entrepreneurship-facilitating resources is the key theoretical argument explaining the relationship between age and entrepreneurial propensity (Parker, 2018). Levesque & Minniti (2006) derive the peak for entry age into entrepreneurship as between 25 and 35 years. Based on Finnish data, Uusitalo (2001) suggests the peak is at 44. Statistics from the Kauffman Firm Survey shows that the peak age for American first-time founders concentrates highest in the late thirties and early forties (Stangler & Spulber, 2013). A more recent study from Sweden shows that the turning point is at about 46 years of age (Backman & Karlsson, 2018).[7] This inverted U-shaped relationship is explained by the argument that the accumulation of resources required for launching a venture takes time. One might consider accumulated savings, but also work experience (e.g., Kautonen et al., 2010). The decrease in an entrepreneurial propensity at later life stages is often explained by rising risk aversion and an increasing preference for economic activities that yield immediate income streams. Launching a new venture is often risky, with income streams that may not be secure until after some time (Levesque & Minniti, 2006).[8]

If access to financial and skill resources is superior in the presence of self-employed parents, resource accumulation required to start a firm should take less time. Accordingly, the entry age of children of entrepreneurs should be lower on average. For instance, offspring have the chance to learn from the example of real

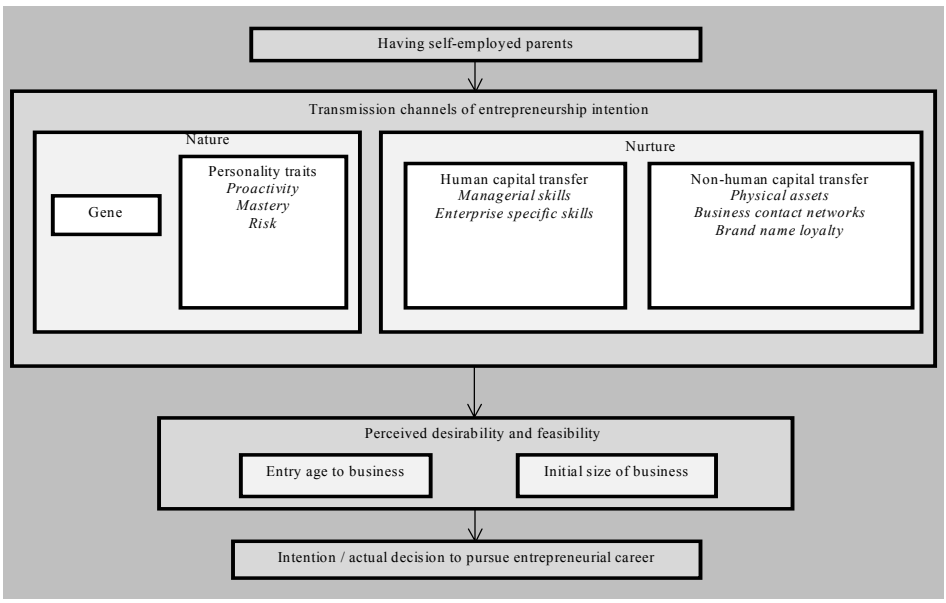
7. It is important to note that demographic structures change over time, thus data for different periods of the same country or across countries may vary, which lead to different peak entry ages observed although the pattern of the inverted U-shape remains.
8. Cooper and Dunkelberg (1986) surveyed how ownership types differentiate by entry age, showing that entrepreneurs who enter business at a younger age have a higher percentage of ownership as inheriting (i.e. business succession) than self-starting (p. 63).

"entrepreneurs", namely their self-employed parents. Therefore, the time needed to accumulate entrepreneurial skill sets is shortened. Having direct guidance from entrepreneurial parents also increases a child's entrepreneurial self-efficacy, and provides inspiration and motivation to form an own business sooner. Likewise, specific industry knowledge learned from parents at an early age could directly aid children in opting to follow in their parents' footsteps. Self-employed parents' children have the opportunity to engage in their parents' business workplace already at young age, thus being able to accumulate pre-market working knowledge to start a similar business. They can learn insider information, have a realistic future job preview, and are more likely to develop a pro-business attitude at earlier ages even before entering working age.[9] Moreover, the transfer of physical assets from successful entrepreneurial parents may give their offspring a jump-start at the beginning of their career, both in terms of time (earlier age) and scale (larger initial business size at start-up). Financial support from self-employed parents may help children to shorten the capital accumulating process prior to the formation of their first business. Based on all of these arguments, we hypothesize:

H1: Founders with self-employed parents enter the business at a younger age than founders without self-employed parents.

Figure 1 summarizes our conceptual framework of the nurturing effect outlined in sections 2.1 and 2.2.

Figure 1: Conceptual framework



9. The argument is not fully applicable for children that decide to form a business in a different sector than their parents.

Superior resource access should also help smaller firms to more quickly reach the Minimum Efficient Size (MES) required to survive in the market. Most firms start with a suboptimal size due to resource constraints. Firms that start larger can achieve the MES to survive in the market earlier (Audretsch, 1995). Therefore, firms strive for starting as close as possible to the MES.[10] Superior resource access should be helpful to achieve this goal. Superior resource access could also be helpful for post-entry development. Even though knowledge about entrepreneurship or the industry children gain from their self-employed parents would lead them to enter at an earlier age, it is not entirely clear that they also enter at a larger scale. At high rates of learning, not only do they not have to spend time accumulating knowledge but may even be capable of running less labour-intensive firms if they are better equipped to exploit the production technology. Furthermore, if we factor in a higher estimate of non-pecuniary benefits from entrepreneurship for children of the self-employed, they may be quite comfortable starting operations at a lower scale as long as the utility from an entrepreneurial lifestyle (relative to the expectations the children of the non-self-employed hold) is larger than the lost economic performance. Hence, a clear-cut prediction regarding size at entry is rather difficult. Moreover, if children learn from self-employed parents the importance of experimentation with entrepreneurship, they may also prefer to experiment earlier in their career and at a smaller scale, such that their careers are less affected in the long run (see Merida and Rocha, 2018). Therefore, we abstain from stating a hypothesis about the link from parental self-employment to business size at start-up but explore this pattern and also assess how entry age and business size relate to post-entry development.

2.3. Developing Countries: A peculiar Testbed for analyzing Parental Self-Employment Effects

Previous research finds that the role and effectiveness of parental self-employment is determined by the environmental context. This can be, for example, of a spatial (Niittykangas & Tervo, 2005) or an institutional nature (e.g., Laspita et al., 2012; Wyrwich, 2015). In the present paper, we analyze the role of parental self-employment in sub-Saharan Africa; a context with low institutional quality. Vast empirical evidence shows that institutional weakness is a stumbling factor for entrepreneurial success in Africa (Fafchamps, 1996; Aidis et al., 2008; Mair & Marti, 2009; Kistruck et al., 2015; Atiase et al., 2018). First, in terms of political institutions, the quality of governance in Africa negatively affects growth of entrepreneurial ventures and entrepreneurial opportunities (Munemo,

10. An alternative argument is related to the "lean start-up strategy" (e.g., Burke et al., 2018) which allows firms to test for market demand (minimum viable product) while operating at a relatively small scale (i.e. well below the MES). Only when the test phase has proved successful, firms will attract more investments for a larger scale deployment of their product.

2012; Rotberg, 2009). Together with the high cost of contract enforcement in Africa (Ahlquist & Prakash, 2010), the state institutions diminish African entrepreneurs' enthusiasm to pursue their goals (Fafchamps, 1996). Second, African entrepreneurs face the major obstacle of acquiring adequate and cost-effective credit (Abor & Quartey, 2010). Indeed, Africa has the lowest rate of financial penetration worldwide (Popoola, 2009), which specifically hinders the development of entrepreneurship opportunities (Bowen et al., 2009). Thus, the overall dysfunctional, weak and corrupt nature of African institutions, ranging from state to financial institutions, not only hinders the development of entrepreneurship in Africa (Atiase et al., 2018), it also fosters unproductive and destructive entrepreneurship (Aidis et al., 2008). Africans' inability to participate in markets due to institutional shortcomings (Mair & Marti, 2009) is associated with informal, unsupported and unregistered African businesses (Kistruck et al., 2015).

Furthermore, there is a major difference between developed and developing countries with respect to the role of family and clan. The formers' family structure favour nuclear family structures consisting of two generations of parents and children at maximum, opposed to extended families with three generations where siblings, their spouses and their offspring cohabit together in a "clan," typically with a proximity on a land plot - with or without separated houses. Developing countries have stronger kinship relationships within the extended family, which affect the mechanism of role model influence through generations. In this sense, the African context provides a novel perspective on the role of family embeddedness for entrepreneurship. Aldrich and Cliff (2003) develop the theory of family embeddedness that paints a broad picture of how the historical transformation of family structures has spawned entrepreneurial potential through opportunity recognition, venture creation decision and resource mobilization processes. The greater importance of the extended family (family clans) suggests that the intergenerational transmissions of entrepreneurship within families are stronger in Sub-Saharan Africa than in the developed world because the role and influence of parents and relatives are much stronger. Sub-Saharan societies also score high with respect to the cultural practices of in-group collectivism and power distance (i.e., the degree to which the community accepts and endorses authority, power differentials, status privileges, and social inequality). Individuals in these countries feel a strong attachment to members of their families and other in-groups (e.g., neighbourhood, village, and school friends) (GLOBE, 2019).[11]

Laspita et al. (2012) show that because of the culturally dependent development of intra-familial relationships and the mutual influences across generations, the impact of entrepreneurial parents on the offspring is particularly strong in high in-group collectivism cultures. Due to a high degree of inequality

11. For details, see https://globeproject.com/results/clusters/sub-saharan-africa?menu=cluster

and low social mobility found in African societies (Bossuroy and Cogneau, 2013), as well as insufficient formal institutions (e.g., education and training) that might allow adolescents to choose their own careers, there should be a strong intergenerational transmission of occupational choice, in particular entrepreneurship. Therefore, developing countries in Sub-Saharan Africa provide us with a unique testing ground for analyzing parental self-employment effects conditioned by the fact that formal institutions are weak, and yet cultural practices are aligned with in-group collectivism with a strong role of family embeddedness (e.g., Dixit and Sinha, 2021). We expect to find an effect of parental self-employment on entry age given these features of the environmental context.

3. Methodology

3.1. Data

The analysis is based on a field study in Accra and Nairobi, the capital cities of Ghana and Kenya, respectively. The field study was conducted in early 2016. The data comprises 266 Ghanaian and Kenyan small business owners. Ghana and Kenya were selected for data collection because they are preeminent in representing the vibrant entrepreneurship culture of East and West African countries. Chu et al. (2007) also chose Ghana and Kenya as the focus of their study. Both countries are large in terms of population, show stable as well as high GDP growth rates since the 2000s and a relatively strong private sector compared to neighbouring countries. As former British colonies, they share similar formal institutions (e.g., a similar legal framework), but are different with respect to social norms and culture.

The field study employs a questionnaire with 40 standardized items. The language of the questionnaire is English since English is the official language in both countries. The questionnaire is guided by well-established surveys such as the Adult Population Survey of the Global Entrepreneurship Monitor (GEM, 2016), the World Bank's Enterprise Survey (World Bank, 2016a) and the Doing Business Report (World Bank, 2016b), and a German survey on entrepreneurs (Wyrwich et al., 2018).

Six assistants delivered paper-based questionnaires to respective business owners. Three master's students from the University of Ghana Business School and three master's students from Strathmore University in Nairobi were carefully chosen among students recommended by lecturers at both universities. The assistants were given the task of either conducting a direct interview or retrieving a questionnaire that had been completed without the assistant being present. The assistants were particularly suited for this task, because they were all working part-time conducting academic interviews for their respective universities at the

time of the interviews. The authors and the collaborating lecturers carefully supervised the assistants and gave them instructions regarding the interview procedure, and directly monitored the data collection process. Prior to the main data collection phase, a pilot study was conducted in Ghana to ascertain the suitability of the respective questions.

The appropriate sample size of *n* is estimated based on the World Bank's Enterprise Survey formula (World Bank, 2009), where N is the population size, P is population proportion, k is the desired level of precision, and $z_{1-\frac{\alpha}{2}}$ is the value of the normal standard coordinate for a desired confidence level of $1-\alpha$.

Due to the lack of standardized surveys, the total numbers of SMEs in Ghana and Kenya are ambiguous. Available statistics from the World Bank development indicators (World Bank, 2018) estimate that there are 802,176 SMEs in Ghana (Trading Economics, 2003) and 1,000,816 SMEs in Kenya (Trading Economics, 2005). The formula was applied to give the result of 121 needed observations for both countries, with the default precision k of 7.5% and 90% confidence.

$$n = \left[\frac{1}{N} + \frac{N-1}{N}\frac{1}{P(1-P)}\left(\frac{k}{z_{1-\frac{\alpha}{2}}}\right)^2\right]^{-1} \quad (1)$$

All respondents in our sampling are from the urban areas of Accra and Nairobi. Spatial random sampling was deployed for targeted areas in Accra and Nairobi to select entrepreneurs for interviewing (see equation (1)). Three interviewers were assigned to a specific area at the district level of each city where they approached open shops (micro and small businesses), or contacted entrepreneurs in their network of acquaintances. The criteria applied are that the person interviewed must be the founder of the business, and the business must have at least one employee.[12] Entrepreneurs in Accra were selected from three areas: Accra Central, Accra North, and Accra West. Similarly, the three broad areas in Nairobi are Nairobi Central, Nairobi West, and Nairobi East.

In total, 324 questionnaires were collected for the analysis. However, 58 questionnaires were discarded because they did not meet the quality standards of the study. For example, questionnaires that contained ambiguous answers, or came from suspicious sources. The remaining 146 respondents from Ghana and 120 respondents from Kenya met our requirements for data quality. The average time required to complete the questionnaire was 24.7 minutes. Forty-seven percent of the questionnaires were completed through face-to-face interviews at the business owner's work place. The remaining 53% of the surveys were completed solely by the business owners who completed the questionnaire at home and later submitted it to the research team.

12. The majority of vendors in Africa are "one-person-businesses" and we want to distinguish between entrepreneurs who create jobs for others (as a measurement of business performance) and the ones that do not.

We placed additional constraints on our collected data. Seventy-eight respondents indicated that they had a prior entrepreneurial experience before starting their current business. We excluded these respondents because our focus is on first time own business founders. Moreover, we only consider firms that were founded in the year 2000 or later. Only 86% of firms in our sample started in this period. There are two primary reasons for this decision. First, we only wanted to consider (relatively) young firms in our analysis. Second, there is huge variation in founding years among firms that started prior to the year 2000. We acknowledge that firms started in the year 2000 are also already relatively old but restricting the sample to a shorter period would yield too small of a sample to achieve any meaningful results. Finally, a few respondents could not be considered in the analysis because of missing values for important variables (see next section). In the end, we were able to make use of 141 questionnaires in our analysis, which is above the critical value estimated in equation (1).

3.2. Variables

Main Variables of Interest

The main independent variable examined is parental self-employment, which is a binary variable that indicates whether the entrepreneur had at least one self-employed parent at the age of 15 years.[13] The dependent variable entry age to business is measured by the question: "What was your age when you opened your first business?" The data on entry age is double-checked by comparing with data on current age, business duration, and previous business exposure.

Further Variables

There are different ways to measure the size of the business. In our study, the variable start-up size is measured by the number of employees hired at the beginning of the business venture. Our survey asks the question: "How many employees did you have at the beginning of this business?".[14] The majority of businesses in Ghana and Kenya are unregistered so there is no official documentation of the exact date that the business started. We understand that respondents may have different interpretations of "at the beginning", which we had to accept in absence of a clear-cut officially determined start-up date. Please note that the businesses in the survey are labour intensive, therefore many cannot operate without initial labour endowment, unlike tech start-ups, for example, where co-founders are able to do all of the work at the beginning of the business

13. This is a standard question used in previous assessments (e.g., Wyrwich, 2015). We cannot distinguish between cases where the parents dropped out until the time the respondent entered the market.
14. This does not account whether the employees are full-time or part-time as there was no such distinction in the survey.

(for an overview on the industrial structure, see Table A3). The indicator for post-entry development is firm size measured by the number of employees in 2016. In the models on post-entry development, level effects are controlled for by the initial firm size, while the age of the business is controlled for by including a set of start-up year dummies.

Table 1 shows descriptive statistics for all model variables. Table A1 in the Appendix reports country-specific descriptive statistics. The average age of entry in our sample is 28 years old.

Table 1: Summary of Main Variables of Interest

	Mean	S.D.	Min	Max
Entry age	28.46	7.05	18	53
Start-up size (no. of employees at start-up)	2.71	3.15	1	25
Post-entry development (current no. of employees)	7.29	7.66	1	50
Self-employed parent	0.496	0.51	0	1
Age of entrepreneur (in years)	35.57	8.57	23	60
Gender (Female = 1)	0.28	0.45	0	1
Country (Kenya = 1; Ghana = 0)	0.48	0.5	0	1
Formal education (in years)	15.71	2.86	6	23
Entrepreneurship education (Yes = 1)	0.6	0.49	0	1
Opportunity (Yes = 1)	0.65	0.48	0	1
Prior working experience (Yes = 1)	0.65	0.48	0	1
Method: (F2F interview = 1; Self-filling = 0)	0.56	0.5	0	1

N=141

Table 1 also highlights a wide range of further variables included in our analysis. For example, Kuada (2009) found that a barrier to entry for female entrepreneurs in Ghana is the difficulty of accessing bank financing. It is true, nevertheless, they compensate for this liability by cultivating social relationships that are used as a resource leveraging mechanism. We also consider education measured by years of schooling. Because Ghana and Kenya have different schooling systems, the measure is standardized by referring only to the number of years of formal education undertaken by the entrepreneurs. Previous studies reveal a substitution effect between parental role modeling and education level when it comes to entrepreneurial intention (Fritsch & Rusakova, 2012). We exclude business owners who do not have any formal education, as well as those who acquired their ventures by, for example, inheritance or purchase rather that self-establishment.

An additional binary control variable in our analysis is entrepreneurship education. Our survey asks whether the business owner has taken any formal course related to entrepreneurship and business during their time at college. We control for this variable because there is evidence that this can affect entrepreneurial intentions (Owusu-Ansah & Poku, 2012). Working experience

before the start-up event could be also related to successful venture development, and by definition implies that respondents start their venture at a later life stage. Therefore, we control for prior general work experience by a binary indicator. Since some of the respondents participated in face-to-face interviews and others fill out the questionnaire themselves, we include a dummy variable to control for this variance. Finally, we consider a dummy indicator to capture whether the start-up was based on a perceived opportunity or out of necessity. The information is based on a self-assessment and broadly checks for business motivation. It should be noted that 65% of the respondents indicated that their start-up was based on a perceived opportunity.

Apart from the controls just mentioned, we considered additional variables not reported in Table 1 for the sake of brevity. The six areas of our cluster sampling (Accra North, Accra West, Accra Central, Nairobi West, and Nairobi East, Nairobi Central) are captured by region dummies. We control for the sector in which the business owners are active by considering two items of the survey. The first item asks for a description of the products/services provided, and the second item asks the business owners to select the sector that best fits their enterprise. Using this information, we grouped firms into six main sectors: retail, wholesale (sales of goods and products), casual services (primarily rental and catering services), production (of goods and products), professional services (e.g., legal, financial, educational services) and technical services (e.g., IT, logistics, maintenance services). In situations where the activities of the business included more than one sector, we selected the dominant sector for our analysis in this paper.

We also use dummy variables to control for start-up years (16 dummies), ethnicity (9 dummies), and religion (3 dummies). Religion dummies indicate whether the business owners are Christian, Muslim, or belong to another faith. Ethnicity dummies consider the categorization of majority ethnicities represented in the dataset, which are Akan, Asanti, Ga, Fante, Ewe in Ghana, and Luo, Kamba, Kisii, Luhya, Kikuyu in Kenya. Ethnicity and religion may determine resource access via networks in the local and social environment of the business owners.

4. Results

4.1. Baseline Results

Results from OLS regressions presented in Table 2 reveal that there is a significant and negative influence of parental role models on entrepreneurs' entry age to business.[15] The findings confirm our hypothesis on the effect of parental self-employment on the ability to start-up sooner. In Model (4) which includes the

full set of controls, an average business owner with self-employed parents would start their first business, ceteris paribus, almost 3 years sooner than those without a self-employed parent. Model (4) also reveals that women tend to start-up at a later age. Furthermore, business owners with prior working experience start-up later as well, in line with expectations.

Table 2: Parental Entrepreneurship's Effect on Entrepreneurs' Entry Age to Business

DV: Entry age to business	**(1)**	**(2)**	**(3)**	**(4)**
Parental entrepreneurship	-2.249*	-2.647**	-2.548**	-2.757**
	(1.175)	(1.186)	(1.156)	(1.141)
Region dummies		Yes	Yes	Yes
Industry dummies		Yes	Yes	Yes
Start-up year dummies		Yes	Yes	Yes
Gender (Female = 1)			3.634**	4.353***
			(1.575)	(1.584)
Religion dummies			Yes	Yes
Ethnicity dummies			Yes	Yes
Formal education (in years)				-0.193
				(0.262)
Entrepreneurship education (Yes = 1)				0.986
				(1.559)
Prior working experience (Yes = 1)				3.303**
				(1.414)
Method: F2F interview of Self filling				-3.415**
				(1.401)
Opportunity (Yes = 1)				1.472
				(1.450)
Constant	29.58***	35.86***	37.43***	36.71***
	(0.873)	(3.748)	(4.455)	(6.312)
R^2	0.026	0.328	0.416	0.520
Observations	141	141	141	139

Notes: Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1).

15. The use of count data models such as negative binomial regressions are not appropriate since age at entry is not a count variable. Even though age is a discrete number, the variable itself should be treated as continuous since it does not stem from a process that generates values of zero.

4.2. Explorative Results on Entry Age, Business Size at Start-Up, and Post-Entry Development

Entry Age and Business Size at Entry

Models 1-5 in Table 3 suggest that parental self-employment does not have any effect on the start-up size of the business, even when controlling for entry age. We also interact entry age with the dummy indicator for parental self-employment (Table 3, Model 6). Surprisingly, the interaction effect is significant and negative while the constitutive term for parental self-employment is significant and now positive. Based on the coefficient estimates (1.478-0.059 x entry age) the impact of parental self-employment on size at entry is positive until the age of 25 years, and negative beyond this entry age. Entrepreneurs that start beyond the age of 25 years who have self-employed parents might represent a group whose access to parental resources may no longer play an important role because the link with their parents is not as immediate. Considering this result from a young-age-entry point of view, the result suggests that until 25 years, parental resource access enables start-up entrepreneurs with self-employed parents to start up with a bigger entry size. This effect diminishes with entry age.

Table 3: Parental Entrepreneurship and Start-Up Size of the Business[16]

DV: Start-up size	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Parent	-0.00153	0.0831	-0.0671	-0.156	-0.218	1.478**
	(0.197)	(0.172)	(0.150)	(0.140)	(0.132)	(0.594)
Entry age		0.0254	0.0140	0.0115	-0.00218	0.0264*
		(0.0163)	(0.0127)	(0.0109)	(0.0106)	(0.0143)
Parent x Entry age						-0.0590***
						(0.0204)
Region dummies			Yes	Yes	Yes	Yes
Industry dummies			Yes	Yes	Yes	Yes
Start-up year dummies			Yes	Yes	Yes	Yes
Gender (Female = 1)				0.189	0.346**	0.375**
				(0.185)	(0.152)	(0.151)
Religion dummies				Yes	Yes	Yes
Ethnicity dummies				Yes	Yes	Yes
Formal education (in years)					0.0953***	0.0977***
					(0.0313)	(0.0293)
Entrepreneurship education (Yes = 1)					0.289	0.374**

					(0.182)	(0.169)
Prior working experience (Yes = 1)					0.350*	0.379**
					(0.184)	(0.188)
method: F2F interview of Self filling					-0.339**	-0.402**
					(0.165)	(0.158)
Opportunity					-0.107	-0.120
					(0.154)	(0.166)
Constant	0.999***	0.221	-0.509	-1.564**	-2.888***	-4.091***
	(0.157)	(0.443)	(0.525)	(0.671)	(0.939)	(1.057)
Pseudo R^2	0	0.0088	0.0927	0.1411	0.1797	0.196
Observations	139	139	139	139	137	137

Notes: Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1).

Entry Age and Post-Entry Development

Table 4 presents the results of our analysis of parental self-employment effect on the current size of the business (post-entry business development). The outcomes show that parental self-employment has a positive and significant effect on the current size of the business once we control for start-up size (Models 1-3). However, the coefficient is not statistically significant when introducing control variables for individual characteristics (Model 4).

Model (5) presented in Table 4 explores the interaction of parental entrepreneurship with entry age on current firm size. This analysis provides insights into whether an early entry age comes along with a business development penalty since entry age was found to be positively related to firm success in previous research (Azoulay et al., 2019). The constitutive term for entry age measures the effect for respondents without self-employed parents. It is negative and significant. This means that starting later is negatively related to post-entry development among entrepreneurs without self-employed parents. At the same time, the interaction between entry age and parental self-employment is significant and positive. It is only slightly larger than the constitutive term for entry age and the overall effect (0.0062) is not statistically different from zero. These findings imply that an increase in entry age is neither positively nor negatively related to post-entry development when business owners have self-employed parents while it is negatively related for other business owners. There is one interesting exception to this pattern. The coefficient estimates reveal that there is a growth penalty for entrepreneurs with self-employed parents—relative to other entrepreneurs—that start below the age of 24 years.[17] Model (6) of Table

16. The models are based on negative binomial regressions since the value of business size could be zero.

4 further introduces an interaction of parental self-employment with start-up size that shows no significant result.

The additional analysis of interactions shows that the ventures of children of business owners who start their businesses later in life show higher post-entry development. This finding can be interpreted as a self-selection effect. Those children of business owners who plan to achieve growth might postpone market entry because the mark-up in entrepreneurial resources due to the entrepreneurial background of parents may not yet suffice and must be enriched by additional labour market experience and resource accumulation. Those children who do not have particular business growth intentions might start at a younger age because the entrepreneurial resource transfer of their parents already is sufficient to establish themselves in the market. Results from Table 4, Model 5 imply that start-ups by children of business owners starting at a very young age (below 24 years), grow less than start-ups by similarly young entrepreneurs without self-employed parents. This might be due to a lower ambition to grow or a lack of business preparation stemming from an easy access to resources. This growth penalty of having self-employed parents is stronger for lower entry ages.

Table 4: Parental Entrepreneurship's Effect on the current Size of Business[18]

DV: Current size of business	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Start-up size	0.150***	0.154***	0.115***	0.111***	0.118***	0.100***
	(0.0319)	(0.0317)	(0.0125)	(0.0134)	(0.0138)	(0.0155)
Entry age		-0.0110	-0.00260	-0.0109	-0.0304***	-0.00977
		(0.00784)	(0.00796)	(0.00819)	(0.0105)	(0.00819)
Parent	0.311**	0.297**	0.228**	0.157	-0.879**	0.0620
	(0.134)	(0.133)	(0.112)	(0.114)	(0.431)	(0.137)
Parent x Entry age					0.0366**	
					(0.0145)	
Parent x Start-up size						0.0333
						(0.0310)
Region dummies			Yes	Yes	Yes	Yes
Industry dummies			Yes	Yes	Yes	Yes
Start-up year dummies			Yes	Yes	Yes	Yes
Gender (Female = 1)				-0.133	-0.172	-0.159
				(0.132)	(0.128)	(0.135)
Religion dummies				Yes	Yes	Yes

17. The impact of self-employed parents can be written as (-0.879+0.0366 x entry age). This expression turns positive above the age of 24 years.

Ethnicity dummies				Yes	Yes	Yes
Formal education (in years)				0.00420	0.00218	0.00995
				(0.0214)	(0.0202)	(0.0214)
Entrepreneurship education (Yes = 1)				-0.00945	-0.0431	-0.0458
				(0.132)	(0.127)	(0.138)
Prior working experience (Yes = 1)				0.130	0.110	0.105
				(0.124)	(0.121)	(0.127)
method: F2F interview of Self filling				0.192	0.217*	0.224*
				(0.119)	(0.120)	(0.127)
Opportunity				0.308**	0.329***	0.313***
				(0.120)	(0.114)	(0.120)
Constant	1.293***	1.601***	0.869*	0.775	1.435**	0.745
	(0.109)	(0.246)	(0.462)	(0.575)	(0.591)	(0.564)
Pseudo R^2	0.0805	0.0821	0.1682	0.2063	0.2121	0.2075
Observations	139	139	139	137	137	137

Notes: Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1).

4.3. Extended Analysis: Mechanisms behind the Link between Parental Self-Employment and Entry Age

In an extended analysis, we explore the channels behind the parental effect on entry age. While we cannot distinguish between different types of human and non-human capital transfer, we capture the direct involvement in the parental business to assess the role of intensity of exposure to parental self-employment. To this end, we distinguish between children of self-employed parents that were actively involved in the business of their parents before their own start-up and those that were not. The first group obtained work experience in the parental company that could have facilitated human capital transfer but also non-human capital transfers that could have been helpful for launching a venture at a younger age and improving the chances of success. On the other hand, it might be the case that there is no difference between both groups, but that only non-human capital transfer plays a more important role if the children were not directly involved in the venture.

In the extended analysis, we introduce an additional variable to capture whether parents were involved in the founding process. It is possible that the children of self-employed parents could fall into several categories. The first distinction could be those children who worked in their parents' business and

18. The models are based on negative binomial regressions since the value of business size could be zero.

those who did not. Another possible distinction is having both parents involved in the business or having only one parent as an entrepreneur. While considering these distinctions allows for a more finely tuned analysis, the size of the groups would become too small. Therefore, we introduce co-founding of parents as a dummy control variable only. We also run analyses without this variable seeing that it is not inflating our distinction between children of self-employed that were directly involved in the parental business and those that were not.[19] We have no firm ad-hoc expectation regarding the parental co-founding variable. The direct involvement of parents could lead to a more intense access of parental resources that enables a larger start-up size and venture growth, and that allows for an earlier entry. However, it may be the case that parental involvement is due to the fact that the children would not be able to run the venture alone successfully. For example, there may be a lack of own capabilities and resources, or an insufficient intergenerational human and non-human capital transfer. Table A2 in the Appendix provides descriptive statistics for the newly introduced variables. One fifth of the respondents with self-employed parents worked in the business of their parents, while only 11% had at least one co-founding parent.

Table 5 shows the results of our extended analysis for entry age. We observe that having co-founding parents is not related to entry age. Furthermore, only those children of entrepreneurs that did not work in their parents' business start younger than children of non-self-employed parents. This result might be explained by the pattern that the time spent working in the parental business delays entry as compared to children of the self-employed that did not spend time in the business of their parents. Be as it may, the results show that a more intense exposure to parental self-employment is not behind our baseline findings for entry age.

Table 5: Involvement in Parental Company and Entry Age

DV: Entry age to business	**(1)**	**(2)**	**(3)**	**(4)**
Has self-employed parents and worked for parents' business	0.512	0.421	0.000643	-0.534
	(2.765)	(2.127)	(2.081)	(1.913)
Has self-employed parents and did not work for parents' business	-2.499**	-2.821**	-2.809**	-3.140**
	(1.174)	(1.365)	(1.371)	(1.313)
Parent as co-founder	-3.083	-2.410	-2.315	-1.425
	(2.385)	(2.544)	(2.581)	(2.713)
Region dummies		Yes	Yes	Yes
Industry dummies		Yes	Yes	Yes
Start-up year dummies		Yes	Yes	Yes
Gender (Female = 1)			3.421**	4.308***

19. Results can be obtained upon request.

			(1.674)	(1.596)
Religion dummies		Yes	Yes	Yes
Ethnicity dummies		Yes	Yes	Yes
Formal education (in years)			-0.0265	-0.161
			(0.276)	(0.270)
Entrepreneurship education (Yes = 1)			-0.222	0.915
			(1.595)	(1.555)
Prior working experience (Yes = 1)				3.152**
				(1.377)
Method: F2F interview of Self filling				-3.534**
				(1.437)
Opportunity				1.286
				(1.460)
Constant	29.58***	37.19***	36.57***	35.15***
	(0.880)	(4.879)	(6.723)	(6.742)
Observations	141	141	140	139
R-squared	0.046	0.395	0.426	0.527

Notes: Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

5. Conclusions

5.1. Research Contributions

The paper addresses a gap in the literature regarding the link between parental self-employment and entry age. We find that respondents with self-employed parents start at younger ages. Regarding start-up size, we find that children of self-employed parents start larger than entrepreneurs without self-employed parents when they enter at a very young age. At the same time, we observe that for children of self-employed parents, entering at a very young age also comes with a growth penalty in terms of weaker post-entry business development. These findings suggest that there are two groups of children of self-employed parents. The first group that sets up their venture when they are very young starts larger while it is growing less as compared to peers without self-employed parents. The second group that sets up their venture a bit later start smaller while their post-entry development is better as compared to peers without self-employed parents. To be more precise on the latter finding, for children without self-employed parents entry age and post-entry development are negatively linked while the overall link is insignificant for children of self-employed parents. Both patterns are not in line with the findings by Azoulay et al. (2019) who find a positive link

between entry age and success for the United States, which cannot be confirmed in the developing country context that we explored.

Our results also suggest that children of self-employed parents that start at very young ages might be overconfident and start too big. Due to their parents, they may have more resources readily available, which could cause ineffective investments at a young age. This may translate into weaker firm performance in the long-run. Children of self-employed parents that start at a later age might be less prone to this. Furthermore, due to labour market experience they may be able to start with smaller size. The reasons why some children of self-employed parents start at a very young age remain unclear. Taken together, we find that children of self-employed parents start younger on average but starting all too young—and too large—implies a growth penalty in terms of weaker post-entry business development.

5.2. Implications

Our research contributes to the literature on the effects of parental self-employment in two ways. First, we advance research by shifting attention away from parental effects on intentions and entry decisions towards other interesting outcome variables, namely entry age, start-up size, and post-entry business development. By doing so, we demonstrate that the past literature on parental self-employment effects and the stream of research dealing with the role of age and entry are interrelated. We also show that age of entry in conjunction with parental self-employment has implications for post-entry development. Second, we conduct our analysis in a setting with low institutional quality by conducting two field studies in developing countries, namely Ghana and Kenya. This is in sharp contrast to previous research that mainly focuses on contexts where institutional quality is not a critical bottleneck.

Our study also has several policy implications. Understanding the effect of parental self-employment on entry age and the start-up size of businesses informs policy makers about the importance of the intergenerational link of self-employment beyond entrepreneurial choice. The results obtained on entry age suggest thinking about suitable schemes for young entrepreneurs and age appropriate entrepreneurship programs. Another salient point is that if younger entrepreneurs are encouraged to act as role models for their peers, this might be an impetus for others to engage in entrepreneurship. At the same time, starting "too young" might also come with a growth penalty as our results demonstrate. The promotion of youth entrepreneurship could be supported by awareness campaigns and networking activities that feature successful entrepreneurs with a family background in entrepreneurship. These sorts of efforts are particularly relevant in African countries where a high share of the population consists of younger people (United Nations, 2012; Drummond et al., 2014).

There are also research and policy implications beyond the developing country context. First, we confirm earlier research by proving that the parental entrepreneurship effect is age-specific. In particular, our results are in line with Aldrich & Kim (2007) who specified that offspring's decision to enter entrepreneurship under parents' influence varies according to stages of life: childhood (genetics and parenting practice), adolescence (reinforcement of work values and vocational interests), and adulthood (financial and tangible means of support). The inverted U-shaped link between age and entrepreneurial choice does not hold for children of business owners. One important message for policy makers is that awareness campaigns promoting youth entrepreneurship could be a cure to soaring youth unemployment that plague several European countries (Eurostat, 2023). These campaigns could feature networking and role modelling activities with successful entrepreneurs who have a family background in entrepreneurship, ultimately winning over other younger peers.

5.3. Limitations

One major limitation of the paper is that it is impossible to disentangle the transmission channels affecting entry age. We also have no information on the children of entrepreneurs (and non-entrepreneurs) that did not start firms. We also cannot model why individuals select into entrepreneurship since we have only business owners in our sample. We can only show that business owners with self-employed parents enter the market at a younger age. Finally, we also have no information on the success of parents in entrepreneurship and whether the children were willing to learn from their parents. This is a limitation since there is evidence that success of parents matters (Criaco et al., 2017). In this regard, we may underestimate the effect of parental entrepreneurship on entry age since the effect may be more pronounced for kids of successful parents while we capture the average effect of successful and unsuccessful self-employed parents. We also have no information whether parents were persuading or dissuading their kids to start an own career (for a more general discussion on this aspect, see Lerner & Malmendier, 2013). Another limitation relates to the importance of family structure. In particular, we cannot account for differences in parental entrepreneurship effects by birth order (Lajci et al., 2022), a trait known to be important in developing countries (Jayachandran & Pande, 2017). Finally, and also reflecting on the former limitation, a broader survey that is not limited to Ghana and Kenya or to a cross-section would provide a more comprehensive panel dataset for the deeper understanding of parental role models in entrepreneurship in developing countries.

5.4. Avenues for Future Research

There are several avenues for further research. First of all, there should be further studies for different institutional and cultural contexts to deepen our understanding of whether the role of self-employed parents for entry age (but also for entry decisions in general) differs across countries. Our findings on parental effects are limited to a context with low institutional quality and a culture of in-group collectivism. It would be important to understand whether there is also such a link in other contexts. Future research on the channels of the parental self-employment effects is also warranted. Finally, tracing entrepreneurs over time would enhance our understanding about the dynamics of post-entry development of ventures of children with self-employed parents in different contexts. These are only a few of the many avenues for future research dealing with how parental self-employment, institutional contexts and cultural realities effect the timing of entrepreneurial choice and characteristics of firms of young people, be they children of entrepreneurs or simply seeking to build their own future through entrepreneurship.

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Appendix

Table A1: Country-specific descriptive Statistics of Main Variables

	Diff	Ghana				Kenya			
	Sig	Mean	S.D.	Min	Max	Mean	S.D.	Min	Max
Entry age	n.s.	28.79	7.78	18	53	28.1	6.2	18	53
Start-up size (no. of employees at start-up)	*	2.29	3.5	0	25	3.18	2.67	0	15
Post-entry development (current no. of employees)	***	5.59	6.01	0	40	9.18	8.82	1	50
Self-employed parents	n.s.	0.44	0.50	0	1	0.56	0.50	0	1
Age of entrepreneur (in years)	n.s.	36.41	8.6	23	60	34.68	8.5	24	56
Gender (Female = 1)	n.s.	0.32	0.47	0	1	0.25	0.44	0	1
Formal education (in years)	***	14.97	3.22	6	20	16.51	2.16	9	23
Entrepreneurship education (Yes = 1)	***	0.38	0.49	0	1	0.82	0.38	0	1
Opportunity (Yes = 1)	n.s.	0.68	0.47	0	1	0.61	0.49	0	1
Prior working experience (Yes = 1)	n.s.	0.66	0.48	0	1	0.65	0.48	0	1
Method: (F2F interview = 1; Self filling = 0)	**	0.64	0.48	0	1	0.47	0.5	0	1

Notes: Ghana: N=73; Kenya: N=68. *** p<0.01, ** p<0.05, * p<0.1.

Table A2: Summary statistics for additional variables in extended analysis.

	Mean	S.D.	Min	Max
Has self-employed parents and worked for parents' business	0.2	0.4	0	1
Has self-employed parents and did not work for parents' business	0.8	0.4	0	1
Parent as co-founder	0.11	0.32	0	1

N=70

Table A3: Sectoral distribution of businesses participating in survey

	Frequency	Percent
Retail	118	44.4
Wholesale	25	9.4
Production	12	4.5
Casual service	42	15.8
Professional service	38	14.3
Technical service	31	11.7
Total	266	100