Female representation and talent allocation in entrepreneurship: the role of early exposure to entrepreneurs

Mikkel Mertz Maddalena Ronchi Viola Salvestrini*

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Abstract

This paper shows that exposure to entrepreneurs during adolescence increases women's entry and performance in entrepreneurship and improves the allocation of talent in the economy. Using population-wide registry data from Denmark, we exploit idiosyncratic within-school, cross-cohort variation in early exposure to entrepreneurs, measured by the share of an adolescent's peers whose parents are entrepreneurs at the end of compulsory school. Early exposure, particularly to the entrepreneur parents of female peers, encourages girls' entry and tenure into this profession, while it has no impact on boys. This effect is associated with the creation of successful and female-friendly firms. Furthermore, early exposure reduces women's probability to discontinue education at the end of compulsory school and to hold low wage jobs through their lives. Finally we find evidence in support of three main channels: (i) access to specific information; (ii) changes in aspirations and goals; (iii) increased consideration of entrepreneurship as a potential career. Together these results challenge the view that the most successful female entrepreneurs would enter this profession regardless of early exposure.

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1 Introduction

Despite decades of convergence in the occupational distribution of men and women, women remain less likely to engage and succeed in entrepreneurship in all developed countries, including those well regarded for their levels of gender equality (OECD, 2021).[1] These disparities not only give rise to equity concerns but may also have important implications for aggregate productivity. Recent work shows that gender-specific barriers can result in substantial welfare costs when individuals have occupation-specific abilities (Hsieh et al., 2019). Such costs are likely to be particularly large in the context of entrepreneurship, given the key role entrepreneurs play for job creation and economic growth (e.g. Decker et al., 2014). Yet, despite these relevant implications, we still know surprisingly little about what could effectively encourage female entrepreneurship and how this would impact the allocation of talent in the economy.

This paper aims to answer these questions by proceeding in two steps. First, we investigate whether exposure to entrepreneurs that takes place during adolescence increases girls' likelihood of pursuing entrepreneurship in adulthood. Second, we study the implications of steering women into entrepreneurship through early exposure on the allocation of talent in the economy more broadly. For our analysis, we use comprehensive administrative data from Denmark, spanning from 1980 to the present, and define entrepreneurs as individuals who found or own a business with employees, thereby excluding the self-employed.[2] The longitudinal nature of the data, combined with detailed information on individuals' education and labor market status, enables us to analyze how early exposure to entrepreneurs shapes the career trajectories of nearly one million individuals, while simultaneously identifying their counterfactual educational and occupational choices and evaluating the performance of firms created as a result of this exposure.

The first part of our analysis, which explores how exposure to entrepreneurs during adolescence influences girls' likelihood of becoming entrepreneurs later in life, is motivated by existing evidence showing that interacting with people with entrepreneurial experience affects both the decision to become an entrepreneur (see Parker, 2018, for a review) and the learning opportunities as an entrepreneur (e.g. Guiso et al., 2021; Guiso and Schivardi, 2011). Exposure that takes place early in life could be particularly relevant for female entrepreneurship, given that boys and girls make gendered educational and career choices already from a young age, with these differences solidifying in adulthood (e.g. Bertrand, 2011). In particular, if girls tend to make educational and career choices that are less conducive to entrepreneurship, early exposure to this profession may increase

[1] For instance, in the five most gender equal OECD countries according to the 2020 Global Gender Gap Index, women constitute only between one-third and one-fifth of all entrepreneurs. In Denmark – the country studied in this paper – women represent only 25 percent of all entrepreneurs.

[2] Our ability to exclude the self-employed stands in contrast to other studies, which faced limitations in doing so due to data constraints or concerns about sample size. We test the sensitivity of our results to our definition of entrepreneurs in Section 4.1.

their probability of becoming entrepreneurs by affecting their entire education and career trajectories.[3]

Identifying the causal effect of early exposure to entrepreneurs is challenging, as it requires isolating exogenous variation in adolescents' exposure to entrepreneurs from other endogenous and potentially correlated factors, such as adolescents' background or the firm density in their area of residence. We address this challenge by exploiting quasi-random variation in the share of a student's peers with entrepreneur parents *across* cohorts *within* a school, controlling for the entrepreneurial status of the student's own parents. We focus on exposure during the last three years of compulsory schooling, when students are between the ages of 13 and 16. This period is ideal for addressing our research question because, during compulsory schooling, the educational curriculum is identical for all students regardless of gender, allowing us to estimate the effect of exposure *before* any potentially endogenous educational choices are made. Additionally, the final years of compulsory school represent a critical juncture in the Danish educational system, as students must choose their subsequent educational track by the end of this period.

Assuming that students do not sort into schools based on cohort-to-cohort variation in the share of peers with entrepreneurial parents, this strategy allows us to identify the causal effect of early exposure to entrepreneurs for the entire population of Danish students. We provide evidence in support of this assumption by showing that the within-school variation in the share of peers with entrepreneurial parents is not related to within-school variation in students' background characteristics. Moreover, we perform several tests to ensure that our results reflect the impact of exposure to entrepreneurs rather than the influence of other parental characteristics that might correlate with entrepreneurial exposure, such as exposure to more ambitious or high-achieving peers more broadly.

We show that early exposure to entrepreneurs increases girls' entry and tenure in this profession. In line with the fact that adolescents interact more frequently with their same-sex peers (e.g. Friebel et al., 2021; Rubin et al., 2015), we show that these effects are driven entirely by girls' exposure to entrepreneurs through the parents of their *female peers*. In contrast, early exposure does not appear to affect boys' overall propensity to enter entrepreneurship, irrespective of the gender of their peers.[4] In terms of magnitude, the estimated effects for girls suggests that increasing early exposure to entrepreneurs by the interquartile range (IQR) – from a cohort where 5.3 percent of female peers have

[3]In line with this notion, Table 1 shows that while boys and girls have the same exposure to entrepreneurs during compulsory school, their likelihood of interacting with individuals with entrepreneurial experience diverges as they pursue their subsequent educational and professional paths. Thus, early exposure to entrepreneurs – that is, occurring before the trajectories of boys and girls start diverging – may act as an equalizer for girls who might not become familiar with this profession otherwise.

[4]The lack of peer effects for boys is in line with previous work from social psychology showing that girls develop friendships that involve greater communication and sharing of information than friendships among boys (see Rose and Rudolph, 2006, for a review). Consistent with this notion, several recent studies in economics find that, compared to female students, male students are either not affected or less affected by their peers (Hampole et al., 2021; Aguirre et al., 2021; Mouganie and Wang, 2020; Fischer, 2017; Schneeweis and Zweimüller, 2012).

entrepreneur parents to one where 16.7 percent do – increases the likelihood of women becoming entrepreneurs by age 35 by 4 percent and the number of years spent in this profession by 5.4 percent. This effect is sizable, corresponding to 6.5 percent of the increased propensity to enter entrepreneurship associated with having an entrepreneur parent, a factor that strongly increases an individual's decision to pursue entrepreneurship.[5] Considering the substantial influence of growing up with an entrepreneur parent, this benchmarking emphasizes the significant role early exposure to entrepreneurs can play in fostering female entrepreneurship.

Given the low representation of women in entrepreneurship, showing that early exposure has the potential to increase the stock of female entrepreneurship is a relevant finding from a gender equality perspective. However, to understand the broader implications of this result for allocative efficiency, we need to determine whether steering girls into entrepreneurship through exposure during adolescence is associated with a better allocation of talent in the economy. Answering this question, which we view as being central to our paper, involves obtaining two key pieces of information. First, we need to assess whether the increase in female entrepreneurship due to early exposure is associated with the creation of successful businesses. The answer to this question is ex-ante ambiguous: if potentially successful female entrepreneurs face challenges in entering and thriving in this profession due to gender-specific barriers, lowering such barriers through early exposure may lead to the creation of productive businesses. However, if early exposure lowers the cost of entering entrepreneurship for women who do not have a comparative advantage in this profession, which requires a specific set of skills and abilities (Lazear, 2004), it could lead to the creation of unproductive businesses. Second, we must identify the career paths these women would have pursued had they not been exposed to entrepreneurs during adolescence. Notably, both the private and social returns from steering women into entrepreneurship may differ depending not only on how successful their businesses are, but also on their counterfactual occupations, particularly whether we are redirecting women from low- or high-impact careers.

To identify women's counterfactual paths, we study how early exposure affects girls' educational and professional attainments once they have completed compulsory school. We show that early exposure to female peers with entrepreneur parents reduces girls' probability of discontinuing education at the end of compulsory school and increases their probability of completing upper-secondary vocational education, a path that is highly conducive to entrepreneurship as it is undertaken by 62 percent of entrepreneurs in our sample.[6] This result highlights two important points. First, the fact that these changes

[5]Specifically, our data reveals that having an entrepreneur parent increases women's probability of entering entrepreneurship by their mid-30s by almost 60 percent, a magnitude that is in line with existing work.

[6]We show in Section 5.1.2 that the impact of early exposure to entrepreneurs on women's educational paths is not explained by confounding factors that might both correlate with higher exposure to entrepreneurs and influence girls' educational choices, such as exposure to high-achieving peers more broadly or to more parents with vocational education.

occur immediately after compulsory school points to a direct effect of early exposure, rather than peer influence exerted later in life. Second, it underscores the importance of exposing girls to entrepreneurship *early*, before they make educational decisions that are difficult to reverse and may be less conducive to becoming an entrepreneur. We complement the analysis on educational outcomes by exploring women's counterfactual career paths and show that early exposure to entrepreneurs reduces women's probability of being employed in low-paying jobs. Taken together, these results indicate not only that early exposure may benefit women by helping them acquire more education and transition away from low-paying positions, but also that promoting female entrepreneurship through early exposure is unlikely to come at the cost of diverting women from pursuing high-impact careers. Because women's personal outcomes may also be affected by the type of careers they pursue, we conclude this part of the analysis by investigating the effect of early exposure on marriage and fertility outcomes, but we find no significant changes on these margins.

We then turn to investigate the quality of the pool of firms resulting from the increase in female entrepreneurship driven by early exposure. Our findings reveal that these firms are not only "female-friendly" but also successful, outperforming those created by both male and female incumbents in terms of their size and survival. This result speaks to the presence of misallocation in entrepreneurial talent and suggests that increasing female participation in entrepreneurship through early exposure can be instrumental in encouraging potentially talented entrepreneurs to pursue and succeed in this career. Together, these results challenge the view that the most productive female entrepreneurs would succeed in starting and growing their business regardless of early exposure, as would be predicted by models attributing women's under-representation in male-dominated occupations solely to differences in entry costs (e.g., Hsieh et al., 2019). Instead, these patterns align most closely with the notion that women encounter higher barriers not just in entering entrepreneurship but also in achieving entrepreneurial success once starting their firms.[7] In this context, early exposure emerges as a pathway for harnessing entrepreneurial talent by lowering both entry and operational barriers (Guiso et al., 2021; Guiso and Schivardi, 2011).[8]

In line with this perspective, when we investigate the potential mechanisms behind our results, we provide evidence of a "learning" channel, whereby early exposure can facilitate girls' acquisition of sector-specific human capital and information. We also provide

[7]Consistent with this notion, the two most recent OECD reports on women's entrepreneurship identify several constraints to women's success in this field, such as greater barriers in skills, fewer mentoring opportunities, smaller networks, and unsupportive social norms that can lower their ambition (OECD, 2019; Halabisky, 2018).

[8]Specifically, Guiso et al. (2021) and Guiso and Schivardi (2011), show both theoretically and empirically that exposure to entrepreneurs, proxied by local firm density, shifts the distribution of entrepreneurial productivity by creating learning opportunities. Notably, consistent with our findings, they show that this can lead to a positive relationship between individuals' likelihood of becoming entrepreneurs and the average productivity of their firms.

novel evidence supporting a "consideration set" channel, whereby exposing girls to entrepreneurs can increase their likelihood to consider entrepreneurship as a possible career option and change their goals and aspirations. Instead, we do not find evidence in support of "homophily in role models", as girls do not respond more to exposure to entrepreneurship arising from the mothers rather than the fathers of their peers. This additional set of results helps shed light on *why* early exposure influences women's representation and success in entrepreneurship, rather than through *whom* these effects occur – whether via direct interactions with the entrepreneurial parents of peers or through peers themselves, who may have internalized an "entrepreneurial mindset" from their parents. However, the timing of our findings on girls' educational choices indicates that the observed increase in female entrepreneurship cannot be fully attributed to peer influence exerted later in life.[9] This underscores the importance of exposing girls to entrepreneurs *early*, before they make choices that are difficult to reverse and may hinder their pathways into entrepreneurship. More broadly, our results indicate that early interventions targeting both entry and operational barriers faced by women in entrepreneurship can benefit not only women's individual outcomes but also the broader economy.[10]

This paper contributes to several stands of the literature. First, it contributes to the literature on the importance of the environment in shaping women's educational and professional outcomes (see Bertrand, 2020, 2011, for reviews). In particular, our results align with those of a predominantly experimental literature that highlights the role of information, social norms, stereotypes, and beliefs in determining women's educational and professional choices (e.g. Breda et al., 2023; Hoisl et al., 2023; Del Carpio and Guadalupe, 2021; Wiswall and Zafar, 2021; Bursztyn et al., 2020; Porter and Serra, 2020; Bell et al., 2019; Carlana, 2019). A key contribution of our paper to this literature is the ability to examine the effects of reallocating women across occupations not only from the perspective of gender equality but also from that of allocative efficiency. We achieve this by jointly analyzing whether the increase in female entrepreneurship driven by early exposure is associated with the creation of successful businesses and by identifying the educational and career trajectories women would have pursued in the absence of early exposure to entrepreneurs.[11] Such analysis is particularly important in the context of entrepreneurship, a profession that has long been acknowledged for its role in job creation

[9] We discuss the role of early versul late exposure in Section 5.1.2.

[10] While our analysis does not pinpoint the exact policies that would be successful at increasing female entrepreneurship, the fact that our empirical strategy compares students within the same school and municipality suggests that the environment and social context matter through narrower channels than those at play in the context of broad-based investments in schools or neighborhoods.

[11] For instance, while Bell et al. (2019) show that moving to areas with more inventors increases the likelihood that women (as well as minorities and low-income children) become inventors, their analysis neither identifies the counterfactual career paths of these "marginal" inventors nor assesses the quality of their patents. Similarly, experimental studies examining the impact of exposing young students to female STEM role models focus on girls' field of study choices but are unable to track their career trajectories, thereby limiting the evaluation of the private and social returns of these educational changes (e.g., Breda et al., 2023; Porter and Serra, 2020).

and economic growth (e.g. Aghion and Howitt, 1992; Murphy et al., 1991).

Second, this paper relates to the literature on selection into entrepreneurship, and particularly to existing studies highlighting the role of the social context in the creation of entrepreneurs. We make two contributions to this literature. First, a key advantage of our analysis is the unique combination of quasi-exogenous variation in exposure to entrepreneurs and a population-wide longitudinal dataset covering both individuals and their firms, whereas previous studies typically incorporate only one of these elements (e.g. Hacamo and Kleiner, 2024; Wallskog, 2022; Guiso et al., 2021; Lerner and Malmendier, 2013; Guiso and Schivardi, 2011; Nanda and Sørensen, 2010). This allows us to provide credible causal estimates on the long-run effects of exposure to entrepreneurs on the probability of entering and succeeding in this profession for the entire Danish population born between 1965 and 1979. Given that this literature has largely overlooked the impact of interacting with individuals with entrepreneurial experience on women's entry and performance in entrepreneurship, our second contribution is to present novel population-wide evidence on how this factor may affect women's likelihood of engaging and succeeding in entrepreneurship.[12,13]

Finally, this paper relates to the emerging body of work studying the aggregate implications of removing occupation-specific gender-based distortions. Existing studies have used a model-based approach to estimate the macroeconomic gains derived from reducing the occupational barriers facing women in general (Hsieh et al., 2019), and within entrepreneurship (Morazzoni and Sy, 2022; Chiplunkar and Goldberg, 2021; Bento et al., 2020). In contrast to these papers, we investigate the effects of increasing women's representation in entrepreneurship by leveraging exogenous variation in girls' early exposure to entrepreneurs. This approach offers two key advantages. First, while previous studies are agnostic about the nature of the barriers facing women in entrepreneurship, we show that higher exposure to entrepreneurs during adolescence can promote the entry and the success of women in this profession, providing evidence for a potential micro-foundation of these barriers. Second, by exploiting quasi-random variation in women's probability to become entrepreneurs, we can pin down the causal effect of increasing female entrepreneurship on the allocation of entrepreneurial talent without relying on the demanding assumptions required when estimating this relationship using a structural model.

The remainder of this paper is organized as follows. Section 2 describes the data and

[12]In particular, the few existing studies on the role of exposure to entrepreneurs in relation to female entrepreneurship focus on highly selected groups, such as women enrolled in MBA programs or employed in start-ups, and do not examine firm characteristics or performance (Hacamo and Kleiner, 2024; Rocha and Van Praag, 2020; Markussen and Røed, 2017). Yet, if one barrier for increasing female entrepreneurship is women's lower likelihood of entering environments with high exposure to entrepreneurs (see Table 1), focusing only on these specific sub-samples risks underestimating the cost of women's under-representation in entrepreneurship.

[13]In this respect, our paper also connects to recent studies showing how discrimination may distort the performance of female entrepreneurs (e.g., Brock and De Haas, 2023; Ewens and Townsend, 2020; Hebert, 2020).

the main variables of interest. Section 3 presents the empirical strategy and discusses its validity. Section 4 presents the result on the role of early exposure for the creation of female entrepreneurs, while Section 5 focuses on the efficiency implications associated with the observed increase in female entrepreneurship. Section 6 investigates the plausible mechanisms underlying our results. Finally, Section 7 concludes.

2 Data

We use individual-level administrative data covering the entire Danish population from 1980 onward. A key advantage of this data is the possibility of linking longitudinal information contained in school, family, and employment registers at the individual level. Specifically, we use employer-employee registers to identify entrepreneurs, the characteristics of their firms and the occupation of non-entrepreneurs; education registers to identify the school individuals attend and their school peers; and we use demographic registers to connect individuals to their family members.

2.1 Sample selection and the Danish education system

In Denmark, students need to complete nine years of compulsory school, which consists of a unique block of school years covering both primary and lower-secondary education. Allocation of students to schools is based on local catchment areas, with each residential address being associated with exactly one public school.[14]

Our sample includes 786,660 individuals who attended the final three years of compulsory schooling (grades 7-9) at 1,564 schools between 1980 and 1992, when they were between the ages of 13 and 16.[15] We choose this sample for several reasons. First, focusing on students completing compulsory school before 1993 allows us to follow the educational and career trajectories of each student over a long period of time, enabling us to identify both the short- and long-run effects of early exposure to entrepreneurs. In particular, in our analysis we follow individuals up to age 40 as, by construction, our sample size begins to decrease beyond that age (see Figure A1).[16] Importantly, the vast majority of individuals in our sample (85 percent) enter entrepreneurship for the first time before age 40, thus mitigating potential concerns about restricting our analysis to this age threshold.

[14]Most municipalities (87 percent) have at least two schools, with an average of 5 schools and a median of 3 schools per municipality. While private school students can enroll outside their designated catchment areas, they represent only about 7 percent of students during our sample period. Importantly, our empirical approach accounts for endogenous school selection by exploiting within-school variation (see Section 3). More details about the Danish educational system are provided in Appendix C.

[15]While we observe information on the school students attend only for the final years of compulsory school, this entire educational period is structured to take place within a single institution.

[16]In particular, Figure A1 shows that up to age 40 we have a nearly balanced panel. Note that since our dataset includes all people residing in Denmark each year, the only reasons for data attrition are emigration or death.

Second, all students follow the same curriculum during compulsory school. This ensures that the period we study is prior to any divergence in the educational and professional trajectories of boys and girls, and that our effects are not influenced by (endogenous) gender differences in the probability of self-selecting into environments characterized by different levels of exposure to entrepreneurs.[17] At the same time, the end of compulsory school marks a critical juncture in the Danish educational system. Students must decide whether they want to conclude their formal education or advance their studies by enrolling in academic or vocational upper secondary education, each lasting for three years. As we discuss in greater detail in Appendix C, the academic track typically prepares students for tertiary education, while the vocational track is designed to equip them with job-specific skills.

Finally, existing studies document that adolescence is a period where individuals form their preferences and beliefs, and when social learning – defined as the ability to learn from one's environment – is at its peak (Booth et al., 2019; Klimstra, 2013; Harris, 2011; Borghans et al., 2008; Heckman, 2007; Krosnick and Alwin, 1989). Thus, students at this age may be particularly susceptible to the inputs surrounding them.

2.2 Identifying entrepreneurs

We identify entrepreneurs as individuals starting or owning a business with employees, thereby excluding the self-employed.[18] We impose this restriction for two reasons. First, the self-employed are unlikely to constitute a good proxy for entrepreneurship, as noted by previous studies (Boeri et al., 2020; Levine and Rubinstein, 2017). Second, in contrast to entrepreneurs, the self-employed do not contribute to economic growth through job creation. Nonetheless, we show in Section 4.1 that our results are robust to adding the self-employed in our definition of entrepreneurs.

While owners of *unincorporated* businesses are directly identified in the Danish administrative registers, individuals who found *incorporated* ventures are not, as they are typically registered as employees of their own firms in the data.[19] To identify founders of *incorporated* businesses we follow the approach taken in other studies using Danish data and classify top managers of newly created firms as entrepreneurs (e.g., Iversen et al., 2016; Nanda and Sørensen, 2010; Sørensen, 2007a).[20] Finally, for both incorporated and

[17] The fact that we can estimate the effects of exposure *before* any potentially endogenous education and career choices are made implies that we can estimate the effect of exposure on a fully representative set of women. This stands in contrast with previous studies (e.g. Hacamo and Kleiner, 2024; Rocha and Van Praag, 2020) which instead focused on a highly selected group of women, such as those enrolled in MBA programs or working in start-ups.

[18] Our ability to exclude the self-employed stands in contrast to other studies, which faced limitations in doing so due to data constraints or concerns about sample size (e.g. Hombert et al., 2020; Lindquist et al., 2015; Nanda and Sørensen, 2010).

[19] This is the case unless they are passive investors not participating in the direction of the firm.

[20] As shown in Table 3, approximately 85% of the entrepreneurs we identify are classified as owners of unincorporated firms.

unincorporated businesses, we only consider as entrepreneurs individuals for whom their entrepreneurial activity is their main occupation. In doing so, we exclude from our definition of entrepreneurs part-time consultants and individuals who may set up a side business to shelter taxes.

2.3 Summary statistics

2.3.1 Overall sample

Table 2 reports descriptive statistics for individuals in our analysis sample. Panel A reports our main outcomes of interest, namely the share of individuals becoming entrepreneurs and the average number of years spent in entrepreneurship. Nearly 5 percent of individuals in our sample are identified as entrepreneurs at some point over the observation period.[21] Entry into entrepreneurship increases with age, and women are significantly less likely than men to enter entrepreneurship at every age, with this disparity growing larger as age increases. Conditional on becoming an entrepreneur, the average time spent in entrepreneurship is 4.5 years, with this period being significantly shorter for women.

Panel B of Table 2 provides an overview of our measure of early exposure to entrepreneurship, defined as the share of peers with at least one entrepreneur parent at any point within the last three years of compulsory school. This variable is constructed at the school-cohort level excluding the individual herself.[22] On average 11.6 percent of a student's peers have at least one parent who is an entrepreneur, and, as expected, the average exposure is the same for boys and girls. Breaking down this measure by the gender of peers reveals that the share of female and male peers with entrepreneur parents is virtually the same. The interquartile range (IQR) of the share of peers with entrepreneur parents is 0.094, while the IQR of the share of female and male peers with entrepreneur parents is 0.114 and 0.113 respectively. We will use these values (which are not reported in the table) to interpret the magnitudes of our estimates when presenting the results. The average cohort size is 44 students, balanced between boys and girls. Given the relatively small number of students in a cohort, it is likely that students interact with the majority of their peers.[23]

Finally, Panel C of Table 2 provides an overview of other characteristics of individuals in our sample. Eighteen percent of students discontinue education at the end of compulsory school and 40 percent obtain a university degree. The share of students completing upper secondary academic education after compulsory schooling closely matches the share

[21] This is in line with the national entrepreneurship data from OECD (2021). Note that, because our panel is not perfectly balanced (as shown in Appendix Figure A1), the average value of "Ever entrepreneur" is slightly lower than that of "Ever entrepreneur by age 40".

[22] A detailed explanation of how the variable is constructed is provided in Section 3.

[23] Note that we do not have data on the division of students into specific classes. However, for our empirical strategy, defining peers based on cohorts rather than classes is preferable, as class assignments within a cohort may be influenced by parental preferences.

of students completing vocational education, with boys (girls) being significantly more likely to opt for vocational (academic) education.

2.3.2 Entrepreneurs sample

Panel A of Table 3 reports descriptive statistics for the individuals that ever entered entrepreneurship during our sample period, and separately for men and women. Twenty-two percent of individuals pursuing entrepreneurship as a career have at least one parent who is an entrepreneur, and male entrepreneurs are more likely than female entrepreneurs to have entrepreneur parents. Note that these shares are approximately twice as large as those obtained for the overall sample shown in Panel C of Table 2, in line with the fact that having entrepreneur parents has a large positive effect on an individual's likelihood of pursuing entrepreneurship. While the share of entrepreneurs discontinuing education at the end of compulsory school is similar to that observed in the overall sample (see Table 2), entrepreneurs are more likely to enroll into and complete vocational education. In particular, among the different educational paths, the vocational track is the most conducive to entrepreneurship, with almost 64 percent of male entrepreneurs and 56.5 percent of female entrepreneurs completing this education. For both men and women, the average age at first entry into entrepreneurship is around 31 and, during the time spent in this profession, men and women lead between 1.30 and 1.22 entrepreneurial firms, the majority of which are unincorporated.[24]

Panel B of Table 3 reports descriptive statistics for firms created by entrepreneurs in our sample. We first note that entrepreneurial firms are present across all industries and represent 38 percent of all firms active over our sample period (see Panel (a) of Figure 1). Although these firms tend to be small, they employ almost 16 percent of the Danish workforce, therefore representing a substantial source of job creation (see Panel (b) of Figure 1). Firms owned by men and women are concentrated in different sectors, with female-led firms primarily found in healthcare, hospitality, and other services, while male-led firms dominate industries such as construction and manufacturing.[25] These sectoral differences are mirrored in their employment patterns (see Panel (c) and (d) of Figure 1). The average entrepreneurial firm in our sample employs 5.1 workers and survives for 3.7 years, with male-led firms being larger and surviving for longer than female-led firms.[26] The average tenure and full-time earnings of workers employed in entrepreneurial firms are 2.1 years and DKK 195,664 respectively, with average earnings being higher in male-led firms.[27] Finally, the table reveals that female-led entrepreneurial firms could be

[24]Note that we cannot compare the earnings of entrepreneurs with those of non-entrepreneurs, as the earnings measure for owners of unincorporated firms includes their businesses' profits and losses. This makes direct comparisons challenging for the majority of entrepreneurs in our sample.

[25]"Other services" includes both industries R and S in the NACE classification, corresponding to "Arts, entertainment and Recreation" and "Other service activities", respectively.

[26]For each entrepreneur, we define their firm's survival as the number of years the firm survives conditional on the entrepreneur being in the firm. Relaxing this condition does not affect our analysis.

[27]Using December 2024 exchange rate, 195,664 DKK corresponds to approximately 27,559 USD. The

regarded as more female-friendly, given that they employ a much higher share of women and employees working part-time. The differences in workforce composition between male and female-led firms suggest that increasing female entrepreneurship through early exposure could impact the diversity and inclusivity of job opportunities available in the economy, something we investigate in more detail in Section 5.2.

3 Empirical strategy

The main challenge in identifying the effect of early exposure to entrepreneurs on individuals' career trajectories is that sorting of individuals into environments characterized by different levels of exposure is unlikely to be random and could correlate with adolescents' background characteristics and propensity to become entrepreneurs. The ideal experiment to identify the impact of early exposure on individual outcomes would randomize adolescents' exposure to entrepreneurs and identify its effect by comparing the outcomes of individuals with different levels of early exposure in the subsequent years. We approximate this experiment by exploiting within-school across-cohort variation in adolescents' exposure to entrepreneurship, as measured by the share of their peers whose parents are entrepreneurs. Intuitively, we compare the probability of becoming an entrepreneur for two students selecting into the same school – thus living in the same neighborhood and exposed to the same overall environment – but belonging to different cohorts, such that one student is exposed to more peers with entrepreneur parents than the other.

This strategy, which allows for endogenous selection into schools, has been used in various settings to isolate quasi-random variation in peers' characteristics (e.g., Lavy and Schlosser, 2011; Angrist and Lang, 2004; Hoxby, 2000). In our context, the key identifying assumption for this strategy to yield causal estimates is that variation in the composition of parental occupations across cohorts within a particular school is quasi-random. As parents are presumably unaware of the degree of within-school variation in the share of students with entrepreneur parents in their children's cohort, they are unlikely to consider this factor when enrolling them into a particular school. We provide evidence in favor of this assumption in Section 3.2.

3.1 Regression Models

To identify the impact of early exposure to entrepreneurs on students' probability to pursue entrepreneurship as a career in adulthood, we estimate the following age-specific regression separately for boys and girls from age 18 to 40:

$$Y_{i(sc),a} = \beta_1^a Entrepr_{-i,sc} + \beta_2^a Parent_{i(sc)} + \gamma_s^a + \gamma_{m,c}^a + \theta^a X_i + \eta^a Z_{sc} + \epsilon_{i(sc),a} \quad (1)$$

corresponding amount for employees in non-entrepreneurial firms is slightly higher and equal to 215,523 DKK or 30,357 USD.

where $Y_{i(sc),a}$ is the outcome of individual i, who attended school s in cohort c, measured at age a. Our two main outcomes of interest are an indicator equal to 1 if i has entered entrepreneurship by age a and the total number of years spent in entrepreneurship by age a. $Entrepr_{-i,sc}$ is the share of peers with at least one parent who spends time in entrepreneurship during the exposure period ($Parent_{i(sc)} = 1$), defined using the *leave-one-out* strategy standard in the peer effects literature:

$$Entrepr_{-i,sc} = \frac{\sum_{k \neq i \in (sc)} Parent_{k(sc)}}{n_{sc} - 1}$$

Thus, for each individual i, the term $Entrepr_{-i,sc}$ represents the share of students in the same school and cohort as i, who have at least one entrepreneur parent, excluding individual i from the calculation. To address the mechanical negative correlation between the share of peers whose parents are entrepreneur and own parent's entrepreneurial status (see Angrist, 2014, for a discussion), while also accounting for the high intergenerational transmission of entrepreneurship (Lindquist et al., 2015; Sørensen, 2007b; Dunn and Holtz-Eakin, 2000), we also condition on own parent's entrepreneurial status, through the $Parent_{i(sc)}$ dummy.

The coefficients γ_s^a and $\gamma_{m,c}^a$ denote school and municipality-by-cohort fixed effects, respectively. The school fixed effects account for school characteristics that are constant across cohorts, such as whether the school tends to be attended by students with specific set of background characteristics. The municipality-by-cohort fixed effects account for confounding factors affecting all individuals within the same small geographical area and cohort, such as some municipalities becoming more attractive to entrepreneurs over time, or other localized economic shocks.[28] Finally, we condition on a vector of individual level controls, X_i, and a vector of other peer characteristics, Z_{sc} to increase precision and isolate the effects of interest.[29] Finally, and we cluster standard errors at the school level to account for potential correlation in students' outcomes within schools.

The main parameters of interest are the β_1^a coefficients, which capture the change in Y associated with the share of peers with entrepreneur parents increasing from zero to one. These estimates are causal under the assumption that within-school across-cohort variation in the share of peers with entrepreneur parents is as good as random. We

[28]Information on the number and size of municipalities in Denmark is reported in Appendix C. To address the possibility that municipality-year fixed effects may not fully capture localized trends in larger areas, in Section 4.1, we show that our results hold even after excluding the 30 largest municipalities or accounting for school-specific trends.

[29]We discuss more at length the role of controls in the next Section. The vector X_i includes age, an indicator for living with only one parent, first- and second-generation immigrant status, parents' income and age, parental unemployment and home-ownership indicators, and parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. The vector Z_{sc} includes cohort size, the share of female peers, the share of first- and second-generation immigrant peers, average parental income of peers, and the share of peers with parents who are unemployed, homeowners, or whose highest education level is upper secondary academic, upper secondary vocational, or higher education. All peer characteristics are calculated in the same *leave-one-out* manner as $Entrepr_{-i,sc}$.

provide evidence in favor of this assumption in Section 3.2.

We further estimate specifications that allow for a different effect of early exposure to entrepreneurs, according to the gender of the peers through which exposure arises.[30] There are at least two reasons why peers' gender could matter in our context. First, insights from psychology suggest that boys and girls tend to interact more frequently with same-sex peers than with those of the opposite sex, particularly during adolescence (see Rubin et al., 2015; Rose and Rudolph, 2006, for reviews). Second, boys and girls develop different types of relationships with their friends: while friendships among girls typically revolve around conversations and sharing of information, friendships among boys tend to be focused on activities done together (Perry and Pauletti, 2011; Rose and Rudolph, 2006; Underwood, 2004; Aukett et al., 1988). Thus, if the impact of early exposure is influenced by the frequency and type of interactions, it is reasonable to hypothesize that the effect of exposure varies by the gender of the peers through which exposure arises.

We investigate this hypothesis by estimating the following age-specific regression separately for male and female students in our sample:

$$\begin{aligned} Y_{i(sc),a} =& \delta_1^a Entrepr_{-i,sc}^{FP} + \delta_2^a Entrepr_{-i,sc}^{MP} + \delta_3^a Parent_{i(sc)} \\ &+ \bar{\gamma}_s^s + \bar{\gamma}_{m,c}^a + \bar{\theta}^a X_i + \bar{\eta}^a Z_{sc} + e_{i(sc),a} \end{aligned} \tag{2}$$

where $Entrepr_{-i,sc}^{FP}$ and $Entrepr_{-i,sc}^{MP}$ denote the share of female and male peers with at least one parent observed as an entrepreneur during the exposure period, respectively; and all other terms are defined as in equation (1). Similar to equation (1), both $Entrepr_{-i,sc}^{FP}$ and $Entrepr_{-i,sc}^{MP}$ are constructed as the *leave-one-out* distribution of students with an entrepreneur parent belonging to a specific gender, school and cohort:

$$Entrepr_{-i,sc}^{FP} = \frac{\sum_{k \neq i \in (sc)} Parent_{k(sc)}^{F}}{n_{sc}^{F}-1} \quad \text{for girls;} \quad Entrepr_{-i,sc}^{FP} = \frac{\sum_{k \in (sc)} Parent_{k(sc)}^{F}}{n_{sc}^{F}} \quad \text{for boys}$$

$$Entrepr_{-i,sc}^{MP} = \frac{\sum_{k \in (sc)} Parent_{k(sc)}^{M}}{n_{sc}^{M}} \quad \text{for girls;} \quad Entrepr_{-i,sc}^{MP} = \frac{\sum_{k \neq i \in (sc)} Parent_{k(sc)}^{M}}{n_{sc}^{M}-1} \quad \text{for boys}$$

Under the assumptions tested in the next Section, δ_1^a and δ_2^a identify the causal effect of exposure to a larger share of female and male peers with entrepreneur parents respectively, on the outcome of interest.

3.2 Support to the identification strategy

In this Section, we discuss the empirical tests we perform to lend support to the validity of our identification strategy and the proposed interpretation of the results.[31]

[30] In our analysis of mechanisms, we further investigate whether the effect of exposure depends on the gender of the entrepreneur parent (see Section 6).

[31] In the main text we discuss the results obtained when considering variation in the overall share of peers with entrepreneur parents. Results obtained when separating between the share of male and female peers with entrepreneur parents are reported in Appendix Tables A2, A3, and A4 and are consistent with those described in this Section.

Residual Variation: A first-order concern for our ability to obtain precise estimates using our identification strategy is whether we have sufficient variation in the share of peers with entrepreneur parents once we condition on school and municipality-by-cohort fixed effects. Appendix Table A1 reports variation in the share of peers with entrepreneur parents with and without conditioning on our set of fixed effects. Conditioning on school and municipality-by-cohort fixed effects reduces the standard deviation in the share of peers with entrepreneur parents by 41 percent, from 7.1 percent to 4.2 percent. This residual variation is in line with other studies exploiting within-school across-cohorts variation (e.g. Olivetti et al., 2020; Bifulco et al., 2011), and is sufficient to obtain precise estimates as our results presented later will document.

Quasi-random variation: As discussed, a causal interpretation of our estimates rests on the assumption that within-school across-cohorts variation in the share of peers with entrepreneur parents results from random fluctuations rather than systematic selection. We provide evidence in favor of this assumption through two empirical checks.[32] First, we investigate whether the residual variation in the share of peers with entrepreneur parents can be considered "as good as random" after conditioning on school and municipality-by-cohort fixed effects. Appendix Figure A2 shows that the residuals closely follow a normal distribution, supporting the hypothesis that, conditional on school and municipality-by-cohort fixed effects, variation in exposure to peers with entrepreneur parents is as good as random.

We further test our identifying assumption by regressing a large set of predetermined student characteristics on the share of peers with entrepreneur parents, own parents' entrepreneurial status, and school and municipality-by-cohort fixed effects. We display the results in Table 4: all estimates are small in magnitude and none of them are significantly different from zero at conventional levels. The evidence from these balancing tests mitigates concerns regarding the possibility that, within a school, students sort across cohorts in a way that correlates with our exposure measure.[33]

Correlated Effects: Because of the quasi-random fluctuations in the share of peers with entrepreneur parents, the parameter of interest, β_1^a has a causal interpretation. However, there remains a final concern in interpreting β_1^a as solely reflecting the effect of exposure to more entrepreneurs during adolescence: if the cohorts with a higher proportion of peers with entrepreneur parents also differ in other aspects, then β_1^a might capture not only the influence of entrepreneurial exposure but also the effects of other

[32]Similar tests have been used to test for selection on observables in previous papers exploiting idiosyncratic within-school across-cohort variation (e.g. Olivetti et al., 2020; Lavy and Schlosser, 2011; Bifulco et al., 2011).

[33]We also conduct a test proposed by Oster (2019) to assess how important unobservable characteristics would have to be relative to observable characteristics to explain away our estimated effects. The results are in line with the evidence presented in this Section, providing further support to the assumption that our estimates are not significantly affected by the presence of unobservables (see discussion in Section 4.1 and estimates reported in Appendix Table A10).

parental characteristics that correlate with both our exposure measure and the outcomes considered (i.e., correlated effects, as discussed in Manski, 1993).

We investigate how the share of entrepreneur parents correlates with other parental characteristics at the cohort level, conditional on school and municipality-by-cohort fixed effects and show the results in Table 5. We find that cohorts with a higher share of entrepreneur parents are characterized by a higher share of parents with vocational and higher education, a higher share of parents who are homeowners, parents with higher income, and a lower share of parents who are unemployed. Instead, the relationship between the share of peers with entrepreneur parents and the share of parents who are immigrants, who have secondary academic education, or parents' average age are either insignificant or very small in magnitude. To isolate the effect of early exposure to entrepreneurs from other potentially correlated characteristics, we condition on all the parental characteristics analyzed in Table 5 in our baseline regressions (included in Z_{sc}). Importantly, when we present our results we also show that our estimates are not affected by whether these parental characteristics are included. This consistency supports the interpretation that exposure to entrepreneurs has an *independent* effect on our outcomes of interest, rather than simply reflecting the influence of correlated parental characteristics that might affect our outcomes of interest.

In addition, when we investigate whether the effect of exposure to entrepreneurs depends on the gender of the peers through which exposure arises, we can estimate specifications where we compare students who are exposed to the same share of peers with entrepreneur parents, but for whom the gender composition of their peers varies (see Section 4.1). This approach effectively addresses the potential concern of endogenous selection into cohorts and the potential confounding effects arising from correlated characteristics at the cohort level, thereby substantiating the validity of our proposed interpretation of the coefficients of interest.

4 Early exposure and female entrepreneurship

We first investigate the effect of early exposure to entrepreneurs on the likelihood of spending any time in entrepreneurship, as well as the number of years spent in entrepreneurship. Figure 2 plots estimates of β_1^a from estimating Equation (1) and estimates of δ_1^a and δ_2^a from estimating Equation (2) for women, while estimates for men are shown in Figure 3. In both Figures, the dependent variable is a dummy equal to one if the individual has entered entrepreneurship by age a in Panels (a) and (b), and the number of years spent in entrepreneurship by age a in Panels (c) and (d). To ease interpretation, coefficients are rescaled to reflect the effect of increasing exposure by the interquartile range (IQR) of the exposure distribution, in percent of the mean of the dependent variable.[34] Thus,

[34]Without this adjustment, the coefficients would capture the change in the outcome when the proportion of peers with entrepreneur parents moves from zero to one, which is less meaningful for inter-

the y-axis plots the percentage change in the outcome of interest resulting from moving students from a cohort with relatively low exposure to one with relatively high exposure.

Panel (a) of Figure 2 shows that a higher share of peers with entrepreneur parents increases women's probability of entering entrepreneurship already from their early 20s. While the estimated effects become less precise at older ages, the positive effect of exposure on women's propensity to enter entrepreneurship appears to be persistent. In line with the hypothesis presented in Section 3.1, Panel (b) highlights the presence of gender-specific peer effects for women. Specifically, it shows that the average effects shown in Panel (a) is entirely attributable to variations in the share of *female* peers with entrepreneur parents. A larger share of male peers with entrepreneur parents, on the contrary, has no effect on women's future entrepreneurship. The positive effect driven by variations in the share of female peers with entrepreneur parents kicks in when girls are in their early 20s and persists thereafter.

These effects are estimated while controlling for a rich set of individual and peer characteristics, as detailed in equations (1) and (2). Appendix Table A5 shows that the inclusion of these controls leaves virtually unchanged the estimated effect of early exposure to entrepreneurship. This supports both the validity of our identification strategy and the interpretation of our results. Indeed, it first provides evidence against selection bias arising from unobservable characteristics, supporting our identifying assumption that within-school variation in early exposure is as good as random. Second, it demonstrates that the estimated effects of early exposure are not driven by confounding factors, such as peers' or parental characteristics correlated with such exposure, ensuring that the observed effects can be attributed to early exposure itself.

In terms of magnitudes, our estimates imply that women who were enrolled in cohorts at the 75th percentile of the exposure distribution are 4 percent more likely to become entrepreneurs by their mid-30s than women enrolled in cohorts at the 25th percentile of the exposure distribution.[35] To provide a benchmark for these magnitudes, we compare our estimates to the effect of having a parent who is an entrepreneur, a factor that has been shown to have a strong influence on an individual's decision to pursue a career in entrepreneurship (see Parker, 2018). Consistent with prior evidence, we find that having an entrepreneur parent increases girls' probability of becoming entrepreneurs by age 35 by as much as 59.3 percent. Thus, the effects we estimate correspond to 6.5 percent of the increased propensity to enter entrepreneurship associated with having an entrepreneur parent. Considering the substantial influence of own parents' entrepreneurial status, this benchmarking exercise emphasizes the significant role that early exposure to

pretation. Cohorts at the 25th percentile of the exposure distribution have 6.4 percent of students with entrepreneur parents, while cohort at the 75th percentile have 15.8 percent of students with entrepreneur parents. Thus, the IQR corresponds to increasing exposure by 9.4 percentage points.

[35]The IQR in the distribution of the share of female and male peers with entrepreneur parents are both equal to 11.4 percentage points. Appendix Tables A6 shows the raw coefficients at age 25, 30, 35, and 40.

entrepreneurs can play in fostering female entrepreneurship.

As we are interested in examining not only the entry of women into entrepreneurship but also their tenure in this occupation, we turn to investigate the persistence of previously documented effects by estimating how early exposure influences the number of years women spend in entrepreneurship by a specific age. We show the results in Panels (c) and (d) of Figure 2. In line with the evidence presented in Panels (a) and (b), Panels (c) and (d) show that early exposure to entrepreneurs significantly increases the number of years women spend in entrepreneurship (Panel c), and that this effect is entirely driven by exposure to entrepreneurship through female peers (Panel d). In terms of magnitudes, the figure shows that increasing the share of female peers with entrepreneur parents by the IQR results in a 6.4 percent increase in the number of years spent in entrepreneurship by age 40 for women.[36]

We next turn to the effect of early exposure on men in Figure 3. Panel (a) shows a positive effect of early exposure on men's probability to enter entrepreneurship which appears at the end of their 20s but fades away quickly after that. Panel (b) shows that this pattern holds irrespective of the gender of the peers through which exposure arises. These results indicate that while men exposed to a higher share of entrepreneurs during adolescence may enter entrepreneurship a few years earlier, their overall probability of pursuing entrepreneurship as a career is not significantly affected. In contrast, the evidence presented in Figure 2 showed that such exposure is key for women, as they would not have entered this profession otherwise. Furthermore, consistent with the evidence presented in Panels (a) and (b), the estimates presented in Panels (c) and (d) of Figure 3 show that the number of years men spend in entrepreneurship is unaffected by the share of peers with entrepreneur parents, a result that holds regardless of the gender of the peer through which exposure arises.[37]

Taken together, these findings have important implications. Existing research indicates that stereotypes and social norms may lead girls to form biased beliefs about gender-specific roles and careers, deterring them from selecting into environments that can correct these expectations (Bertrand, 2020; Bordalo et al., 2016; Bertrand, 2011). Consistent with this, we find that as soon as compulsory school is over, the educational and labor market choices of women make them less likely than men to be exposed to entrepreneurship. Specifically, we calculate the average exposure to entrepreneurs in post-compulsory education and within the workplace, defined as the percentage of individuals from the same cohort and educational institution or workplace identified as

[36]To interpret this effect in terms of number of years spent as an entrepreneur, we can rescale the coefficients using the previously estimated increase in the number of women who become entrepreneurs due to early exposure. Based on the estimates obtained at age 40 (see Appendix Table A6), this rescaling suggests that women who enter entrepreneurship due to early exposure to entrepreneurs spend approximately 8 years and 3 months in this profession.

[37]Appendix Table A7 shows the raw coefficients at age 25, 30, 35, and 40. Note that, similar to women, the coefficients estimated for men are also unaffected by the inclusion of our set of controls.

entrepreneurs at any time during our sample period.[38] The results, presented in Table 1, reveal that due to differential educational and professional choices taking place after the end of compulsory school, boys are exposed to between 16 percent and 42 percent more entrepreneurs than girls.

This disparity may explain why we do not find clear evidence of peer effects for boys, as having greater exposure to entrepreneurs throughout their lives could reduce the importance of early exposure in influencing their probability of becoming entrepreneurs. Instead, exposing girls to entrepreneurs before their educational and career trajectories diverge from that of boys can be instrumental in increasing female entrepreneurship by acting as an equalizer of opportunities for girls who would have not become familiar with this profession otherwise. Our results are also consistent with the presence of gender differences in the structure and nature of friendship during adolescence. Existing research in social psychology highlights that girls tend to privilege emotionally intimate relationships and show greater orientation towards social and relational aspects of their environment, while boys tend to form larger friendship groups centered around collective participation in games and activities (see Rose and Rudolph, 2006, for a review). In line with these friendship dynamics, recent papers both in social psychology and economics have found evidence that peers' influence is strong among girls and more muted among boys (Aguirre et al., 2021; Mouganie and Wang, 2020; McMillan et al., 2018; Kretschmer et al., 2018; Fischer, 2017; Haynie et al., 2014; Schneeweis and Zweimüller, 2012; Mercken et al., 2010).

4.1 Robustness and validation checks

In this section, we assess the robustness of our results and perform additional validation checks. To prevent duplication in the presentation of robustness tables and figures, we focus on the impact of early exposure on the total number of years girls spend in entrepreneurship, as this outcome combines the effects on entry and tenure.[39]

Cohort size: The increase in women's probability to enter entrepreneurship due to higher exposure to *female* peers with entrepreneur parents is consistent with the notion that exposure matters through repeated interactions. We further explore this hypothesis by considering heterogeneity of the effects by the size of an adolescent's cohort. Assuming that students in smaller cohorts have more frequent interactions with a larger share of their peers, we would expect our results to be concentrated in smaller cohorts. Appendix Table A8 presents estimates separately for girls in large and small cohorts within their schools, defined by being respectively above and below the average cohort size. In line

[38] Thus, this measure of exposure includes past, current, and future entrepreneurial status of peers in the same workplace or educational institution, allowing for a measure of exposure that can be assessed even at relatively young ages.

[39] Results on the probability of ever entering entrepreneurship are also robust to the tests discussed in this Section.

with the idea that frequent interaction matters for our results, we find that our average baseline estimates (reported in Panel B of Appendix Table A6) are mostly driven by girls in smaller cohorts.

Conditioning on overall exposure: Equation (2) exploits within-school across-cohort variations in the share of male and female peers with entrepreneur parents. In doing so, this specification also leverages variation in the *overall* share of peers with entrepreneur parents for identification. An alternative strategy is to condition on the overall share of peers with entrepreneur parents at the cohort level, thereby exclusively exploiting within-school across-cohort variation in the *gender composition* of such peers. We thus replicate our analysis by estimating a specification comparing students with equivalent *levels* of exposure to peers with entrepreneur parents but who differ in their exposure to *female* peers with entrepreneur parents. As shown in Appendix Figure A3, our findings are robust to this alternative specification, with estimates that are quantitatively similar to those of our baseline analysis. Such similarity lends further support to the validity of our empirical strategy, as it alleviates concerns about the possibility that students within a school sort across cohorts in a way that correlates with our exposure measure, while also mitigating concerns about potential confounding effects arising from correlated differences in parental characteristics at the cohort level.

Measure of entrepreneurship: While we believe that our definition of entrepreneurs is the most appropriate, we also show in Panel A of Appendix Table A9 that our results are robust to an alternative definition that includes the self-employed (defined as owners of businesses without employees). The effects estimated using this broader definition are similar to our main estimates, and if anything, tend to be larger and more precisely estimated, consistent with the fact that this is a less restrictive measure of entrepreneurship.

Local trends: Our main specification includes municipality-by-cohort fixed effects, accounting for confounding factors that affect all individuals within the same municipality and cohort. The highly granular municipality codes in the registry data allow us to control for localized shocks at a fine geographical level. For instance, these codes distinguish between closely situated areas within large cities, ensuring that the municipality of Copenhagen is treated separately from the surrounding areas within the greater Copenhagen commuter belt. However, this still leaves us with a few relatively large municipalities. For example, at the beginning of our sample period, the two largest municipalities in Denmark, Copenhagen and Aarhus, had populations of 493,000 and 245,000, respectively. Since municipality-by-cohort fixed effects may not fully capture localized trends within larger municipalities, we address this concern and demonstrate the robustness of our results in two ways. First, we replicate the analysis after excluding the 30 largest municipalities.[40] Panel B of Appendix Table A9 shows that our findings

[40]In this sample of smaller municipalities, the average population is just 11,152, and even the largest municipality, Køge, has a population of only 34,511.

remain robust in this sample of smaller municipalities. Second, to rule out that trends at the school level could potentially bias our results, as a further robustness check we include in our baseline specification school-specific linear trends in addition to our set of baseline controls. The estimates from this specification, shown in Panel C of Appendix Table A9, remain large and statistically significant at the 5 percent level.

Spillovers across cohort: Our main specification exploits variation within schools across cohorts, assuming therefore that variation in the share of peers with entrepreneur parents in adjacent cohorts have no effect on students' propensity to become entrepreneurs. However, if students frequently interact with peers from adjacent cohorts, the share of peers with entrepreneur parents in these cohorts may also influence the decision to become an entrepreneur. We test for this by adding the share of female peers with entrepreneur parents in the previous and subsequent cohorts as additional regressors. The estimates, reported in Panel D of Appendix Table A9, show that none of the adjacent cohorts have a significant impact on the number of years spent in entrepreneurship for women, suggesting that it is sufficient to focus on the effects of peers within the same cohort, as we do in our main specification.

Selection-on-unobservables: The balancing tests in Table 4 suggest that, within a school, students do not sort across cohorts in a way that correlates with our exposure measure. Consequently, it is unlikely that unobserved characteristics correlated both with the propensity to become an entrepreneur and with variation in our exposure measure are the main drivers of our results. This is also confirmed by the results in Appendix Table A5 (column (3)), which shows that our estimates are not sensitive to the inclusion of this set of peers' characteristics. Nevertheless, we conduct a test suggested by Oster (2019) that allows for an assessment of how important unobservable characteristics would have to be relative to observable characteristics to explain away the estimated effect, a parameter we refer to as δ following the notation in Oster (2019). Oster argues that a value of δ of at least one suggests that the true estimate is bounded away from zero, even in the case where all unobservable and observable characteristics of importance were included in the specification. The test studies the stability of the coefficient on the exposure variables and changes to the R^2 when observable control variables are included in the specification. The intuition is that if the exploited variation in early exposure to entrepreneurship is indeed as good as random, then the inclusion of control variables should not affect the estimated effect of early exposure on subsequent outcomes. We care about changes to the R^2 associated with the inclusion of control variables, because this tells us something about the importance of the included controls in explaining the outcome of interest. The test requires an assumption about the value of R^2 in a hypothetical specification that includes all observable and unobservable characteristics in a regression (R^2_{max}). Following Oster (2019) we set R^2_{max} equal to 1.3 times the R^2 from a specification that includes all observed controls. Appendix Table A10 shows that the estimated δ is always numerically larger than 1, reinforcing our earlier evidence that unobservable characteristics are unlikely to

substantially influence our estimates.

High-achieving peers: Appendix Table A5 shows that our estimates are not affected by the inclusion of additional parental characteristics measured at the cohort level, such as parents' education and economic status. This supports the view that exposure to entrepreneurs has an independent effect on our outcomes of interest, i.e. an effect that is not simply due to cohorts with more entrepreneurs also having parents who are generally more successful (e.g., higher education levels or lower unemployment rates). Still, one might worry that exposure to peers with entrepreneurial parents inadvertently reflects exposure to ambitious and high-achieving peers more broadly. For instance, if exposure to high-achieving peers makes girls more ambitious, and if more ambitious girls are more likely to start a firm, the observed increase in female entrepreneurship could stem from exposure to higher-achieving peers rather than from exposure to entrepreneurs. To further address this concern, we use two proxies for high-achieving peers: those whose parents are employed as managers, and those whose parents hold higher education degrees. We find no evidence that exposure to high-achieving peers per se affects the number of years spent in entrepreneurship (see Appendix Table A11). These results therefore confirm that the observed effects are driven by exposure to peers with entrepreneur parents specifically, and not by exposure to high-achieving peers more broadly.

Placebo tests: We also conduct a series of placebo tests, where we randomly assign children in our estimation sample to different cohorts within their own school and municipality, reconstruct our exposure measures on these randomized students, and re-estimate our main specification. We conduct this exercise 1000 times and show the distribution of the estimated effect of exposure through female peers on the years women spent in entrepreneurship in Appendix Figure A4. Panel (a) shows that the placebo estimates are centered around zero, and that only 0.4 to 1.7 percent of the placebo estimates are more extreme than our baseline estimates (see Panel (b)). These tests lend further credibility to our baseline estimates not simply arising through spurious correlations.

5 Early exposure and allocative efficiency

Our baseline results point to early exposure to entrepreneurs as a way of promoting female entrepreneurship. This finding is important in its own right if we aim to increase the low rates of female entrepreneurship observed across all developed countries. However, whether steering women into entrepreneurship through early exposure entails a more efficient allocation of talent remains unclear. Answering this question requires both understanding whether early exposure leads to the entry of women who can start successful businesses and identifying what their counterfactual trajectories would have been had they not become entrepreneurs. We address these questions next.

5.1 Women's counterfactual outcomes

We first investigate how early exposure to entrepreneurs impacts the educational and professional trajectories of girls.[41] This analysis allows us to estimate both the private returns of early exposure to entrepreneurs for women in terms of their educational and professional attainments, as well as to shed light on aspects of the social returns associated with reallocating these women to entrepreneurship through early exposure. Indeed, both the private and the social returns associated with steering women into entrepreneurship can greatly vary depending on whether we are redirecting women from low- or high-impact careers.

5.1.1 Educational and career trajectories

We start by investigating whether women who were exposed to a higher share of female peers with entrepreneur parents make different educational choices at the end of compulsory school. Specifically, we analyze the effect of exposure on the probability of pursuing one of the three possible paths students can take after the end of compulsory schooling: (i) discontinuing education; (ii) completing upper secondary vocational education; (iii) completing upper secondary academic education.[42]

Table 6 shows that exposure to a higher share of female peers with entrepreneur parents significantly increases girls' probability of enrolling in and completing upper-secondary vocational education. This increase is almost entirely driven by a reduction in girls' propensity to discontinue education after compulsory schooling, while we find no significant effects of early exposure on girls' probability of enrolling in upper-secondary academic schooling. Because vocational education is both conducive to entrepreneurship and less common among women (see Table 3 and Table 2, respectively), these results suggest that exposing women to entrepreneurship *before* they make educational choices that are difficult to reverse could be instrumental in fostering entrepreneurship among women. We discuss and validate this interpretation of these results in several ways in the following subsection.

We next investigate the impact of early exposure to entrepreneurship on women's careers. To do so, we analyze how the increase in women's tenure into entrepreneurship relates to changes in the number of years women spend between ages 18 and 40 being (i) employed as wage earners; (ii) unemployed; (iii) outside the labor force; (iv) self-

[41] We perform these analyses on a balanced sample of individuals observed each year between age 18 and 40. This ensures that the estimated effects of exposure on mutually exclusive educational and professional categories add up to zero. Results are quantitatively and qualitatively similar if we use the overall sample. Importantly, estimates of the effect of exposure on the probability to enter entrepreneurship and number of years spent in entrepreneurship are virtually the same when using the balanced sample (see column (1) of Table 7 versus column (4) in Panel B of Appendix Table A6).

[42] Appendix C provides more details on the Danish educational system. To allow for enough time for students to make and complete their educational choices after finishing compulsory school, we measure the educational outcomes mentioned above 10 years later.

employed; (v) being employed as contributing family workers.[43]

The results, presented in Table 7, show that the increased number of years women spent in entrepreneurship due to early exposure (Column 1) is not associated with a reduction in the number of years spent being self-employed, unemployed, outside the labor force, or working as an employed spouse (see Columns 2-5). Notably, the small and insignificant effect of early exposure to entrepreneurs on the number of years women spend in self-employment implies that early exposure does not simply convert women from being business owners without employees to business owners with employees. Instead, it implies that the labor market profile of women who become entrepreneurs due to early exposure would have been very different from entrepreneurship. In particular, the results shown in Column 6 suggest that absent early exposure women would have been employed as wage earners, although these estimates are imprecise. To shed more light on this result, we differentiate between the effects of early exposure on the number of years spent in high- and low-paying employment (Columns 7 and 8). We classify employment as high-paying if earnings are above the age- and gender-specific median, and as low-paying if earnings are below this median.[44] Column 8 shows that early exposure steers women away from low-paid employment.

Taken together, our results not only indicate that women could benefit from early exposure by acquiring more years of education and transitioning away from lower-paying positions, but also that promoting female entrepreneurship through early exposure is unlikely to come at the cost of diverting women away from high-impact careers. This highlights the potential advantages of steering women into entrepreneurship, which we further explore in Section 5.2 by investigating whether the increase in female entrepreneurship driven by early exposure is associated with the creation of successful businesses.

5.1.2 Discussion of the results

Early vs late exposure: We validate the interpretation that the observed impact on women's educational and career outcomes stems from early exposure to entrepreneurs, rather than from peer influence exerted later in life, in several ways. First, the documented changes in educational trajectories occur immediately after compulsory schooling, pointing to a direct effect of early exposure. This timing suggests that the increase in female entrepreneurship cannot be fully attributed to peer effects occurring at a later stage, such as subsequent interactions with the female peers from compulsory school whose parents were entrepreneurs. Consistent with this interpretation, we do not find evidence in support of girls' attending the same school as their former female peers with entrepreneur parents, as the estimates presented in the last row of Table 6 imply that daughters of

[43]These categories correspond to the ILO classification of *Status in Employment*. See https://ilostat.ilo.org/resources/concepts-and-definitions/classification-status-at-work/.

[44]As we explain in the footnote of Table 7, the coefficients shown in Column 7 and 8 need to sum up to the coefficient shown in Column 6.

entrepreneurs are more likely to enroll in upper-secondary academic education, rather than in vocational tracks. Furthermore, when we restrict our sample to women who have moved away from the municipality where they completed compulsory schooling – and are therefore less likely to maintain connections with their school peers – the estimated effects remain similar (see Appendix Table A12).[45] While we do not rule out the possibility of subsequent interactions with such peers, these results highlight that early exposure has a direct effect on girls' subsequent trajectories, and emphasize the importance of exposing girls to entrepreneurship *before* they make key educational choices to foster their participation in this profession. To support this argument, Appendix Figure A5 shows that most of the estimated effects of early exposure to entrepreneurship on time spent in this profession (45%-57%) can be attributed to women who enroll in upper-secondary vocational education after compulsory schooling.[46] Together, this analysis indicates that the changes to the educational trajectories of women due to early exposure are important drivers for their increased presence in entrepreneurship.

Confounding factors: Secondly, we confirm that our results on educational and career trajectories are not driven by confounding factors that correlate with greater exposure to entrepreneurs. Specifically, we can rule out that the increase in girls' probability of completing vocational education is driven by exposure to peers whose parents have vocational education, rather than to peers whose parents are entrepreneurs. This is due to the fact that we control for the type and level of education of peers' parents in all our regressions (see Section 3 for our full list of controls). An additional potential concern is that the observed effects on girls' educational and career choices might be driven by exposure to higher-achieving female peers more broadly, rather than specifically by exposure to female peers with entrepreneur parents. We have already shown in Section 4.1 that exposure to high-achieving female peers per se does not influence women's career paths within entrepreneurship. We now complement this robustness check by investigating whether this also holds for their educational choices. In particular, high-achieving girls could improve the educational outcomes of their female peers by reducing school discontinuation rates. This could, in turn, lead girls to pursue the next most accessible educational path, such as the secondary vocational track, ultimately improving job outcomes in adulthood. To test this hypothesis, we use the same proxies for high-achieving peers as in Appendix Table A11. The results, reported in Appendix Table A13, indicate

[45]Note that we find no significant relationship between early exposure and the probability of moving to a different municipality. Consequently, the estimates for this mover sample still have a causal interpretation.

[46]We obtain these numbers by decomposing the overall effect of early exposure to entrepreneurship on the number of years spent in this profession into the shares attributable to three groups: women who enroll in upper-secondary vocational education, women who enroll in upper-secondary academic education, and women who discontinue their education after compulsory schooling. Specifically, we estimate separate regressions of the same form as Equation (2), where the dependent variable is the number of years an individual has spent in entrepreneurship at a given age interacted with an indicator for the type of education they pursue after completing compulsory schooling.

that this explanation is not supported by the data. In particular, while we find, consistent with previous work, that high-achieving female peers can improve girls' educational outcomes, these effects do not operate through changes in the likelihood of girls enrolling in vocational tracks. As such, they cannot explain the observed increase in vocational education documented in Table 6.

5.1.3 Marriage and fertility outcomes

We complete the analysis on women's counterfactual choices by investigating whether early exposure to entrepreneurs during adolescence influences women's marriage and fertility outcomes later in life. A growing literature emphasizes how women's labor market engagement impacts these personal outcomes (see e.g. Bertrand et al., 2021; Petrongolo and Ronchi, 2020; Adda et al., 2017; Blau et al., 2000). This suggests that, by influencing women's educational and career trajectories, early exposure to entrepreneurs could potentially also impact their fertility and marriage rates. We explore this possibility by estimating the effects of early exposure on women's probability of having children, the total number of children, the age at first birth among those with children, and the probability of having ever married. We measure all outcomes at age 40, when most women have completed their fertility, and show the results in Table 8. We find little evidence of any strong impacts of early exposure to entrepreneurs on the fertility and marriage outcomes of women in our sample.[47]

5.2 Firm Performance

To better understand whether steering women into entrepreneurship via early exposure entails an efficient reallocation of talent, we complement the analysis presented in Section 5.1 by investigating if the increase in the stock of female entrepreneurs documented in our baseline results leads to the creation of successful businesses. The answer to this question is ex-ante ambiguous: if gender-specific barriers keep talented female entrepreneurs from entering and thriving in this profession, lowering such barriers through early exposure could foster the creation of successful businesses. However, if early exposure lowers the cost of entering entrepreneurship for women who do not have a comparative advantage in this profession, which requires a specific set of skills and abilities (Lazear, 2004), it could lead to the creation of unproductive firms. To answer this question, we use the cumulative number of jobs created by each entrepreneur as a measure of entrepreneurial success. This metric combines two widely used measures of firm performance in the entrepreneurship literature (e.g. Hacamo and Kleiner 2024, 2022; Hombert et al. 2020; Nanda and Sørensen 2010): the size of the firm, as measured by the number of employees,

[47] We find a significant effect of early exposure through male peers on women's probability of marrying. However, this effect is very small, implying that increasing exposure to male peers with entrepreneur parents with the IQR increases women's probability to marry by just 0.6 percent.

and the number of years the firm survives in the market.[48]

We then estimate regressions of the same form as Equation (2), where the dependent variable is the cumulative number of jobs created by woman i as an entrepreneur by age a.[49] Because variation in the share of peers with entrepreneur parents is conditionally random (see Section 3.2), these reduced form estimates, which are measured at ages 25, 30, 35, and 40, have a causal interpretation. The estimated effects of early exposure on the cumulative number of jobs created by women are reported in Panel A of Table 9 and indicate that increasing early exposure to entrepreneurs through female peers by the IQR increases the cumulative number of jobs created by women between age 18 and 40 by 12 percent relative to the mean (see Column 4). These estimates are highly policy-relevant. Taken at face value and abstracting from general equilibrium effects, they suggest that increasing early exposure to entrepreneurs by the IQR would increase the cumulative number of jobs created by female entrepreneurs by 27,590 at age 40.[50] This corresponds to a nearly 3 percent increase in the total number of jobs created by entrepreneurs over our sample period. Another potential reason to promote female entrepreneurship is the impact it could have on the composition of jobs available in the economy. Female-led entrepreneur firms tend to employ more women and offer more flexible positions (see Table 3). Consequently, increasing female entrepreneurship through early exposure may enhance job diversity and inclusivity by creating more female-friendly firms. In line with this, we find that 68% of the jobs created through early exposure to entrepreneurs go to women, and 30% go to part-time female employees.[51] Instead, the corresponding shares in the overall population of entrepreneurial firms are 45%, and 20% respectively.

The reduced form estimates do not directly provide information about the quality of the pool of firms resulting from the increase in female entrepreneurship driven by early exposure (that is, those created by the compliers). However, if we are willing to assume that higher levels of exposure always have a non-negative effect on the number of years an individual spends as an entrepreneur (i.e., assuming that the *monotonicity assumption* holds), and that early exposure affects the characteristics of female-led entrepreneurial firms only by increasing the stock of female entrepreneurs (i.e., assuming the *exclusion restriction* holds), we can identify this parameter by dividing the reduced form estimates by the first-stage coefficient shown in Panel B of Appendix Table A6, which reports the

[48]Thus, the cumulative number of jobs created by an entrepreneur at any given age is calculated as the sum of the number of workers employed at the entrepreneurial firm every year up until that age.

[49]Consequently, in this reduced form analysis, the firm characteristics of non-entrepreneurs are always zero. Note that we do not include self-employment in our analysis of the productivity of businesses created by women exposed to peers with entrepreneur parents, as our findings indicate no effect of such exposure on self-employment (see Table 7).

[50]This calculation is given by the estimated effect of early exposure on the cumulative number of jobs created by women (0.646), multiplied by the IQR (0.114), times the number of women (374,641).

[51]These estimates are obtained from the same reduced form regression as in Table 9 with the following outcomes: the cumulative number of jobs employing women and the cumulative number of part-time jobs employing women. To obtain the percentages reported above, we then divide these results by the reduced form coefficient obtained for the cumulative number of jobs.

change in the number of years women spend in entrepreneurship due to early exposure.[52]

As the monotonicity assumption implies that the first-stage estimates should be non-negative for any subsample, we test this by examining the effect of early exposure on years spent in entrepreneurship for various groups.[53] Results shown in Appendix Table B1 provide evidence in favor of the monotonicity assumption by showing that the first-stage coefficients are consistently positive across subsamples defined by factors such as the predicted probability of entrepreneurship, as well as parental, school, and municipality characteristics (see Appendix B for additional details).[54] Unlike the monotonicity assumption, no simple test exists for the validity of the exclusion restriction. However, Appendix B discusses the sensitivity of our estimates to potential violations of the exclusion restriction, along with their implications. We discuss the main takeaway from these sensitivity analyses below.

We display our age-specific two-stage least squares (2SLS) estimates below the reduced form estimates in Panel A of Table 9. We find that female compliers create firms that have an average of 6 employees by age 25 and an average of 9.8 employees by age 40. These values position the firms of compliers in the top 10 percent among all entrepreneurial firms. As an additional measure of firm performance, we also investigate how long the firms created by compliers survive in the market, using a similar strategy to the one used when the dependent variable is the cumulative number of jobs created.[55] These 2SLS estimates, displayed in Panel B of Table 9, show that female compliers create firms that survive on average 6.3 years by age 25 and 8.6 years by age 40. Again, these survival rates position the firms created by female compliers in the top 20 percent among all entrepreneurial firms.[56]

These results challenge the view that the most productive female entrepreneurs suc-

[52]The first stage specification in Appendix Table A6 shows that the instrument is relevant, with the associated F-tests ranging between 7.1 and 11. Because these 2SLS specifications are just identified, statistical inference should only be affected by weak instruments if the degree of endogeneity is high (Angrist and Kolesár, 2024). Estimates of the degree of endogeneity (ρ) discussed in Angrist and Kolesár (2024) in our setting suggest that this is not the case, as our values of ρ range between 0.25 and 0.36, thus being well below the critical threshold of $\rho < |0.76|$ identified in Angrist and Kolesár (2024). Nonetheless, in Table 9 we also report p-values from the Anderson-Rubin test, which are fully robust to weak instruments (Keane and Neal, 2023).

[53]While Lerner and Malmendier (2013), focusing on MBA students, document a negative effect of exposure to entrepreneurs on the likelihood of entering this profession, this contrasts with the broader literature. In line with our evidence, existing studies, including some examining MBA, consistently find a positive effect of entrepreneurial exposure on the probability of entering entrepreneurship (e.g., Wallskog, 2022; Guiso et al., 2021; Hacamo and Kleiner, 2022; Nanda and Sørensen, 2010).

[54]Subsamples include predicted probability of becoming an entrepreneur (Panel B), parental education (Panel C), school cohorts (Panel D), parental income (Panel E), urban versus rural municipalities (Panel F), and economic disadvantage of the school (Panel G).

[55]Notice that because survival is defined as the longest-living firm the entrepreneur works in, we instrument whether the individual has ever entered entrepreneurship by a given age, rather than the number of years spent in entrepreneurship by a given age.

[56]By age 40, the 90th and 75th percentiles of the maximum number of years of firm survival are 9 and 5 years for female entrepreneurs, and 10 and 6 years for male entrepreneurs. The corresponding percentiles of the firm size distribution are equal to 11.5 and 8.3 for women, and 11.9 and 8 for men.

ceed in starting and growing their business regardless of early exposure, as it would be predicted by economic models that attribute women's under-representation in male-dominated occupations solely to differences in entry costs (e.g. Hsieh et al., 2019), because the marginal entrants should be of lower ability in these models.[57] Instead, our findings are consistent with women facing higher barriers both in entering entrepreneurship and in achieving success after starting their firms, and suggest that early exposure can simultaneously increase the representation and performance of female entrepreneurs by lowering both entry and operational barriers. This aligns with previous work by Guiso et al. (2021) and Guiso and Schivardi (2011) which, although not specifically focusing on female entrepreneurs, shows that the social context and other environmental factors can shift the distribution of entrepreneurs' productivity, for instance by providing learning opportunities, resulting in a positive relationship between the propensity of individuals to become entrepreneurs and their average firm productivity.[58] To shed more light on these mechanisms, we explore the potential channels through which early exposure may increase both women's probability of entering entrepreneurship and their performance in Section 6.

If early exposure reduces operational barriers for the compliers, it could also improve the performance of female *always-takers*. This would violate the exclusion restriction, which assumes that early exposure influences the performance of female-led entrepreneurial firms solely by affecting the stock of female entrepreneurs, and bias the 2SLS estimates reported in Table 9.[59] In this case, our estimation would instead reflect a weighted average of changes in the firm characteristics of compliers and any changes in the characteristics of firms led by always-takers.

We discuss and investigate the sensitivity of our estimates to such violation of the exclusion restriction in Appendix B and find that the effect of early exposure on the performance of the firms led by the always-takers would have to be substantial in order for the compliers to be considered unsuccessful entrepreneurs. For instance, Appendix Figure B1 shows that the cumulative number of jobs created by always-takers would need to nearly double due to early exposure – from 19.4 to 38.6 – before the performance of

[57]Specifically, this class of models would lead to the following empirical predictions, both of which contradict our empirical evidence: (i) female-led firms should outperform male-led firms, whereas Table 3 shows that male-led firms are larger and survive for longer than female-led firms; (ii) infra-marginal female entrepreneurs should be more productive than marginal female entrepreneurs, while our calculations indicate the opposite.

[58]In particular, Guiso et al. (2021) show that individuals who grew up in locations with higher firm density are more likely to become entrepreneurs and, at the same time, create more successful firms by adopting better managerial practices. This result indicates that social contact and exposure to entrepreneurs can facilitate the acquisition of entrepreneurial skills rather than merely reducing the cost of entering entrepreneurship.

[59]Specifically, because we instrument the number of years spent in entrepreneurship, compliers are women who spend more time as entrepreneurs due to early exposure. This could occur either through increased entry into entrepreneurship or through increased tenure. Always-takers are women who become entrepreneurs irrespective of early exposure and whose tenure in the profession remains unaffected by early exposure. Thus, this framework implies that the exclusion restriction would be violated only if early exposure affects the size of firms led by always-takers without influencing their tenure in entrepreneurship.

compliers falls into the bottom half of the distribution among firms created by men.

As an alternative benchmark to assess how substantial the effect on always-takers would need to be for compliers to be considered unsuccessful entrepreneurs, we examine a scenario where early exposure affects the performance of firms led by compliers and always-takers equally. This corresponds to a model where early exposure reduces operational barriers in the same way for both compliers and always-takers, without impacting entry barriers. While this represents an extreme scenario - since the findings in Section 4 demonstrate that early exposure lowers entry barriers and increases women's likelihood of becoming entrepreneurs - it serves as a useful benchmark for evaluating the robustness of our interpretation regarding the quality of firms created by female compliers. As shown by the dotted red line in Appendix Figure B1, even in this case, compliers would still rank in the top half of the distribution for cumulative jobs created among male entrepreneurs. The fact that our findings remain consistent even in this extreme scenario implies that our conclusions on the relative performance of female compliers would remain robust under more plausible violations to the exclusion restriction. Taken together, our results therefore suggest that the marginal entrepreneurs create firms that outperform most of the firms created by both male and female incumbents in terms of their size and survival. This implies that early exposure can be instrumental in improving the allocation of entrepreneurial talent by encouraging potentially talented female entrepreneurs to pursue and succeed in this career.

6 Plausible mechanisms and the nature of barriers

We finally investigate the plausible mechanisms explaining the impact of early exposure to female peers with entrepreneur parents on women's propensity to pursue and succeed in entrepreneurship. Because our identification strategy compares students enrolled in the same school and living in the same municipality, we can rule out explanations based on localized geographical factors, such as the quality of schools or the overall firm density in the area. Furthermore, our results on firm performance suggest that the positive effect of early exposure on women's propensity to become entrepreneurs is unlikely to work through mechanisms that only reduce the cost of entering entrepreneurship, as such channels would predict women entering entrepreneurship due to exposure to create worse performing firms. Instead, as discussed in the previous Section, our results point to the presence of mechanisms through which early exposure shifts the distribution of women's productivity, thereby positively affecting both their entry probability and their performance (Guiso et al., 2021).

While several mechanisms may be at play, we focus on those that have the potential to reduce some of the major constraints that women have been shown to face in entrepreneurship: (i) access to specific human capital and information; (ii) changes in girls' aspirations and goals; (iii) increased consideration of entrepreneurship as a career

option; (iv) role modeling and mentoring; and (v) joint-ownership dynamics.[60] Below, we perform an additional set of analyses that provide some empirical support for the first three channels, suggesting that the barriers women face in entrepreneurship tend to be both informational and cultural in nature.

We note that the focus of this additional set of analyses is on understanding *why* exposure impact women's entry and performance in entrepreneurship, rather than identifying *through whom* these effects operate. Indeed, registry data does not allow us to conclusively disentangle whether the observed effects arise from direct interactions with the entrepreneurial parents of peers or are mediated through the peers themselves, who may have internalized entrepreneurial preferences and lessons from their parents. While this distinction could have important implications for policy design - for example, whether to prioritize exposure to entrepreneurs or interactions with entrepreneurially minded peers of similar age - the results thus far point to another crucial insight that can guide policy considerations: exposure during *adolescence* is key in shaping women's entrepreneurial outcomes, independent of any peer influence exerted in *adulthood*. In particular, while we do not rule out that continued friendships with female peers whose parents were entrepreneurs may influence women later in life (for instance as these peers become entrepreneurs themselves), our findings emphasize the importance of the timing of exposure, specifically the significance of *early* exposure - that is, exposure occurring before girls make educational choices that are difficult to reverse (see Section 5.1.2).[61]

(i) Transmission of specific human capital/information: To assess the role played by the transmission of specific human capital and information, we follow the intuition of papers such as Guiso et al. (2021) and Bell et al. (2019) and investigate whether women exposed to entrepreneurs working in a specific sector are more likely to specialize as entrepreneurs in that specific sector themselves. If sectors have idiosyncratic features, finding that our effects are sector-specific would suggest that early exposure may foster girls' entry and success in entrepreneurship through the transmission of industry-specific information that they would not learn otherwise. To test this hypothesis, we investigate whether the likelihood of women operating in a given sector increases when they had higher early exposure to that sector at the end of compulsory school through the parents of their female peers. To do so, we estimate the following model:

[60]For example, the two most recent OECD reports on women's entrepreneurship, identify as major constraints to women's entry and success in this field the greater barriers in acquiring skills, unsupportive social norms that may reduce women's consideration and ambitions in entrepreneurship, fewer mentoring opportunities, and smaller professional networks (OECD, 2019; Halabisky, 2018).

[61]We also note that recent experimental evidence on role models (e.g., Breda et al., 2023; Porter and Serra, 2020) shows that even very brief school-related interactions - as short as one hour or less - with adults during adolescence can have lasting effects on girls' educational choices. This suggests that our findings can be fully consistent with a scenario in which these women no longer interact with their peers or their peers' parents after compulsory schooling, a possibility we discussed and provided evidence for in Section 5.1.2.

$$Y_{i(hsc),a} = \sum_{g \in \{FP,MP\}} \left(\beta^a_{1,g} Entrepr^g_{-i(hsc)} + \beta^a_{2,g} Entrepr^g_{-i(-h,sc)} \right) + \beta^a_3 Parent_{i(hsc)} \quad (3)$$
$$+ \beta^a_4 Parent_{i(-h,sc)} + \gamma^a_s + \gamma^a_{m,c} + \theta^a X_i + \eta^a Z_{sc} + D_h + \epsilon_{i(hsc),a}$$

where $Y_{i(hsc),a}$ is the probability of (number of years in) entrepreneurship in sector h by age a; $Entrepr^{FP}_{-i,hsc}$ and $Entrepr^{FP}_{-i,-h,sc}$ are the share of female peers with entrepreneur parents in sector h and in all other sectors, respectively; $Entrepr^{MP}_{-i,hsc}$ and $Entrepr^{MP}_{-i,-h,sc}$ are the share of male peers with entrepreneur parents in sector h and in all other sectors, respectively; and D_h is a set of sector dummies.[62] All other variables are defined as in (1). The results from this exercise lend support to this hypothesis. Figure 4 shows that increased exposure to entrepreneurs working in a given sector increases both the probability of becoming an entrepreneur (Panel (a)) and the time spent in entrepreneurship (Panel (b)) in *that* sector. This is in line with the idea that the positive effect of early exposure on women's representation and performance in entrepreneurship may work by facilitating the transmission of (sector-)specific human capital and information.

(ii) Girls' aspirations: Understanding whether early exposure changes girls' goals and aspirations is very challenging since our data does not record such information directly. Yet, we can leverage our analysis on the effects of early exposure on girls' educational and career choices (see Section 5.1) to gain some indirect insights about the role of aspirations in driving our findings. If early exposure only matters for the entrepreneurial success of women who *already aspired* to become an entrepreneur (for example by facilitating the process of actually setting-up a business and hiring employees), we should not observe any change in the educational trajectory of these girls. Instead, the results presented in Table 6 show that early exposure to entrepreneurs changes girls' educational choices at the end of compulsory school, suggesting that one potential mechanism through which exposure affects girls' trajectories in entrepreneurship is by changing their goals and aspirations.

(iii) Girls' consideration of entrepreneurship as a career option: Mechanisms such as the transmission of specific information or changes in girls' aspirations can be at play whenever girls are exposed to male-dominated professions. However, entrepreneurship, being a less traditional career path with limited exposure opportunities for girls (see Table 1), may be less likely than other male-dominated occupations to feature in their set of potential career options. As such, early exposure may be key in encouraging girls to see entrepreneurship as a viable path, thereby expanding their "consideration set" of possible career choices. To test this hypothesis, we examine whether early exposure has a stronger impact on girls when it involves a male-dominated profession that is less likely

[62] We consider the same sector classification as in Figure 1 which defines 14 distinct industries that can be consistently identified over our sample period.

to be part of their consideration set. Specifically, we classify male-dominated occupations by their prevalence in the population, using this as a proxy for girls' likelihood of considering these careers.[63] We then estimate the following model separately for occupations that are more prevalent and less prevalent within the set of male-dominated professions:

$$Y_{i(hsc),a} = \sum_{g\in\{FP,MP\}} \left(\beta^a_{1,g} Occ^g_{-i(hsc)} + \beta^a_{2,g} Occ^g_{-i(-h,sc)}\right) + \beta^a_3 Parent_{i(hsc)} \\ + \beta^a_4 Parent_{i(-h,sc)} + \gamma^a_s + \gamma^a_{m,c} + \theta^a X_i + \eta^a Z_{sc} + D_h + \epsilon_{i(hsc),a} \tag{4}$$

where $Y_{i(hsc),a}$ is the probability of working (number of years working in) occupation h by age a; $Occ^{FP}_{-i,hsc}$ and $Occ^{FP}_{-i,-h,sc}$ are the share of female peers with parents in occupation h and in all other male-dominated occupations, respectively; $Occ^{MP}_{-i,hsc}$ and $Occ^{MP}_{-i,-h,sc}$ are the share of male peers with parents in occupation h and in all other male-dominated occupation, respectively; and D_h is a set of occupation dummies. All other variables are defined as in Equation (1). Figure 5 shows that increased exposure to a given male-dominated occupation through the parents of female peers increases both the probability of working (Panel (a)) and the time spent (Panel (b)) in *that* occupation. The effects however are significantly larger when the occupation is less prevalent in the population. These results suggest that exposure to entrepreneurship may encourage women's entry into this male-dominated profession by increasing their likelihood of considering it as a possible career path, thereby expanding their consideration set of career options.

(iv) Role models: Motivated by existing work highlighting the role of successful women in male-dominated fields as role models to girls (see, among others, Breda et al., 2023; Porter and Serra, 2020; Bell et al., 2019; Carrell et al., 2010; Beaman et al., 2009), we further investigate if young women respond more to exposure to entrepreneurship arising from the mothers rather than the fathers of their peers. Table 10 shows the estimated effect of being exposed to female and male peers with an entrepreneur mother or father on the probability of becoming an entrepreneur (Panel A) and on the number of years spent in entrepreneurship (Panel B). Women do not seem to respond more when exposed to female rather than male entrepreneurs, as the coefficients on female peers with father entrepreneurs and mother entrepreneurs are not statistically different from one another. While the low share of mothers who are entrepreneurs limits the precision of our estimates, making it difficult to detect statistically significant differences depending

[63] An occupation is classified as male-dominated if fewer than one-third of its workers are women. It is classified as less prevalent (*rare*) if it employs less than one percent of the population, so that these occupations collectively account for less than 20 percent of the workforce. We are partially constrained in selecting alternative professions as data on individual occupations is only available after 1992, which marks the end of our exposure period. To address this limitation, we use detailed data on individuals' educational paths - available for the entire sample period - as proxies for parents' occupations. Using this approach, we select from our initial sample of 17 male-dominated, non-rare occupations and 42 male-dominated, rare occupations, 12 male-dominated, non-rare occupations (e.g., engineers, architects, chemists, mechanics, builders and carpenters), and 21 male-dominated, rare occupations (e.g. university professors, computer scientists, policemen, firefighters, fishermen, gardeners, aviators and ship captains).

on the gender of the entrepreneur parents, the results do show large and statistically significant effects from the fathers of female peers.[64] This suggests that gender-specific role models alone are unlikely to be the sole factors behind our findings. More broadly, girls' response to exposure coming from male entrepreneurs reveals a channel beyond homophily, suggesting that female entrepreneurship can be promoted without relying solely on the limited pool of of entrepreneurial women as role models.

(v) Joint-ownership: Given that children of entrepreneurial parents are more likely to start firms themselves, one potential mechanism behind the observed increase in female entrepreneurship is that girls with more female peers who have entrepreneurial parents may be more likely to co-own firms with their school peers, particularly if they maintain friendships into adulthood. We find no significant evidence that girls in cohorts with a higher share of peers with entrepreneurial parents are more likely to engage in joint ownership of firms with their cohort peers, even with those of the same gender (Table 11). This finding aligns with the discussion in Section 5.1.2, which highlights that the observed impact on women's educational and career outcomes is driven by early exposure to entrepreneurs, independent of peer influence exerted later in life.

7 Conclusions

This paper uses administrative data on the entire population of individuals in Denmark, combined with an identification strategy that leverages quasi-random variation in the share of a student's peers with entrepreneur parents at the end of compulsory schooling, to address three key questions: Can early exposure to entrepreneurs increase female representation in entrepreneurship? How does early exposure affect the quality of firms created by female entrepreneurs? And is steering women into entrepreneurship through early exposure associated with a more efficient allocation of talent in the economy?

We show that early exposure to entrepreneurs can foster female entrepreneurship by increasing women's entry and tenure in this profession. Consistent with the notion that the frequency and type of interaction play a crucial role in mediating the impact of exposure, we find that these effects are entirely driven by girls exposed to entrepreneurship through the parents of their *female* peers. In contrast, early exposure does not influence boys' propensity to enter this profession, regardless of peer gender. These findings suggest that early exposure to entrepreneurship can be key for women who might not otherwise enter this profession and underscore the potential of early interventions to promote female entrepreneurship, which is particularly important from a gender equality standpoint given the low representation of women in entrepreneurship across all developed countries (OECD, 2021).

[64] In our sample only 1.7 percent of mothers are ever observed being entrepreneurs compared to 10.2 percent of fathers.

In the second part of the paper, we assess the implications of steering women into entrepreneurship through early exposure for allocative efficiency. We proceed in a series of steps. First, we analyze the private and social returns associated with an increase in female entrepreneurship by investigating the counterfactual education and career paths women would have pursued absent early exposure to entrepreneurs. We show that early exposure decreases girls' probability of discontinuing education after compulsory school and increases their probability of completing a vocational education, a path that is highly conducive to entrepreneurship which women are less likely to undertake. Furthermore, we show that early exposure to entrepreneurship reduces women's probability of being employed in low-pay jobs. Taken together, these results not only indicate that women could benefit from early exposure by acquiring more education and transitioning away from lower-paying positions, but also that promoting female entrepreneurship through early exposure is unlikely to come at the cost of diverting women away from high-impact careers.

Second, we show that the increase in female entrepreneurship driven by early exposure is associated with the creation of firms that are larger and survive for longer than the majority of entrepreneurial firms in the economy. This result supports the notion that women face higher entry and operational barriers in entrepreneurship and suggests that early exposure can help mitigate both, thereby increasing women's probability of entering entrepreneurship while enhancing their performance as entrepreneurs. In line with this, our analysis of mechanisms suggests that early exposure may work by facilitating the transmission of sector-specific information, increasing the probability that entrepreneurship features in girls' career "consideration set", and shaping their goals and aspirations. Furthermore, we show that the increase in the number of jobs resulting from the rise in female entrepreneurship is mostly allocated to female workers and flexible work options for women. Consequently, increasing female entrepreneurship can enhance the diversity and inclusivity of job opportunities in the economy by fostering the creation of female-friendly firms.

Taken together, our analysis points to early exposure to entrepreneurship as a way of increasing the number of female entrepreneurs in the economy, and that there could be high returns from doing so. It highlights that environment and social context influence women's likelihood to become entrepreneurs through narrower channels than those at play in the context of broad-based investments in schools or neighborhoods. Moreover, our results underscore the importance of exposing women to entrepreneurship early in life, before they make educational and career decisions that might limit their ability to transition into entrepreneurship. While we cannot pinpoint the exact policies that would be successful at increasing female entrepreneurship, early interventions addressing both entry and operational barriers faced by women in this field could benefit not only individual women but also the broader economy.

References

Adda, J., Dustmann, C., and Stevens, K. (2017). The career costs of children. Journal of Political Economy, 125(2):293–337.

Aghion, P. and Howitt, P. (1992). A model of growth through creative destruction. Econometrica: Journal of the Econometric Society, 60:323–351.

Aguirre, J., Matta, J., and Montoya, A. M. (2021). The only women in the room: When college peers matter the most.

Angrist, J. and Kolesár, M. (2024). One instrument to rule them all: The bias and coverage of just-id iv. Journal of Econometrics, 240(2):105398.

Angrist, J. D. (2014). The perils of peer effects. Labour Economics, 30:98–108.

Angrist, J. D. and Lang, K. (2004). Does school integration generate peer effects? evidence from boston's metco program. American Economic Review, 94(5):1613–1634.

Aukett, R., Ritchie, J., and Mill, K. (1988). Gender differences in friendship patterns. Sex Roles, 19(1):57–66.

Beaman, L., Chattopadhyay, R., Duflo, E., Pande, R., and Topalova, P. (2009). Powerful women: does exposure reduce bias? The Quarterly Journal of Economics, 124(4):1497–1540.

Bell, A., Chetty, R., Jaravel, X., Petkova, N., and Van Reenen, J. (2019). Who becomes an inventor in america? the importance of exposure to innovation. The Quarterly Journal of Economics, 134(2):647–713.

Bento, P. et al. (2020). Female entrepreneurship in the us 1982-2012: Implications for welfare and aggregate output. Technical report.

Bertrand, M. (2011). New perspectives on gender. In Handbook of Labor Economics, volume 4, pages 1543–1590. Elsevier.

Bertrand, M. (2020). Gender in the twenty-first century. In AEA Papers and Proceedings, volume 110, pages 1–24.

Bertrand, M., Cortes, P., Olivetti, C., and Pan, J. (2021). Social norms, labour market opportunities, and the marriage gap between skilled and unskilled women. The Review of Economic Studies, 88(4):1936–1978.

Bifulco, R., Fletcher, J. M., and Ross, S. L. (2011). The effect of classmate characteristics on post-secondary outcomes: Evidence from the Add Health. American Economic Journal: Economic Policy, 3(1):25–53.

Bjerre-Nielsen, A. and Gandil, M. H. (2024). Attendance boundary policies and the limits to combating school segregation. American Economic Journal: Economic Policy, 16(1):190–227.

Blau, F. D., Kahn, L. M., and Waldfogel, J. (2000). Understanding young women's marriage decisions: The role of labor and marriage market conditions. ILR Review, 53(4):624–647.

Boeri, T., Giupponi, G., Krueger, A. B., and Machin, S. (2020). Solo self-employment and alternative work arrangements: A cross-country perspective on the changing composition of jobs. Journal of Economic Perspectives, 34(1):170–95.

Booth, A., Fan, E., Meng, X., and Zhang, D. (2019). Gender differences in willingness to compete: The role of culture and institutions. The Economic Journal, 129(618):734–764.

Bordalo, P., Coffman, K., Gennaioli, N., and Shleifer, A. (2016). Stereotypes. The Quarterly Journal of Economics, 131(4):1753–1794.

Borghans, L., Duckworth, A. L., Heckman, J. J., and Ter Weel, B. (2008). The economics and psychology of personality traits. Journal of Human Resources, 43(4):972–1059.

Breda, T., Grenet, J., Monnet, M., and Van Effenterre, C. (2023). How effective are female role models in steering girls towards stem? evidence from french high schools. The Economic Journal, 133(653):1773–1809.

Brock, J. M. and De Haas, R. (2023). Discriminatory lending: Evidence from bankers in the lab. American Economic Journal: Applied Economics, 15(2):31–68.

Bursztyn, L., González, A. L., and Yanagizawa-Drott, D. (2020). Misperceived social norms: Women working outside the home in saudi arabia. American Economic Review, 110(10):2997–3029.

Carlana, M. (2019). Implicit stereotypes: Evidence from teachers' gender bias. The Quarterly Journal of Economics, 134(3):1163–1224.

Carrell, S. E., Page, M. E., and West, J. E. (2010). Sex and science: How professor gender perpetuates the gender gap. The Quarterly Journal of Economics, 125(3):1101–1144.

Chiplunkar, G. and Goldberg, P. K. (2021). Aggregate implications of barriers to female entrepreneurship. Technical report, National Bureau of Economic Research.

Decker, R., Haltiwanger, J., Jarmin, R., and Miranda, J. (2014). The role of entrepreneurship in us job creation and economic dynamism. Journal of Economic Perspectives, 28(3):3–24.

Del Carpio, L. and Guadalupe, M. (2021). More women in tech? evidence from a field experiment addressing social identity. Management Science.

Dunn, T. and Holtz-Eakin, D. (2000). Financial capital, human capital, and the transition to self-employment: Evidence from intergenerational links. Journal of Labor Economics, 18(2):282–305.

Ewens, M. and Townsend, R. R. (2020). Are early stage investors biased against women? Journal of Financial Economics, 135(3):653–677.

Fischer, S. (2017). The downside of good peers: How classroom composition differentially affects men's and women's stem persistence. Labour Economics, 46:211–226.

Friebel, G., Lalanne, M., Richter, B., Schwardmann, P., and Seabright, P. (2021). Gender differences in social interactions. Journal of Economic Behavior & Organization, 186:33–45.

Guiso, L., Pistaferri, L., and Schivardi, F. (2021). Learning entrepreneurship from other entrepreneurs? Journal of Labor Economics, 39(1):135–191.

Guiso, L. and Schivardi, F. (2011). What determines entrepreneurial clusters? Journal of the European Economic Association, 9(1):61–86.

Hacamo, I. and Kleiner, K. (2022). Forced entrepreneurs. The Journal of Finance, 77(1):49–83.

Hacamo, I. and Kleiner, K. (2024). Confidence spillovers: Evidence from entrepreneurship. Review of Finance. Forthcoming.

Halabisky, D. (2018). Policy brief on women's entrepreneurship. OECD SME and Entrepreneurship Papers.

Hampole, M., Truffa, F., and Wong, A. (2021). Peer effects and the gender gap in corporate leadership: Evidence from mba students. Technical report, Working Paper.

Harris, J. R. (2011). The nurture assumption: Why children turn out the way they do. Simon and Schuster.

Haynie, D. L., Doogan, N. J., and Soller, B. (2014). Gender, friendship networks, and delinquency: A dynamic network approach. Criminology, 52(4):688–722.

Hebert, C. (2020). Gender stereotypes and entrepreneur financing. R&R, Review of Financial Studies.

Heckman, J. J. (2007). The economics, technology, and neuroscience of human capability formation. Proceedings of the national Academy of Sciences, 104(33):13250–13255.

Hoisl, K., Kongsted, H. C., and Mariani, M. (2023). Lost marie curies: Parental impact on the probability of becoming an inventor. Management Science, 69(3):1714–1738.

Hombert, J., Schoar, A., Sraer, D., and Thesmar, D. (2020). Can unemployment insurance spur entrepreneurial activity? evidence from france. The Journal of Finance, 75(3):1247–1285.

Hoxby, C. (2000). Peer effects in the classroom: Learning from gender and race variation. Technical report, National Bureau of Economic Research.

Hsieh, C.-T., Hurst, E., Jones, C. I., and Klenow, P. J. (2019). The allocation of talent and us economic growth. Econometrica, 87(5):1439–1474.

Iversen, J., Malchow-Møller, N., and Sørensen, A. (2016). Success in entrepreneurship: a complementarity between schooling and wage-work experience. Small Business Economics, 47:437–460.

Keane, M. and Neal, T. (2023). Instrument strength in iv estimation and inference: A guide to theory and practice. Journal of Econometrics, 235(2):1625–1653.

Klimstra, T. (2013). Adolescent personality development and identity formation. Child Development Perspectives, 7(2):80–84.

Kretschmer, D., Leszczensky, L., and Pink, S. (2018). Selection and influence processes in academic achievement—more pronounced for girls? Social Networks, 52:251–260.

Krosnick, J. A. and Alwin, D. F. (1989). Aging and susceptibility to attitude change. Journal of Personality and Social Psychology, 57(3):416.

Lavy, V. and Schlosser, A. (2011). Mechanisms and impacts of gender peer effects at school. American Economic Journal: Applied Economics, 3(2):1–33.

Lazear, E. P. (2004). Balanced skills and entrepreneurship. American Economic Review, 94(2):208–211.

Lerner, J. and Malmendier, U. (2013). With a little help from my (random) friends: Success and failure in post-business school entrepreneurship. The Review of Financial Studies, 26(10):2411–2452.

Levine, R. and Rubinstein, Y. (2017). Smart and illicit: who becomes an entrepreneur and do they earn more? The Quarterly Journal of Economics, 132(2):963–1018.

Lindquist, M. J., Sol, J., and Van Praag, M. (2015). Why do entrepreneurial parents have entrepreneurial children? Journal of Labor Economics, 33(2):269–296.

Manski, C. F. (1993). Identification of endogenous social effects: The reflection problem. The Review of Economic studies, 60(3):531–542.

Markussen, S. and Røed, K. (2017). The gender gap in entrepreneurship - the role of peer effects. Journal of Economic Behavior & Organization, 134:356–373.

McMillan, C., Felmlee, D., and Osgood, D. W. (2018). Peer influence, friend selection, and gender: How network processes shape adolescent smoking, drinking, and delinquency. Social Networks, 55:86–96.

Mercken, L., Snijders, T. A., Steglich, C., Vertiainen, E., and De Vries, H. (2010). Smoking-based selection and influence in gender-segregated friendship networks: a social network analysis of adolescent smoking. Addiction, 105(7):1280–1289.

Morazzoni, M. and Sy, A. (2022). Female entrepreneurship, financial frictions and capital misallocation in the us. Journal of Monetary Economics, 129:93–118.

Mouganie, P. and Wang, Y. (2020). High-performing peers and female stem choices in school. Journal of Labor Economics, 38(3):805–841.

Murphy, K. M., Shleifer, A., and Vishny, R. W. (1991). The allocation of talent: Implications for growth. The Quarterly Journal of Economics, 106(2):503–530.

Nanda, R. and Sørensen, J. B. (2010). Workplace peers and entrepreneurship. Management Science, 56(7):1116–1126.

OECD (2019). The missing entrepreneurs: Policies for inclusive entrepreneurship. Available at https://doi.org/10.1787/3ed84801-en.

OECD (2021). Self-employed with employees (indicator). Available at https://doi.org/10.1787/b7bf59b6-en.

Olivetti, C., Patacchini, E., and Zenou, Y. (2020). Mothers, peers, and gender-role identity. Journal of the European Economic Association, 18(1):266–301.

Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. Journal of Business & Economic Statistics, 37(2):187–204.

Parker, S. C. (2018). The Economics of Entrepreneurship. Cambridge University Press.

Perry, D. G. and Pauletti, R. E. (2011). Gender and adolescent development. Journal of Research on Adolescence, 21(1):61–74.

Petrongolo, B. and Ronchi, M. (2020). Gender gaps and the structure of local labor markets. Labour Economics, 64:101819.

Porter, C. and Serra, D. (2020). Gender differences in the choice of major: The importance of female role models. American Economic Journal: Applied Economics, 12(3):226–54.

Rocha, V. and Van Praag, M. (2020). Mind the gap: The role of gender in entrepreneurial career choice and social influence by founders. Strategic Management Journal, 41(5):841–866.

Rose, A. J. and Rudolph, K. D. (2006). A review of sex differences in peer relationship processes: potential trade-offs for the emotional and behavioral development of girls and boys. Psychological Bulletin, 132(1):98.

Rubin, K. H., Bukowski, W. M., and Bowker, J. C. (2015). Children in peer groups. Handbook of Child Psychology and Developmental Science, pages 1–48.

Schneeweis, N. and Zweimüller, M. (2012). Girls, girls, girls: Gender composition and female school choice. Economics of Education Review, 31(4):482–500.

Sørensen, J. B. (2007a). Bureaucracy and entrepreneurship: Workplace effects on entrepreneurial entry. Administrative Science Quarterly, 52(3):387–412.

Sørensen, J. B. (2007b). Closure and exposure: Mechanisms in the intergenerational transmission of self-employment. In The Sociology of Entrepreneurship, pages 83–124. Emerald Group Publishing Limited.

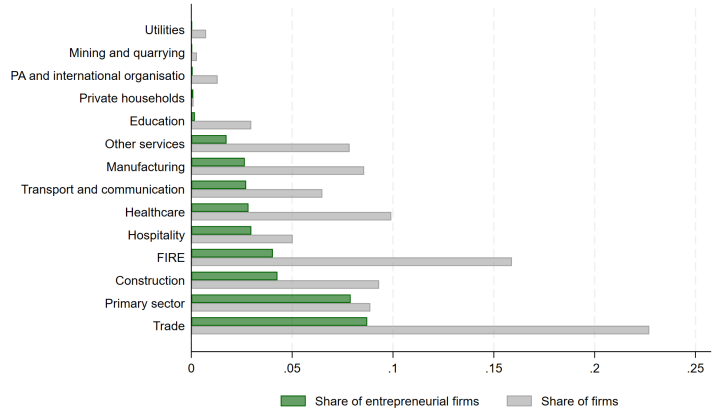
Underwood, M. K. (2004). Gender and peer relations: Are the two gender cultures really all that different? In Children's peer relations: From development to intervention., pages 21–36. American Psychological Association.

Wallskog, M. (2022). Entrepreneurial spillovers across coworkers. Technical report, Working paper, Duke University.

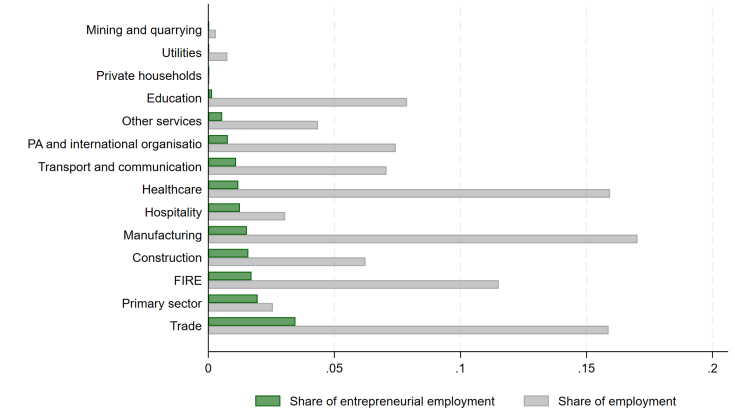
Wiswall, M. and Zafar, B. (2021). Human capital investments and expectations about career and family. Journal of Political Economy, 129(5):1361–1424.

Figures

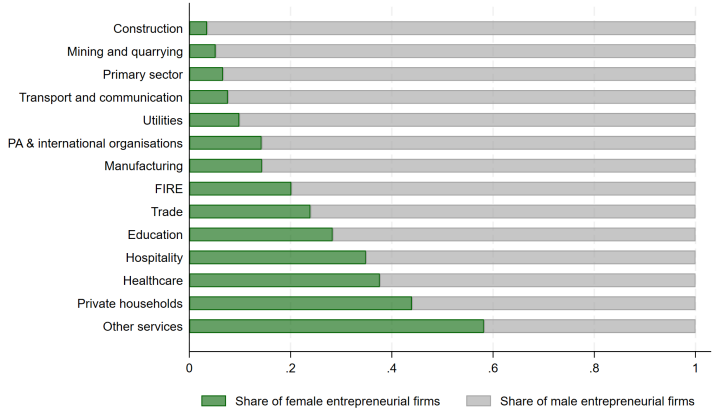
Figure 1: Firms distribution across industries



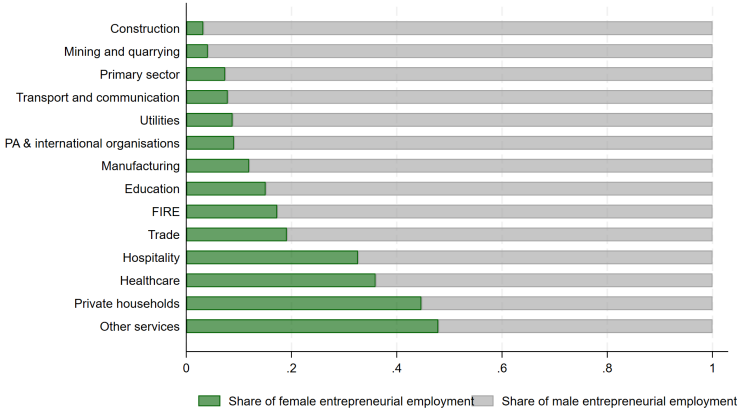
(a) Number of firms



(b) Employment



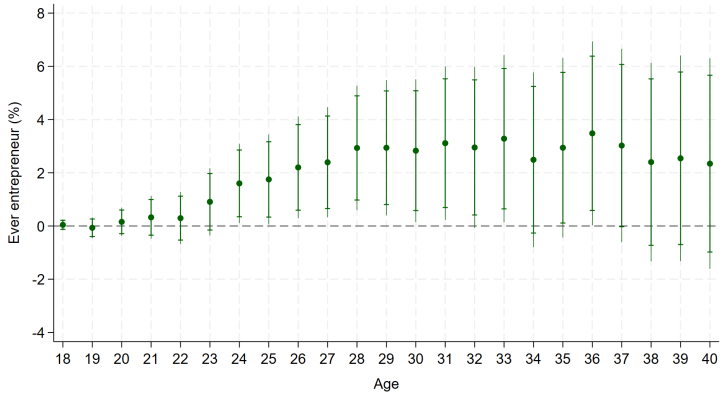
(c) Number of firms by gender



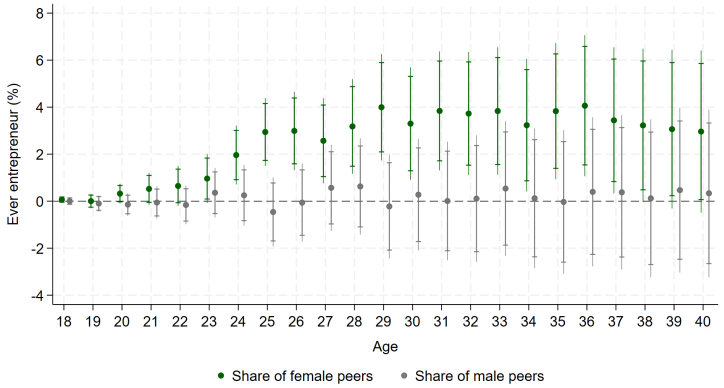
(d) Employment by gender

Notes. This figure plots the distribution of entrepreneurial firms and all firms across 14 industries. Panel (a) illustrates the share of entrepreneurial firms and the total share of firms across industries. Panel (b) shows the share of employment in entrepreneurial firms compared to the share of total employment across industries. Panel (c) illustrates the share of entrepreneurial firms by gender in each industry. Panel (d) shows the share of employment in entrepreneurial firms by gender in each industry. Entrepreneurial firms are defined as those in which we observe entrepreneurs, identified as individuals who either start or own a business with employees (see definition in Section 2.2).

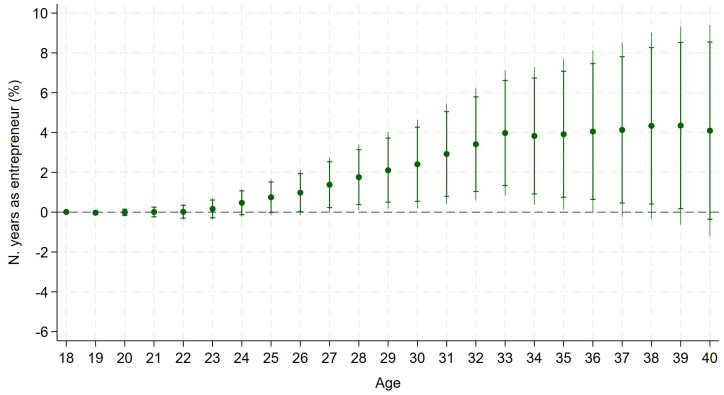
Figure 2: Effect of exposure by age - Women's sample



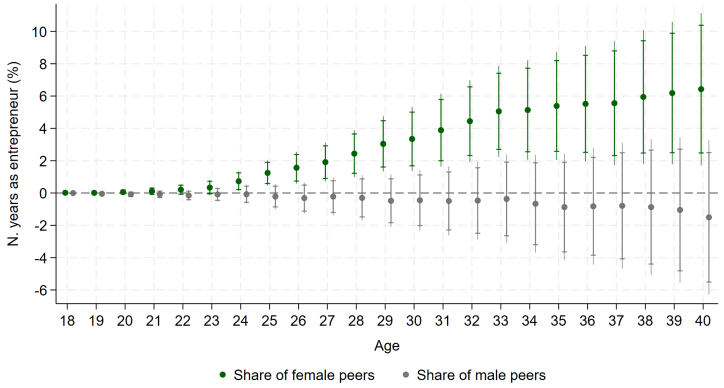
(a) Probability of ever being an entrepreneur



(b) Probability of ever being an entrepreneur by gender of peers



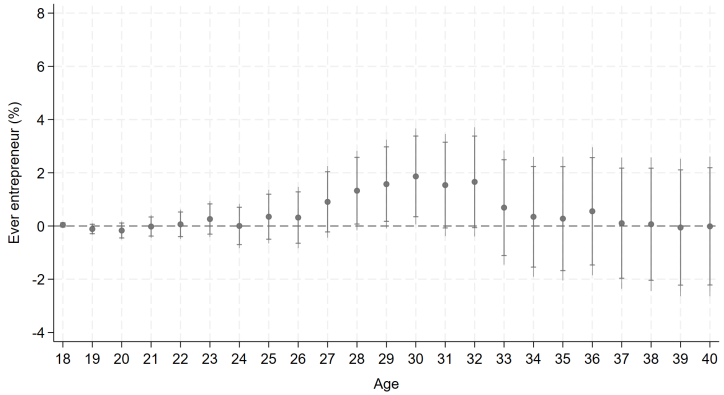
(c) Cumulative number of years as entrepreneur



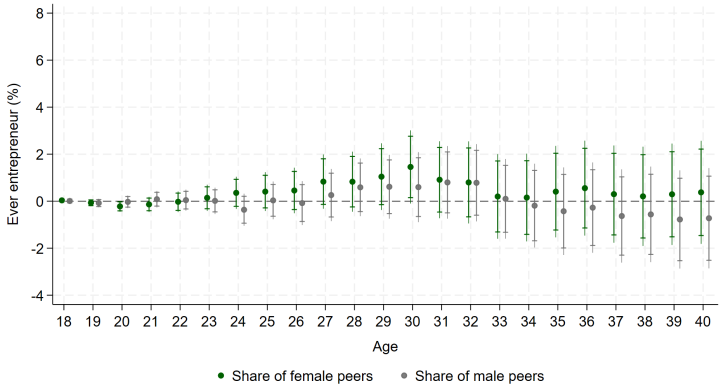
(d) Cumulative number of years as entrepreneur by gender of peers

Notes. This figure plots the regression coefficients as well as 90 and 95% confidence intervals from estimating equation (1) and (2) for the women in our sample at each age. The dependent variables of interest are the probability of ever being an entrepreneur by that age in panel (a) and (b), and the cumulative number of years spent in entrepreneurship until that age in panel (c) and (d). Entrepreneurs are defined as individuals who either start or own a business with employees. The y-axis plots the percentage change in the outcome of interest resulting from moving a student from a cohort with relatively low exposure to one with relatively high exposure. We obtain this number by multiplying each coefficient by the interquantile range of the exposure distribution (times one hundred) and dividing the result by the gender-specific mean of the outcome variable. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors are clustered at the school level.

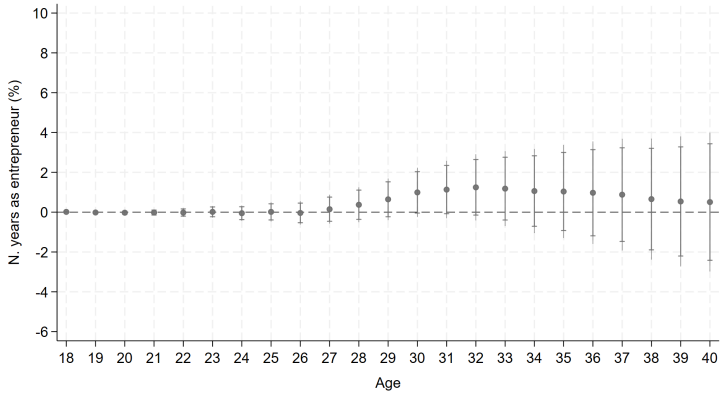
Figure 3: Effect of exposure by age - Men's sample



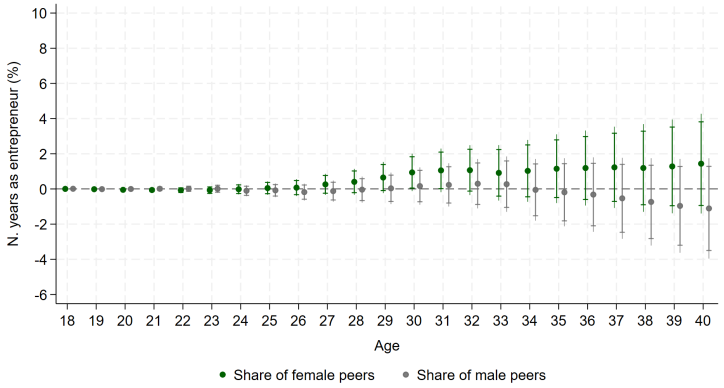
(a) Probability of ever being an entrepreneur



(b) Probability of ever being an entrepreneur by gender of peers



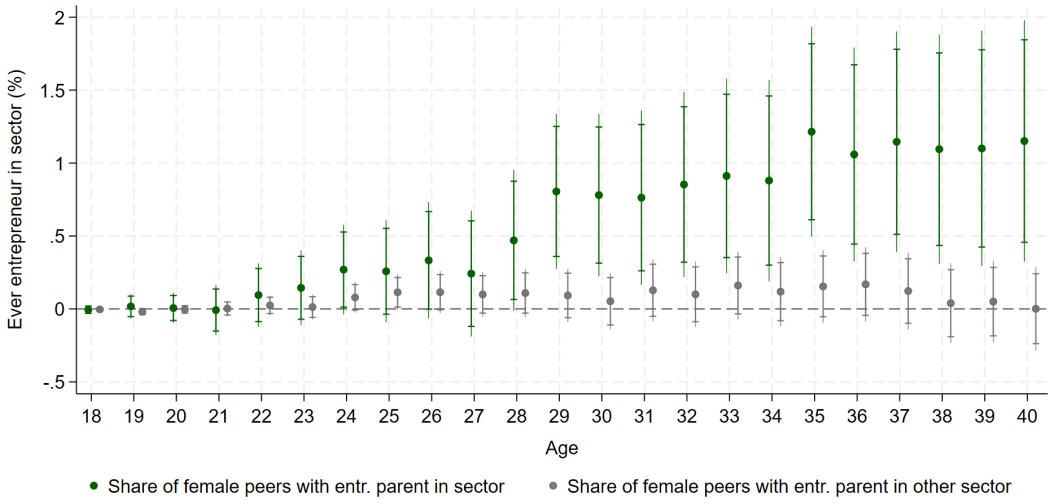
(c) Cumulative number of years as entrepreneur



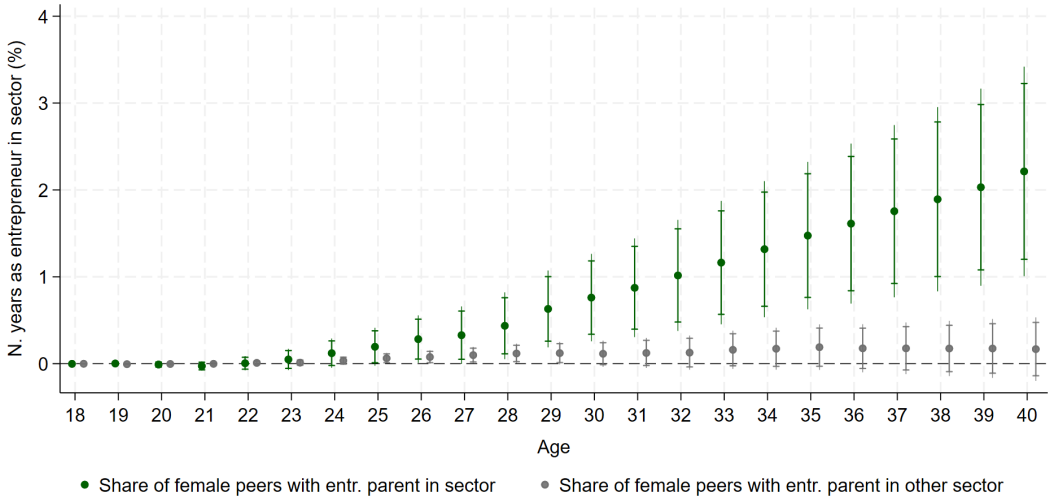
(d) Cumulative number of years as entrepreneur by gender of peers

Notes. This figure plots the regression coefficients as well as 90 and 95% confidence intervals from estimating equation (1) and (2) for the men in our sample at each age. The dependent variables of interest are the probability of ever being entrepreneur by that age in panel (a) and (b), and the cumulative number of years spent in entrepreneurship until that age in panel (c) and (d). Entrepreneurs are defined as individuals who either start or own a business with employees. The y-axis plots the percentage change in the outcome of interest resulting from moving a student from a cohort with relatively low exposure to one with relatively high exposure. We obtain this number by multiplying each coefficient by the interquantile range of the exposure distribution (times one hundred) and divide the result by the gender-specific mean of the outcome variable. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors are clustered at the school level.

Figure 4: Effects on sector choice by age for women exposed to entrepreneurship through their female peers



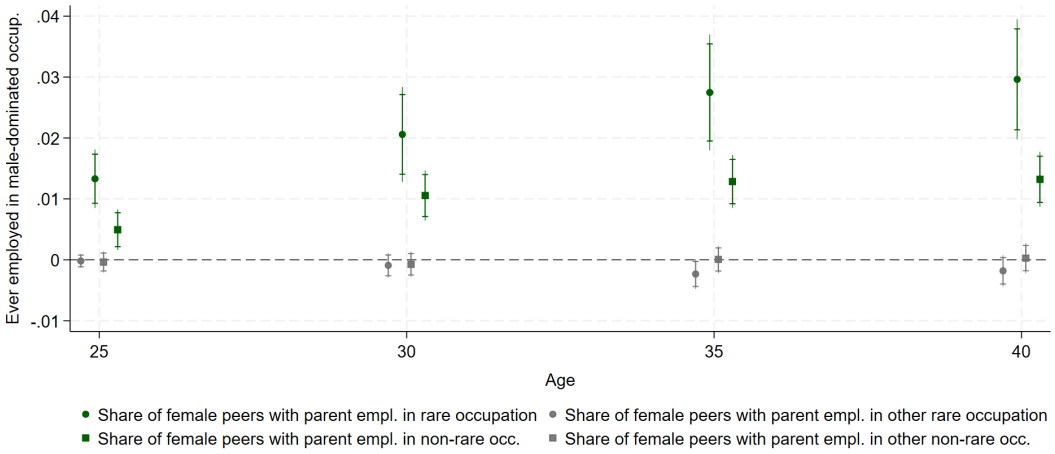
(a) Ever entrepreneur



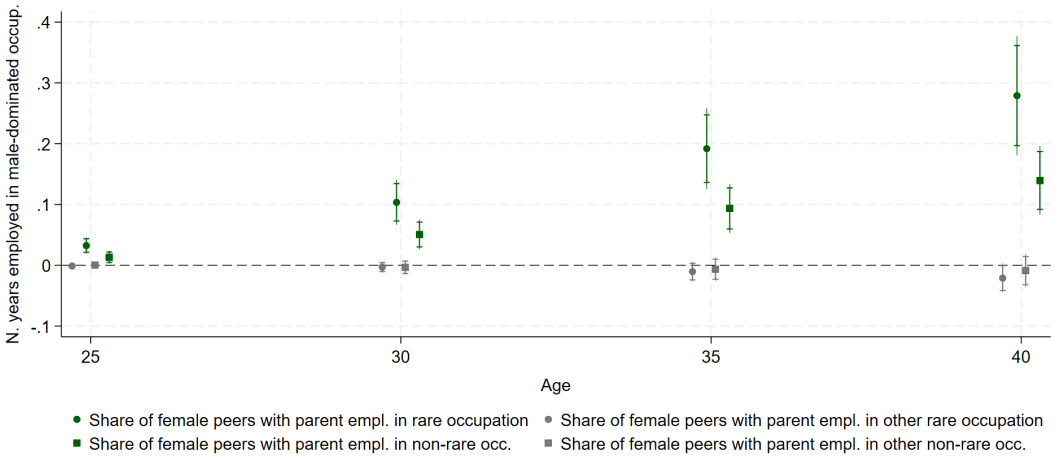
(b) Cumulative number of years as entrepreneur

Notes. This figure plots the regression coefficients and the 90% and 95% confidence intervals from estimating equation (3). The dependent variable for each age-regression is the probability of ever being an entrepreneur in a sector by that age in panel (a) and the cumulative number of years spent in entrepreneurship in a sector until that age in panel (b). Each observation is an entrepreneur-sector combination. Entrepreneurs are defined as individuals who either start or own a business with employees. The y-axis plots the percentage change in the outcome of interest resulting from moving a student from a cohort with relatively low exposure to one with relatively high exposure. We obtain this number by multiplying each coefficient by the interquantile range of the exposure distribution (times one hundred) and dividing the result by the gender-specific mean of the outcome variable. All regressions include school and municipality-by-cohort fixed effects, sector dummies, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors are clustered at the school level.

Figure 5: Effects on occupational choices by age for women exposed to male-dominated occupations through their peers



(a) Ever in occupation



(b) Cumulative number of years in occupation

Notes. This figure plots the regression coefficients and the 90% and 95% confidence intervals from equation (4), estimated separately for rare and non-rare male-dominated occupations. The dependent variable for each age-regression is the probability of ever working in a given occupation by that age in Panel (a) and the cumulative number of years spent in a given occupation until that age in Panel (b). Each observation is an worker-occupation combination. Male-dominated occupations are defined as occupations where less than a third of workers are women. Rare occupations are defined as occupations where less than one percent of the workforce is employed. All regressions include school and municipality-by-cohort fixed effects, occupation dummies, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors are clustered at the school level.

Tables

Table 1: Exposure to entrepreneurship over the lifetime by gender

	Exposure in education		Exposure in workplace				
	(1) Compulsory	(2) Post compulsory	(3) Age 20	(4) Age 25	(5) Age 30	(6) Age 35	(7) Age 40
Women	0.056***	0.048***	0.068***	0.056***	0.046***	0.039***	0.035***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Men	0.056***	0.068***	0.079***	0.071***	0.060***	0.052***	0.045***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Men/Women	1.01***	1.42***	1.16***	1.28***	1.31***	1.32***	1.31***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Observations	800993	731249	542656	554253	590091	588052	587478

Notes. This table reports exposure to "entrepreneurial" peers for men and women at different phases of their lives. Exposure to entrepreneurial peers is defined as the share of peers who will ever enter entrepreneurship during our sample period, allowing us to measure exposure even at very young ages. Entrepreneurs are defined as individuals who either start or own a business with employees. Column (1) focuses on exposure during compulsory schooling, defining peers as individuals in the same school and cohort. Column (2) focuses on exposure in post-secondary education, defining peers as students enrolled in the same program, school, and cohort in the next educational stage after compulsory schooling. Columns (3) to (7) focus on exposure while working at ages 20, 25, 30, 35, and 40, respectively, defining peers as individuals employed in the same workplace. The last row reports the ratio of female to male exposure. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table 2: Descriptive statistics

	All	Men	Women	Difference
A: Outcome variables				
Ever entrepreneur	0.048	0.069	0.027	0.041***
Ever entrepreneur by 25	0.008	0.011	0.005	0.006***
Ever entrepreneur by 30	0.023	0.034	0.012	0.022***
Ever entrepreneur by 35	0.038	0.056	0.020	0.035***
Ever entrepreneur by 40	0.050	0.071	0.028	0.043***
N. of years as entrepreneur	0.219	0.319	0.115	0.204***
N. of years as entrepreneur (cond.)	4.519	4.646	4.188	0.458***
B: Cohort variables				
Share of peers with parent entrepreneur	0.116	0.116	0.116	-0.000
Share of female peers with parent entrepreneur	0.115	0.115	0.116	-0.001**
Share of male peers with parent entrepreneur	0.117	0.117	0.117	-0.000
Share of first-generation immigrants	0.008	0.008	0.008	-0.000
Share of second-generation immigrants	0.007	0.007	0.008	-0.000*
C: Individual characteristics				
Female	0.489	0.000	1.000	-1.000
Parent is entrepreneur	0.116	0.117	0.116	0.001
Is a first-generation immigrant	0.008	0.009	0.008	0.001***
Is a second-generation immigrant	0.007	0.008	0.007	0.000*
Discontinued education after compulsory school	0.176	0.194	0.157	0.037***
Completed academic education	0.464	0.380	0.551	-0.170***
Completed vocational education	0.473	0.511	0.434	0.077***
Completed higher education	0.404	0.349	0.461	-0.113***
Observations	786660	401716	384944	786660

Notes. This table reports descriptive statistics for the whole sample and for men and women separately. Our unbalanced sample includes adolescents in grades 7 through 9 between 1980 and 1992. Entrepreneurship is defined as individuals who either start or own a business with employees. *Ever entrepreneur*=1 if the individual ever entered entrepreneurship. *Share of peers with parents entrepreneur* is the share of peers in a given school-cohort with at least one parent who is an entrepreneur. *Share of female (male) peers with parents entrepreneur* is the share of female (male) peers in a given school-cohort with at least one parent who is an entrepreneur. *Parents is entrepreneur*=1 if at least one of the individual's parents is an entrepreneur.

Table 3: Descriptive statistics - entrepreneurs' sample

	All	Men	Women	Difference
A: Individual characteristics				
Parent is entrepreneur	0.220	0.231	0.193	0.037***
Discontinued education after compulsory school	0.183	0.189	0.167	0.022***
Completed secondary academic education	0.276	0.236	0.381	-0.145***
Completed secondary vocational education	0.619	0.639	0.565	0.074***
Completed higher education	0.218	0.197	0.273	-0.076***
Is a first-generation immigrant	0.020	0.021	0.015	0.006***
Is a second-generation immigrant	0.011	0.012	0.009	0.003*
Age when first entrepreneur	30.9	30.8	31.2	-0.4***
Ever created an incorporated firm	0.168	0.181	0.135	0.046***
N. of firms	1.277	1.299	1.221	0.078***
N entrepreneurs	38131	27582	10549	38131
B: Firm characteristics				
Number of employees	5.059	5.123	4.880	0.243
Survival	3.656	3.699	3.535	0.164***
Tenure	2.103	2.126	2.041	0.085***
Earnings	195664	202373	176019	26354***
Share of female employees	0.448	0.327	0.774	-0.446***
Share of part-time employees	0.367	0.334	0.455	-0.120***
N entrepreneurs-firms	48709	35825	12884	48709

Notes. This table reports descriptive statistics for the sub-sample of adolescents who become entrepreneurs at least once before they are 40 years old, and for male and female entrepreneurs separately. Entrepreneurship is defined as individuals who either start or own a business with employees. Panel A contains individual-level characteristics: whether the individual's parents are entrepreneurs; whether the individual has ever completed academic secondary/ vocational secondary/ higher education; whether the individual is first-/second-generation immigrant; the individual's age when first becoming entrepreneur; whether the individual ever created an incorporated firm; and number of firms created. Panel B contains firm-level characteristics: number of employees; firm's survival (years); employee's tenure (years); employees earnings (DKK); share of female employees and share of female part-time employees.

Table 4: Balancing tests

	Share of peers with parents entrepreneur	
	Estimate	St.error
Dependent variable:		
Age in 7th grade	0.001	(0.001)
Female	0.002	(0.001)
N. peers	-0.199	(0.146)
Mother has secondary (academic) educ	0.0004	(0.0003)
Mother has secondary (vocational) educ	-0.0004	(0.0012)
Mother has higher educ	0.0007	(0.0005)
Father has secondary (academic) educ	-0.00004	(0.00031)
Father has secondary (vocational) educ	-0.001	(0.001)
Father hashigher educ	0.001	(0.001)
Mother's age	0.007	(0.012)
Father's age	-0.004	(0.014)
Parents are home owners	0.00001	(0.00158)
Parents' income (log)	0.001	(0.001)
Mother is unemployed	0.001	(0.001)
Father is unemployed	0.001	(0.001)
Lives with mother	-0.001	(0.001)
Lives with father	0.0005	(0.0005)
First-generation immigrant	-0.0003	(0.0002)
Second-generation immigrants	0.0003	(0.0003)

Notes. This table reports the coefficients of separate regressions of each individual characteristic on the share of peers with parents entrepreneur. The coefficients are rescaled to reflect the effect of increasing exposure by the IQR of the exposure distribution. All regressions include school and municipality-by-cohort fixed effects and control for an indicator for whether the individuals' parents are entrepreneurs. Entrepreneurs are defined as individuals who either start or own a business with employees. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table 5: Correlated characteristics at the cohort level

	Share of peers with parents entrepreneur	
	Estimate	St. Error
Dependent variable:		
Share of par. with secondary academic educ.	0.001	(0.001)
Share of par. with secondary vocational educ.	0.006***	(0.002)
Share of par. with higher educ.	0.007***	(0.001)
Share of par. unemployed	-0.007***	(0.001)
Share of par. first-gen immigrants	0.0002	(0.0008)
Share of par. second-gen immigrants	-0.0002	(0.0001)
Share of par. home owners	0.011***	(0.002)
Average par. age	0.045***	(0.016)
Average par. income (log)	0.013***	(0.002)

Notes. This table reports the coefficients of separate regressions of the share of peers with entrepreneur parents on the share of parents whose higher education is vocational secondary education, academic secondary education, or a university degree; the share of parents who are unemployed; the share of parents who are first- or second-generation immigrants; the share of parents who are home-owners; parents' average age; and average parental income (log). All variables are computed at the cohort level. The coefficients are rescaled to reflect the effect of increasing exposure by the IQR of the exposure distribution. All regressions include school and municipality-by-cohort fixed effects. Entrepreneurs are defined as individuals who either start or own a business with employees. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table 6: Effects on educational choices after compulsory school

	Education decision after compulsory school		
	(1)	(2)	(3)
	Discontinued education	Upper secondary academic	Upper secondary vocational
Share of female peers with parent entrepreneur	-0.023**	-0.008	0.031**
	(0.011)	(0.013)	(0.012)
Share of male peers with parent entrepreneur	0.009	0.004	-0.014
	(0.012)	(0.014)	(0.013)
Parent is entrepreneur	-0.027***	0.023***	0.005*
	(0.002)	(0.003)	(0.002)
Observations	328632	328632	328632
School and municipality x cohort FE	X	X	X
Individual controls	X	X	X
Cohort controls	X	X	X
Mean dep. var	0.232	0.512	0.256

Notes. The dependent variables in columns (1)-(3) are mutually exclusive indicators for the first choice made after the end of compulsory schooling. Specifically, the dependent variable is an indicator for whether the individual has discontinued education after compulsory school in column (1); has enrolled in an upper secondary academic school in column (2); and has enrolled in an upper secondary vocational school in column (3). These regressions are run on a balanced sample, so that columns (1)-(3) sum up to zero. *Share of female (male) peers with parent entrepreneur* is the share of female (male) peers with at least one parent who is an entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * $p< 0.1$, ** $p< 0.05$, *** $p< 0.01$.

Table 7: Effect on number of years spent in a given employment status

	N. of years as						N. of years employed	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Entrepreneur	Self-employed	Unemployed	Not in labor force	Employed spouse	Employed	In high pay jobs	In low pay jobs
Share of female peers with parent entrepreneur	0.067**	0.003	0.022	-0.006	-0.002	-0.083	0.203	-0.287**
	(0.027)	(0.037)	(0.049)	(0.121)	(0.012)	(0.144)	(0.154)	(0.124)
Share of male peers with parent entrepreneur	-0.012	-0.038	-0.056	-0.144	-0.013	0.264*	0.195	0.069
	(0.028)	(0.036)	(0.050)	(0.124)	(0.014)	(0.144)	(0.162)	(0.133)
Parent is entrepreneur	0.114***	0.128***	-0.184***	-0.328***	0.014***	0.257***	0.297***	-0.040
	(0.007)	(0.009)	(0.009)	(0.022)	(0.003)	(0.028)	(0.035)	(0.027)
Observations	328632	328632	328632	328632	328632	328632	328632	328632
Mean dep. var	0.123	0.272	1.335	3.743	0.0257	17.50	8.749	8.753

Notes. The dependent variables in columns (1)-(6) are the numbers of years spent in entrepreneurship, self-employment, unemployment, outside the labor force, as an employed spouse, or employment, respectively, between ages 18 and 40. The dependent variable in columns (7) and (8) is the number of years spent in employment within the top half of the earnings distribution, and within the bottom half of the earnings distribution, respectively. These regressions are run on a balanced sample, so that columns (1)-(6) sum up to zero, and columns (7) and (8) sum up to column (6). *Share of female (male) peers with parent entrepreneur* is the share of female (male) peers with at least one parent who is an entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * $p< 0.1$, ** $p< 0.05$, *** $p< 0.01$.

Table 8: Effects on women's marriage and fertility outcomes

	(1) Have children	(2) N. of children	(3) N. of children (cond.)	(4) Age at first child (cond.)	(5) Ever married
Share of female peers with parent entrepreneur	-0.007	-0.004	0.013	-0.003	-0.000
	(0.009)	(0.026)	(0.022)	(0.138)	(0.011)
Share of male peers with parent entrepreneur	0.015*	0.032	-0.001	0.069	0.037***
	(0.009)	(0.028)	(0.023)	(0.133)	(0.012)
Parent is entrepreneur	0.008***	0.035***	0.020***	0.293***	0.005**
	(0.002)	(0.005)	(0.004)	(0.028)	(0.002)
Observations	384944	384944	331744	331744	384944
School and municipality x cohort FE	X	X	X	X	X
Individual controls	X	X	X	X	X
Cohort controls	X	X	X	X	X
Mean dep. var	0.862	1.880	2.182	29.25	0.710

Notes. The dependent variables in columns (1)-(5) are indicators for whether the individual had children (column 1); the number of children (column 2); the number of children, conditional on having any (column 3); the age at which the first child was born, conditional on having children (column 4); and an indicator for whether the individual was ever married (column 5). *Share of female (male) peers with parent entrepreneur* is the share of female (male) peers with at least one parent who is an entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. All regressions include school and municipality-by-cohort fixed effects, as well as individual- and cohort-level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. *p< 0.1, ** p< 0.05, *** p< 0.01.

Table 9: Effects on firm size and survival

	(1) by age 25	(2) by age 30	(3) by age 35	(4) by age 40
A: Dep. var. Cumulative number of jobs				
RF: Share of female peers with parent entrepreneur	0.076***	0.264***	0.385***	0.646**
	(0.025)	(0.083)	(0.128)	(0.280)
2SLS: Number of years as entrepreneur	6.005***	7.668***	7.302***	9.767**
	(1.140)	(1.907)	(1.739)	(4.106)
Anderson-Rubin p-val	0.002	0.001	0.003	0.022
Observations	384944	380881	377509	374641
Mean of dep. var	0.0351	0.146	0.325	0.595
B: Dep. var. Survival				
RF: Share of female peers with parent entrepreneur	0.045***	0.057***	0.067***	0.065***
	(0.013)	(0.020)	(0.023)	(0.023)
2SLS: Ever entrepreneur	6.330***	6.978***	7.514***	8.613**
	(1.419)	(1.813)	(2.023)	(3.463)
*Anderson-Rubin p-va*l	0.001	0.004	0.004	0.006
Observations	384944	380881	377509	374641
Mean of dep. var	0.0227	0.0598	0.0930	0.111
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X

Notes. The dependent variable is the cumulative number of jobs created by age 25, 30, 35 and 40 in Panel A. The dependent variable is the total number of years the longest surviving firm of each individual survives by age 25, 30, 35 and 40 in Panel B. *Share of female peers with parent entrepreneur* is the share of female peers with at least one parent who is entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. The table reports estimates of the effect of exposure to female peers with entrepreneur parents on firm measures (reduced form), and estimates of the firm characteristics of women who enter or increase their tenure in entrepreneurship due to early exposure to entrepreneurs (compliers). We instrument number of years spend in entrepreneurship (Panel A) and entry into entrepreneurship (Panel B) by early exposure to entrepreneurs. Estimates are reported for women at age 25, 30, 35 and 40. All regressions include school and municipality-by-cohort fixed effects, as well as individual- and cohort-level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table 10: Effects on women's number of years as entrepreneur by gender of parents

	(1) by age 25	(2) by age 30	(3) by age 35	(4) by age 40
A: Dep. var. Ever entrepreneur				
Share of female peers with father entrepreneur	0.008***	0.007**	0.007*	0.006
	(0.002)	(0.003)	(0.004)	(0.005)
Share of female peers with mother entrepreneur	0.001	0.012*	0.013	0.013
	(0.004)	(0.007)	(0.009)	(0.010)
Share of male peers with father entrepreneur	-0.002	0.000	0.000	-0.001
	(0.002)	(0.003)	(0.004)	(0.005)
Share of male peers with mother entrepreneur	0.008	0.004	0.002	0.008
	(0.005)	(0.007)	(0.009)	(0.011)
Father is entrepreneur	0.003***	0.008***	0.013***	0.017***
	(0.000)	(0.001)	(0.001)	(0.001)
Mother is entrepreneur	0.009***	0.022***	0.028***	0.037***
	(0.001)	(0.002)	(0.003)	(0.003)
Observations	384944	380881	377509	374641
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.00470	0.0124	0.0204	0.0282
B: Dep. var. N. years as entrepreneur				
Share of female peers with father entrepreneur	0.014***	0.034***	0.048***	0.063**
	(0.004)	(0.011)	(0.018)	(0.026)
Share of female peers with mother entrepreneur	0.004	0.028	0.064	0.069
	(0.009)	(0.023)	(0.041)	(0.056)
Share of male peers with father entrepreneur	-0.005	-0.010	-0.016	-0.026
	(0.004)	(0.010)	(0.018)	(0.026)
Share of male peers with mother entrepreneur	0.019*	0.037	0.045	0.047
	(0.010)	(0.023)	(0.040)	(0.058)
Father is entrepreneur	0.006***	0.024***	0.053***	0.089***
	(0.001)	(0.003)	(0.005)	(0.007)
Mother is entrepreneur	0.018***	0.067***	0.126***	0.182***
	(0.003)	(0.008)	(0.014)	(0.019)
Observations	384944	380881	377509	374641
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.00905	0.0342	0.0720	0.118

Notes. The dependent variable in all columns in Panel A is an indicator for whether the individual ever entered entrepreneurship by the age considered; the dependent variable in all columns in Panel B is the number of years spent in entrepreneurship by the age considered. *Share of female (male) peers with mother/father entrepreneur* is the share of female (male) peers with mother/father who is entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. The table reports estimates for women only. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

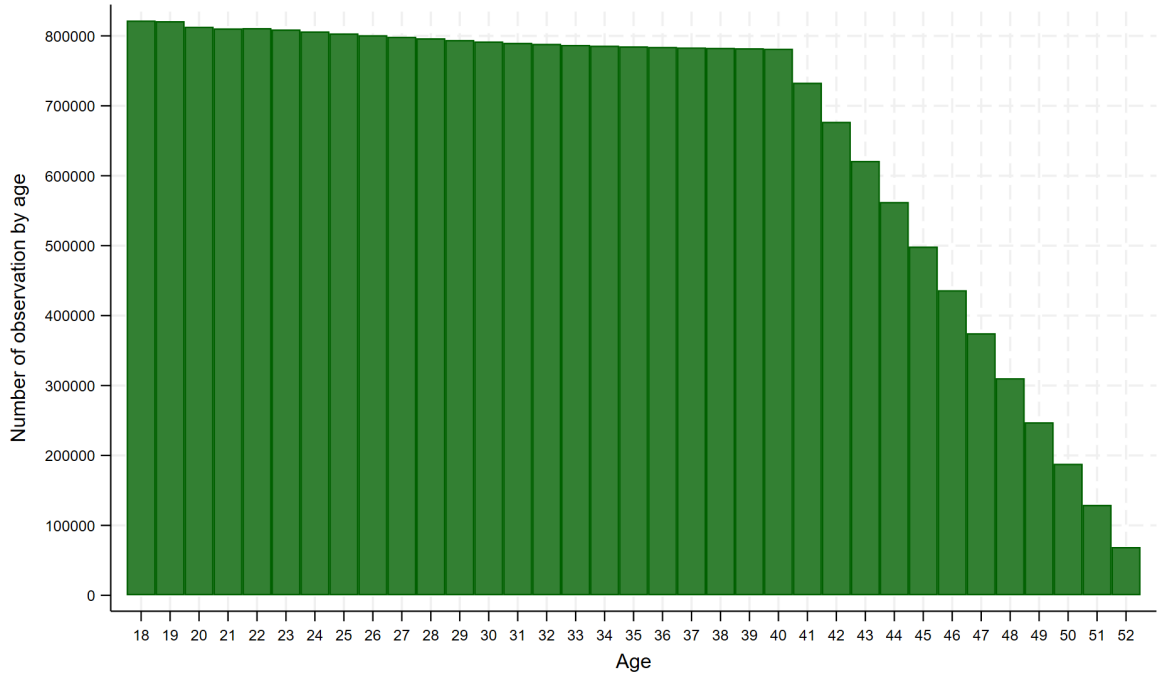
Table 11: Effects on women's probability of firm co-ownership with peers

	Cofounded first firm	
	(1)	(2)
	With peers	With same gender peers
Share of female peers with parent entrepreneur	-0.0003	-0.0003
	(0.0002)	(0.0002)
Share of male peers with parent entrepreneur	0.0006	0.0006
	(0.0004)	(0.0004)
Parent is entrepreneur	0.0001	0.0000
	(0.0001)	(0.0001)
Observations	384944	384944
School and municipality x cohort FE	X	X
Individual controls	X	X
Cohort controls	X	X
Mean dep. var	0.0000883	0.0000520

Notes. The dependent variable in all columns is an indicator for whether the individual has ever co-owned a firm with her peers. *Share of female (male) peers with parent entrepreneur* is the share of female (male) peers with at least one parent who is entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. The table reports estimates for women only. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * $p< 0.1$, ** $p< 0.05$, *** $p< 0.01$.

A Other Tables and Figures

Figure A1: Number of observation by age



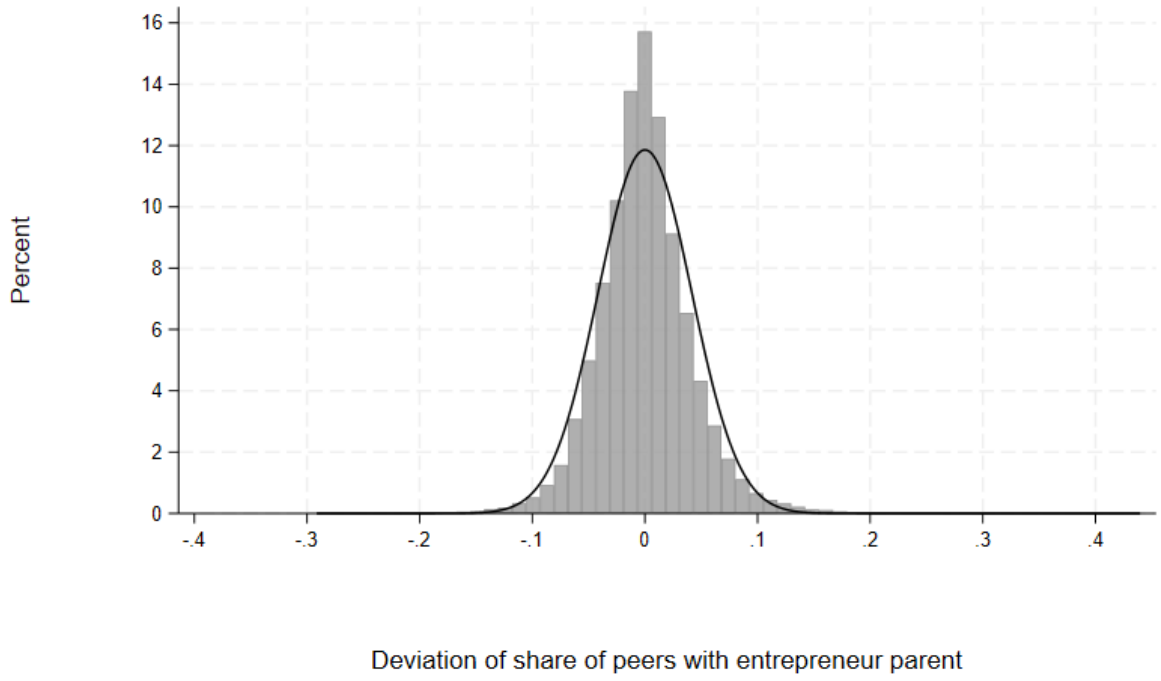
Notes. The figure plots the number of observation per age, from 18 to 52.

Table A1: Raw and residual variation in share of parents who are entrepreneurs

	Mean	St.Dev
Share of peers with at least one entrepreneur parent		
Raw cohort variable	0.116	0.071
Residuals after removing School and municipality x cohort FE	-0.000	0.042

Notes. This table reports the raw and residual (net of school and municipality-by-cohort fixed effects) variation in the share of peers' parents who are entrepreneurs. Entrepreneurs are defined as individuals who either start or own a business with employees.

Figure A2: Year-to-year variation in the share of peers' parents who are entrepreneurs within schools



Notes. The figure plots the predicted share of peers' with entrepreneur parents at the school-cohort level from a regression of the share of peers' with entrepreneur parents on school and municipality-by-cohort fixed effects. The graph also features a normal distribution for comparison. Entrepreneurs are defined as individuals who either start or own a business with employees.

Table A2: Raw and residual variation in share of parents who are entrepreneurs by gender of peers

	Mean	St.Dev
A. Share of female peers with at least one entrepreneur parent		
Raw cohort variable	0.115	0.088
Residuals after removing School and municipality x cohort FE	-0.000	0.061
B. Share of male peers with at least one entrepreneur parent		
Raw cohort variable	0.117	0.087
Residuals after removing School and municipality x cohort FE	-0.000	0.059

Notes. This table reports the raw and residual (net of school and municipality-by-cohort fixed effects) variation in the share of female (panel A) and male (panel B) peers' parents who are entrepreneurs. Entrepreneurs are defined as individuals who either start or own a business with employees.

Table A3: Balancing tests by gender of peers

	Share of female peers with par. entr.		Share of male peers with par. entr.	
	Estimate	St. Error	Estimate	St. Error
Dependent variable:				
Age in 7th grade	0.00116*	(0.00063)	-0.00013	(0.00063)
Female	0.00171*	(0.00104)	-0.00034	(0.00098)
N. students	-0.15384	(0.11276)	-0.09041	(0.11376)
Mother has secondary (academic) educ	-0.00004	(0.00026)	0.00030	(0.00028)
Mother has secondary (vocational) educ	-0.00036	(0.00093)	0.00023	(0.00094)
Mother has higher educ	0.00002	(0.00039)	0.00063	(0.00041)
Father has secondary (academic) educ	-0.00007	(0.00027)	0.00009	(0.00026)
Father has secondary (vocational) educ	0.00053	(0.00098)	-0.00070	(0.00103)
Father has higher educ	0.00017	(0.00056)	0.00102*	(0.00059)
Mother's age	0.00539	(0.00983)	0.00448	(0.01025)
Father's age	0.00274	(0.01208)	-0.00772	(0.01250)
Parents are home owners	-0.00162	(0.00131)	0.00157	(0.00127)
Parents' income (log)	0.00048	(0.00102)	0.00131	(0.00104)
Mother is unemployed	0.00076	(0.00051)	-0.00016	(0.00052)
Father is unemployed	0.00092**	(0.00043)	-0.00018	(0.00045)
Lives with mother	-0.00114	(0.00081)	-0.00034	(0.00081)
Lives with father	0.00056	(0.00038)	-0.00009	(0.00038)
First-generation immigrant	-0.00002	(0.00017)	-0.00045**	(0.00019)
Second-generation immigrant	0.00044**	(0.00022)	-0.00003	(0.00020)

Notes. This table reports the coefficients of separate regressions of each individual characteristic on the share of female and male peers with parents entrepreneur. The coefficients are rescaled to reflect the effect of increasing exposure by the IQR of the exposure distribution. All regressions include school and municipality-by-cohort fixed effects and control for an indicator for whether the individuals' parents are entrepreneur. Entrepreneurs are defined as individuals who either start or own a business with employees. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table A4: Correlated characteristics at the cohort level by gender of peers

	Share of female peers with par. entr		Share of male peers with parents entr.	
	Estimate	St. Error	Estimate	St. Error
Dependent variable:				
Share of par. with secondary academic educ	-0.0003	(0.0008)	0.0014*	(0.0008)
Share of par. with secondary vocational educ	0.007***	(0.002)	0.007***	(0.002)
Share of par. with higher educ	0.007***	(0.001)	0.010***	(0.001)
Share of par. unemployed	-0.007***	(0.002)	-0.009***	(0.001)
Share of par. first-gen immigrants	-0.0005	(0.0011)	-0.0009	(0.0010)
Share of par. second-gen immigrant	-0.0003	(0.0002)	0.0001	(0.0002)
Share of par. home owners	0.017***	(0.003)	0.013***	(0.002)
Average par. age	0.091***	(0.023)	0.023	(0.020)
Average par. income (log)	0.016***	(0.002)	0.017***	(0.002)

Notes. This table reports the coefficients of separate regressions of the share of female peers and male peers with entrepreneur parents on the share of parents whose higher education is vocational secondary education, academic secondary education, or a university degree; the share of parents who are unemployed; the share of parents who are first- or second-generation immigrants; the share of parents who are home-owners; parents' average age; and average parental income (log). The coefficients are rescaled to reflect the effect of increasing exposure by the IQR of the exposure distribution. All regressions include school and municipality-by-cohort fixed effects. Entrepreneurs are defined as individuals who either start or own a business with employees. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table A5: Ever entrepreneur - role of controls

	Ever entrepreneur			
	(1)	(2)	(3)	(4)
A. By age 25				
Share of female peers with parent entrepreneur	0.007***	0.007***	0.007***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)
Share of male peers with parent entrepreneur	-0.001	-0.001	-0.001	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Parent is entrepreneur	0.004***	0.005***	0.004***	0.005***
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	384944	384944	384944	384944
Mean dep. var	0.00470	0.00470	0.00470	0.00470
B. By age 30				
Share of female peers with parent entrepreneur	0.008***	0.008***	0.008***	0.008***
	(0.003)	(0.003)	(0.003)	(0.003)
Share of male peers with parent entrepreneur	-0.000	-0.000	0.000	0.000
	(0.003)	(0.003)	(0.003)	(0.003)
Parent is entrepreneur	0.010***	0.011***	0.010***	0.011***
	(0.001)	(0.001)	(0.001)	(0.001)
Observations	380881	380881	380881	380881
Mean dep. var	0.0124	0.0124	0.0124	0.0124
B. By age 35				
Share of female peers with parent entrepreneur	0.008**	0.008**	0.009**	0.009**
	(0.004)	(0.004)	(0.004)	(0.004)
Share of male peers with parent entrepreneur	-0.000	0.000	0.000	0.000
	(0.004)	(0.004)	(0.004)	(0.004)
Parent is entrepreneur	0.016***	0.016***	0.016***	0.016***
	(0.001)	(0.001)	(0.001)	(0.001)
Observations	377509	377509	377509	377509
Mean dep. var	0.0204	0.0204	0.0204	0.0204
B. By age 40				
Share of female peers with parent entrepreneur	0.007*	0.007*	0.008*	0.008*
	(0.004)	(0.004)	(0.004)	(0.004)
Share of male peers with parent entrepreneur	0.000	0.001	0.000	0.001
	(0.005)	(0.005)	(0.005)	(0.005)
Parent is entrepreneur	0.020***	0.021***	0.020***	0.021***
	(0.001)	(0.001)	(0.001)	(0.001)
Observations	374641	374641	374641	374641
Mean dep. var	0.0282	0.0282	0.0282	0.0282
School and municipality x cohort FE	X	X	X	X
Individual controls		X		X
Cohort controls			X	X

Notes. The dependent variable in all columns is an indicator for whether the individual ever entered entrepreneurship by age 25 (Panel A), 30 (Panel B), 35 (Panel C) and 40 (Panel D). Column (1) reports the results of a specification with no controls. In column (2), only individual level controls are included. In column (3), only cohort controls are included. Column (4) reports the results of the full specification. *Share of female (male) peers with parent entrepreneur* is the share of female (male) peers with at least one parent who is entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. All regressions include school and municipality-by-cohort fixed effects. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table A6: Effects on entry and tenure in entrepreneurship by age for women

	(1) by age 25	(2) by age 30	(3) by age 35	(4) by age 40
A. Ever entrepreneur				
Share of female peers with parent entrepreneur	0.007***	0.008***	0.009**	0.008*
	(0.002)	(0.003)	(0.004)	(0.004)
Share of male peers with parent entrepreneur	-0.001	0.000	0.000	0.001
	(0.002)	(0.003)	(0.004)	(0.005)
Parent is entrepreneur	0.005***	0.011***	0.016***	0.021***
	(0.000)	(0.001)	(0.001)	(0.001)
Observations	384944	380881	377509	374641
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.00470	0.0124	0.0204	0.0282
B. Number of years as entrepreneur				
Share of female peers with parent entrepreneur	0.013***	0.034***	0.053***	0.066***
	(0.004)	(0.010)	(0.017)	(0.025)
Share of male peers with parent entrepreneur	-0.002	-0.005	-0.007	-0.015
	(0.004)	(0.010)	(0.017)	(0.025)
Parent is entrepreneur	0.009***	0.033***	0.067***	0.108***
	(0.001)	(0.003)	(0.004)	(0.006)
Observations	384944	380881	377509	374641
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.00905	0.0342	0.0720	0.118

Notes. The dependent variable in all columns is an indicator for whether the individual ever entered entrepreneurship by the age considered in Panel A; and the number of years spent in entrepreneurship by the age considered in Panel B. Results are reported for the subsample of women. *Share of female (male) peers with parent entrepreneur* is the share of female (male) peers with at least one parent who is entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table A7: Effects on entry and tenure in entrepreneurship by age for men

	(1) by age 25	(2) by age 30	(3) by age 35	(4) by age 40
A. Ever entrepreneur				
Share of female peers with parent entrepreneur	0.002	0.009*	0.002	0.003
	(0.003)	(0.005)	(0.006)	(0.007)
Share of male peers with parent entrepreneur	-0.000	0.003	-0.002	-0.005
	(0.003)	(0.005)	(0.006)	(0.007)
Parent is entrepreneur	0.014***	0.046***	0.066***	0.076***
	(0.001)	(0.001)	(0.002)	(0.002)
Observations	401716	396374	390848	385805
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.0105	0.0341	0.0557	0.0715
B. Number of years as entrepreneur				
Share of female peers with parent entrepreneur	0.001	0.028*	0.034	0.043
	(0.006)	(0.016)	(0.029)	(0.042)
Share of male peers with parent entrepreneur	-0.003	0.003	-0.007	-0.032
	(0.006)	(0.016)	(0.029)	(0.042)
Parent is entrepreneur	0.031***	0.155***	0.353***	0.554***
	(0.002)	(0.005)	(0.010)	(0.016)
Observations	401716	396374	390848	385805
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.0197	0.0917	0.207	0.332

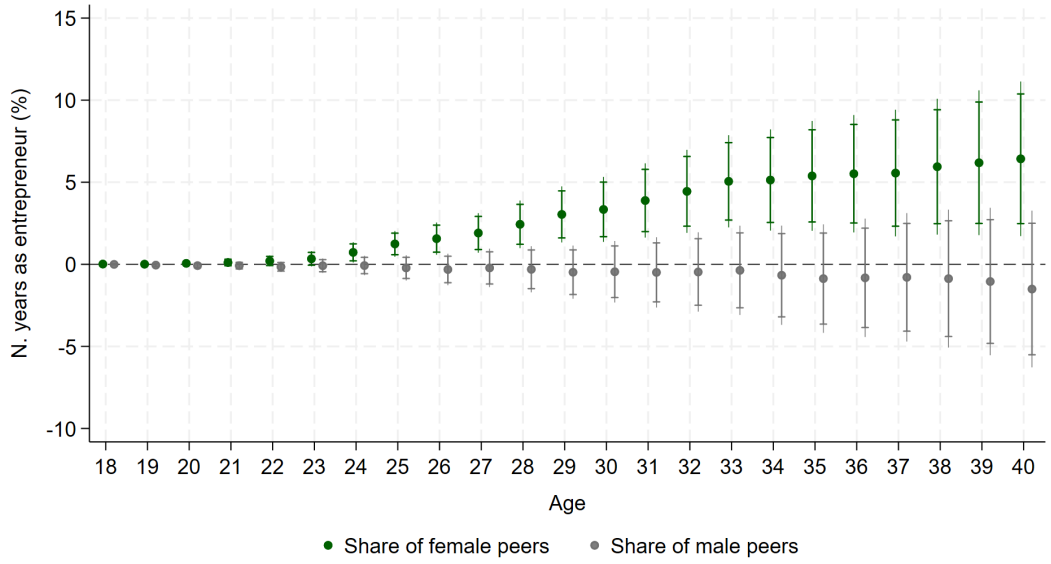
Notes. The dependent variable in all columns is an indicator for whether the individual ever entered entrepreneurship by the age considered in Panel A; and the number of years spent in entrepreneurship by the age considered in Panel B. Results are reported for the subsample of men. *Share of female (male) peers with parent entrepreneur* is the share of female (male) peers with at least one parent who is entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table A8: Effects on the number of years as entrepreneur by cohort size for women

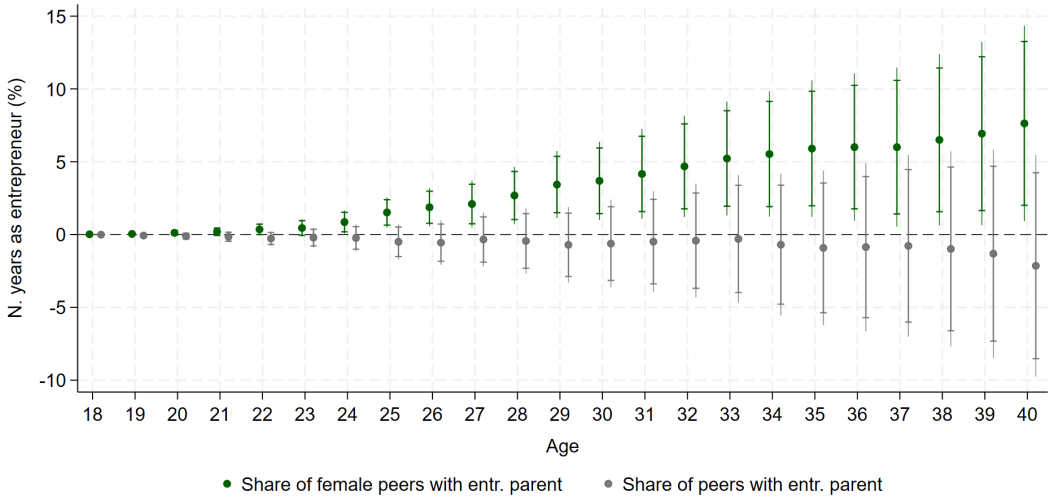
	N. years as entrepreneur			
	(1)	(2)	(3)	(4)
	by age 25	by age 30	by age 35	by age 40
A. Small cohorts				
Share of female peers with parent entrepreneur	0.017***	0.049***	0.093***	0.128***
	(0.006)	(0.015)	(0.027)	(0.038)
Share of male peers with parent entrepreneur	-0.004	-0.005	-0.009	-0.017
	(0.006)	(0.015)	(0.027)	(0.040)
Parent is entrepreneur	0.011***	0.039***	0.074***	0.113***
	(0.002)	(0.004)	(0.007)	(0.011)
Observations	166413	164697	163259	161980
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.00921	0.0356	0.0737	0.119
B. Large cohorts				
Share of female peers with parent entrepreneur	0.008	0.016	0.012	0.015
	(0.006)	(0.015)	(0.026)	(0.039)
Share of male peers with parent entrepreneur	0.006	0.021	0.038	0.042
	(0.007)	(0.016)	(0.027)	(0.039)
Parent is entrepreneur	0.007***	0.028***	0.062***	0.104***
	(0.001)	(0.003)	(0.006)	(0.008)
Observations	218238	215890	213948	212360
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.00892	0.0331	0.0707	0.117

Notes. The dependent variable in all columns is an indicator for whether the individual ever entered entrepreneurship by the age considered. *Share of peers with parent entrepreneur* is the share of peers with at least one parent who is entrepreneur during the exposure period. Panel A reports the results for individuals enrolled in cohorts below the average cohort size within their school. Panel B reports the results for individuals enrolled in cohorts above the average size. Entrepreneurs are defined as individuals who either start or own a business with employees. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Figure A3: Effects on the number of years as entrepreneur with tighter specification - Women's sample



(a) Baseline specification



(b) Tighter specification

Notes. Panel (a) of this figure plot the regression coefficients as well as 90 and 95% confidence intervals from estimating equation (1), while Panel (b) displays the coefficients from an alternative specification that exploits variation in the gender mix in the share of peers with entrepreneur parents while keeping the total share of peers with entrepreneur parents constant. Entrepreneurs are defined as individuals who either start or own a business with employees. The y-axis plots the percentage change in the outcome of interest resulting from moving a student from a cohort with relatively low exposure to one with relatively high exposure. We obtain this number by multiplying each coefficient by the interquantile range of the exposure distribution (times one hundred) and divide the result by the gender-specific mean of the outcome variable. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors are clustered at the school level.

Table A9: Number of years as entrepreneur - robustness checks for women

	N. years as entrepreneur			
	(1) by age 25	(2) by age 30	(3) by age 35	(4) by age 40
A. Including self-employed				
Share of female peers with parent entrepreneur	0.018***	0.040***	0.063***	0.082**
	(0.006)	(0.013)	(0.022)	(0.033)
Share of male peers with parent entrepreneur	0.002	-0.006	-0.014	-0.033
	(0.007)	(0.014)	(0.023)	(0.035)
Parent is entrepreneur	0.029***	0.075***	0.140***	0.227***
	(0.002)	(0.003)	(0.006)	(0.008)
Observations	384944	380881	377509	374641
Mean dep. var	0.0346	0.108	0.228	0.395
B. Excluding the 30 largest municipalities				
Share of female peers with parent entrepreneur	0.013**	0.032**	0.054**	0.069**
	(0.005)	(0.014)	(0.023)	(0.033)
Share of male peers with parent entrepreneur	-0.003	-0.018	-0.025	-0.033
	(0.005)	(0.013)	(0.022)	(0.033)
Parent is entrepreneur	0.007***	0.029***	0.062***	0.102***
	(0.001)	(0.003)	(0.005)	(0.008)
Observations	233525	231191	229270	227597
Mean dep. var	0.00906	0.0354	0.0748	0.123
C. Including school-time trends				
Share of female peers with parent entrepreneur	0.010**	0.029***	0.042**	0.060**
	(0.004)	(0.010)	(0.018)	(0.025)
Share of male peers with parent entrepreneur	-0.002	-0.003	-0.016	-0.021
	(0.004)	(0.010)	(0.018)	(0.026)
Parent is entrepreneur	0.008***	0.032***	0.067***	0.108***
	(0.001)	(0.003)	(0.004)	(0.006)
Observations	384944	380881	377509	374641
Mean dep. var	0.00905	0.0342	0.0720	0.118
D. Adjacent cohorts				
Share of female peers with parent entrepreneur: Lag 1	-0.001	-0.000	0.000	0.006
	(0.004)	(0.010)	(0.018)	(0.024)
Share of female peers with parent entrepreneur	0.010***	0.029***	0.041**	0.045*
	(0.004)	(0.010)	(0.018)	(0.025)
Share of female peers with parent entrepreneur: Lead 1	-0.002	-0.001	0.000	0.001
	(0.004)	(0.010)	(0.018)	(0.026)
Parent is entrepreneur	0.009***	0.033***	0.067***	0.107***
	(0.001)	(0.003)	(0.005)	(0.007)
Observations	353100	349377	346269	343616
Mean dep. var	0.00905	0.0342	0.0720	0.118

Notes. The dependent variable in all columns is the number of years spent in entrepreneurship by the age considered. In panel A, entrepreneurship includes also the self-employed. In panel B, we include school linear trends. In panel C, we include exposure from adjacent cohorts. In panel D, we exclude the 30 largest municipalities. *Share of female (male) peers with parent entrepreneur* is the share of female (male) peers with at least one parent who is entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees (in Panel B and C), and include the self-employed in Panel A. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

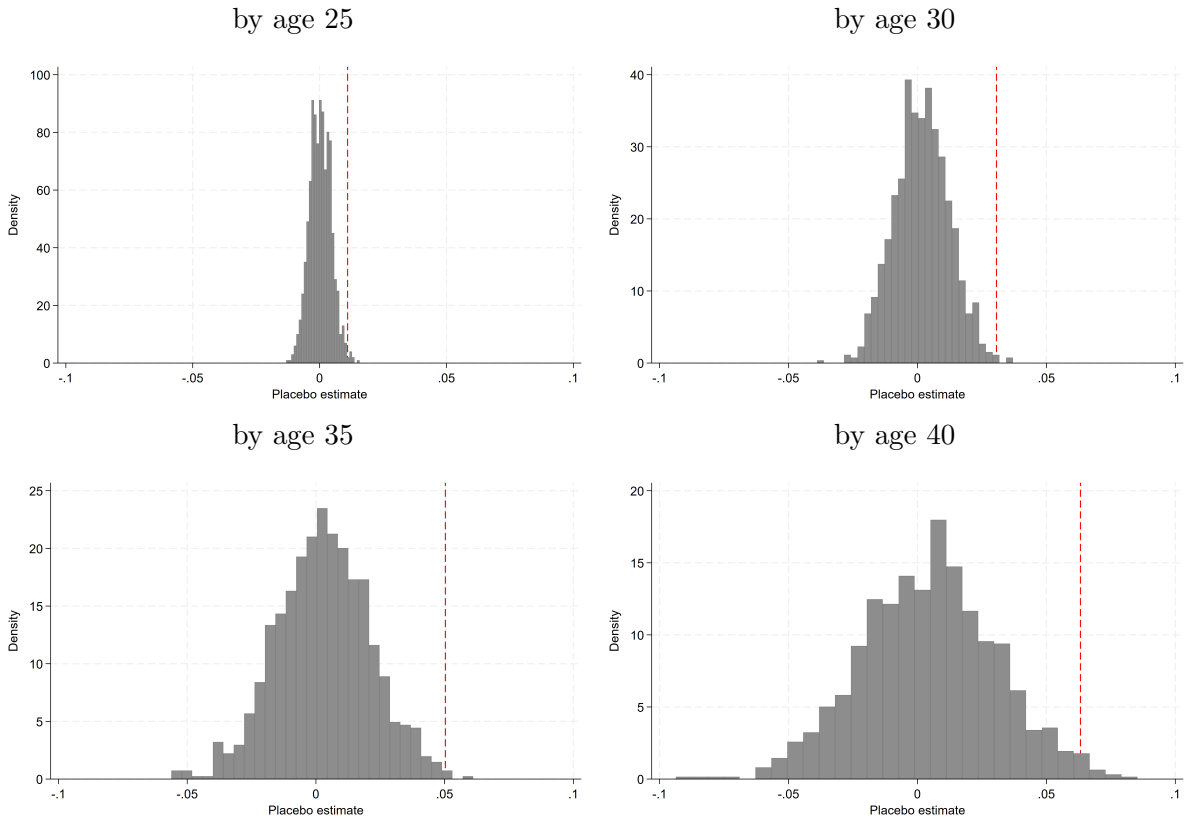
Table A10: Oster test on the number of years as entrepreneur for women

	Years as entr.	
	(1)	(2)
	No controls	Controls
A. By age 25		
Share of female peers with entr. parents	0.012***	0.013***
	(0.004)	(0.004)
Observations	384944	384944
R_max		0.019
$\hat{\delta}$ for $\beta = 0$ given *R_max*		1.367[a]
B. By age 30		
Share of female peers with entr. parents	0.033***	0.034***
	(0.010)	(0.010)
Observations	380881	380881
R_max		0.020
$\hat{\delta}$ for $\beta = 0$ given *R_max*		2.622[a]
C. By age 35		
Share of female peers with entr. parents	0.051***	0.053***
	(0.017)	(0.017)
Observations	377509	377509
R_max		0.021
$\hat{\delta}$ for $\beta = 0$ given *R_max*		2.724[a]
D: by age 40		
Share of female peers with entr. parents	0.064***	0.066***
	(0.025)	(0.025)
Observations	374641	374641
R_max		0.022
$\hat{\delta}$ for $\beta = 0$ given *R_max*		3.626[a]

Notes. The dependent variable in all columns is the number of years spent as an entrepreneur by age 25 (Panel A), 30 (Panel B), 35 (Panel C) or 40 (Panel D). Column (1) reports the results of a specification with no controls. Column (2) reports the results of the full specification. The table reports estimates of the effect of exposure to entrepreneurs via female peers and of the coefficient of proportionality (δ), indicating how important unobservable characteristics would have to be relative to observable characteristics to explain away the effect of exposure to entrepreneurs on outcomes for a given maximum R^2, R_{max}. We set R_{max} equal to $1.3 \times R^2$ from the model including controls as suggested in Oster (2019). Superscript *a* indicates that the estimated $\delta < 0$. *Share of female peers with parents entrepreneur* is the share of female peers with parents who are entrepreneurs during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Figure A4: Placebo tests on the number of years as entrepreneur for women

(a) Panel A

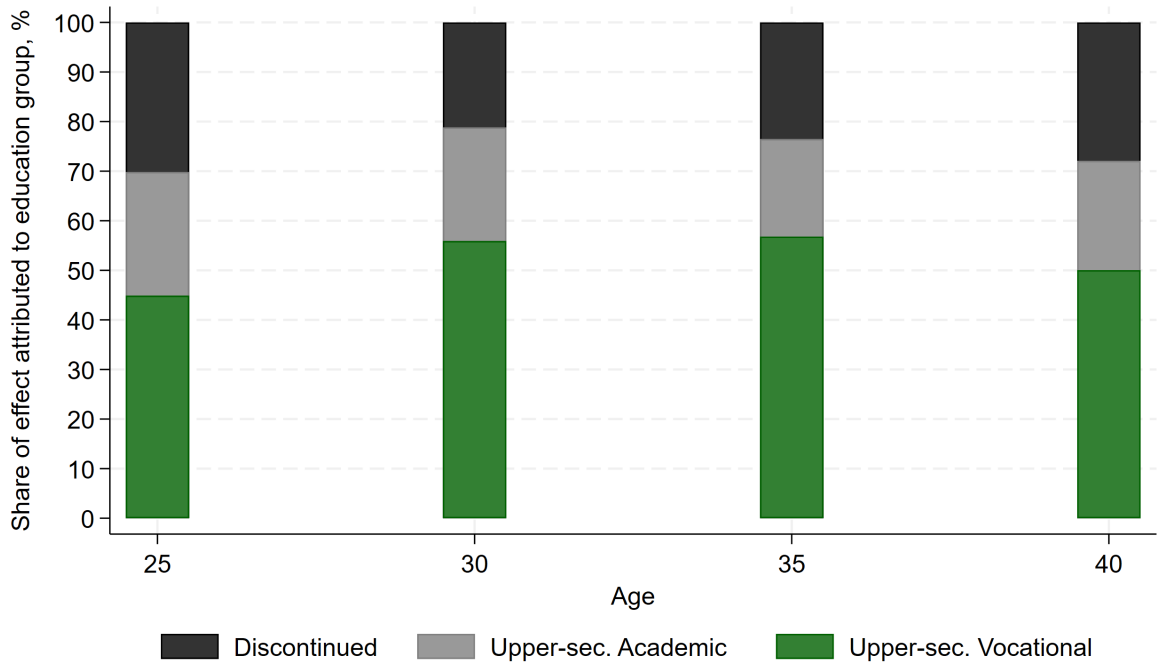


(b) Panel B

	$b \leq \hat{b}$			
	(1) Age 25	(2) Age 30	(3) Age 35	(4) Age 40
Share of placebo estimates	0.008	0.004	0.002	0.017

Notes. Panel A of the figure plots the distribution of estimates from 1000 placebo regressions of the effect of exposure to entrepreneurs via female peers on the number of years girls spend in entrepreneurship by age 25, 30, 35 or 40. Each placebo regression randomly assigns students to schools within their true school cohort and municipality. The vertical red dashed line indicates the estimated effect using the true exposure level. Panel B reports the share of placebo estimates that are more extreme than the estimated effect of early exposure to entrepreneurs on the number of years spent in entrepreneurship using our estimation sample.

Figure A5: Decomposition of number of years as entrepreneur



Notes. This figure illustrates the share of the overall effect of early exposure to entrepreneurs through female peers, that can be attributed to women who pursue upper-secondary vocational education, upper-secondary academic education and discontinue education following compulsory schooling. These estimates are shown separately for the number of years spend in entrepreneurship by age 25, 30, 35 and 40. The estimates are obtained by estimating three separate regressions of the same form as equation (1), where we interact the outcome of interest (number of years as entrepreneur) with an indicators for the first education pursued after compulsory schooling. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors are clustered at the school level.

Table A11: Effects of exposure to high-achieving peers

	N. years as entrepreneur			
	(1) by age 25	(2) by age 30	(3) by age 35	(4) by age 40
Panel A: Manager parents				
Share of female peers with parent top manager	-0.003	-0.005	0.001	0.003
	(0.009)	(0.021)	(0.036)	(0.052)
Share of male peers with parent top manager	0.007	0.042**	0.088**	0.102*
	(0.009)	(0.021)	(0.037)	(0.056)
Parent is top manager	0.005**	0.017***	0.031***	0.043***
	(0.002)	(0.006)	(0.009)	(0.013)
Observations	384944	380881	377509	374641
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.00905	0.0342	0.0720	0.118
Panel B: Higher educated parents				
Share of female peers with high educ. parent	-0.001	-0.005	0.006	-0.005
	(0.007)	(0.019)	(0.036)	(0.051)
Share of male peers with high educ. parent	-0.001	0.003	0.010	0.007
	(0.008)	(0.020)	(0.037)	(0.053)
Parent has high educ.	-0.003	-0.003	-0.005	-0.018
	(0.002)	(0.005)	(0.009)	(0.015)
Observations	384944	380881	377509	374641
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.00905	0.0342	0.0720	0.118

Notes. The dependent variable in all columns is the number of years spent in entrepreneurship by the age considered. Results are reported for the subsample of women. *Share of female (male) peers with parent top manager* is the share of female (male) peers with at least one parent who is employed as manager during the exposure period. *Share of female (male) peers with high educ. parent* is the share of female (male) peers with at least one parent who hold a higher education degree in the exposure period. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table A12: Effects on tenure in entrepreneurship by age for female movers

	(1) by age 25	(2) by age 30	(3) by age 35	(4) by age 40
Share of female peers with parent entrepreneur	0.008**	0.025**	0.039**	0.066**
	(0.004)	(0.010)	(0.018)	(0.027)
Share of male peers with parent entrepreneur	-0.004	-0.016	-0.020	-0.021
	(0.004)	(0.011)	(0.018)	(0.026)
Parent is entrepreneur	0.005***	0.019***	0.045***	0.084***
	(0.001)	(0.003)	(0.005)	(0.007)
Observations	197080	223457	255613	288838
School and municipality x cohort FE	X	X	X	X
Individual controls	X	X	X	X
Cohort controls	X	X	X	X
Mean dep. var	0.007	0.027	0.062	0.108
St.dev. share of female peers	0.088	0.088	0.088	0.088
St.dev. share of male peers	0.087	0.087	0.087	0.087

Notes. The dependent variable in all columns is the number of years spent in entrepreneurship by the age. Results are reported for the subsample of women who have moved away from the municipality in which they underwent compulsory schooling at the indicated age. *Share of female (male) peers with parent entrepreneur* is the share of female (male) peers with at least one parent who is entrepreneur during the exposure period. Entrepreneurs are defined as individuals who either start or own a business with employees. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Table A13: Effects of exposure to high-achieving peers on educational choices

	Education decision after compulsory school		
	(1) Discontinued education	(2) Upper secondary academic	(3) Upper secondary vocational
Panel A: Manager parents			
Share of female peers with parent top manager	-0.048*	0.045	0.004
	(0.026)	(0.030)	(0.028)
Share of male peers with parent top manager	-0.016	-0.002	0.019
	(0.025)	(0.032)	(0.028)
Parent is top manager	-0.003	-0.006	0.009
	(0.005)	(0.006)	(0.006)
Observations	328632	328632	328632
School and municipality x cohort FE	X	X	X
Individual controls	X	X	X
Cohort controls	X	X	X
Mean dep. var	0.232	0.512	0.256
Panel B: Higher educated parents			
Share of female peers with high educ. parent	-0.034	0.061**	-0.026
	(0.023)	(0.029)	(0.024)
Share of male peers with high educ. parent	-0.019	0.050	-0.031
	(0.025)	(0.030)	(0.025)
Parent has high educ.	-0.057***	0.089***	-0.032***
	(0.006)	(0.008)	(0.006)
Observations	328632	328632	328632
School and municipality x cohort FE	X	X	X
Individual controls	X	X	X
Cohort controls	X	X	X
Mean dep. var	0.232	0.512	0.256

*Notes.*The dependent variables in columns (1)-(3) are mutually exclusive indicators for the first choice made after the end of compulsory schooling. Specifically, the dependent variable is an indicator for whether the individual has discontinued education after compulsory school in column (1); has enrolled in an upper secondary academic school in column (2); and has enrolled in an upper secondary vocational school in column (3). These regressions are run on a balanced sample, so that columns (1)-(3) sum up to zero. *Share of female (male) peers with parent top manager* is the share of female (male) peers with at least one parent who is employed as manager during the exposure period. *Share of female (male) peers with high educ. parent* is the share of female (male) peers with at least one parent who hold a higher education degree in the exposure period. All regressions include school and municipality-by-cohort fixed effects, as well as individual and cohort level controls. Individual level controls include age; indicators for living with parents; indicators for being a first- or second-generation immigrant; parents' income; parents' age; indicators for parents' unemployment and home-ownership statuses; and indicators for parents' highest education level (upper secondary academic, upper secondary vocational, higher education), all computed at the beginning of the exposure period. Cohort level controls include cohort size; share of female peers; share of first- and second-generation immigrant peers; average peers' parental income; share of peers with parents whose highest educational level is upper secondary academic education, upper secondary vocational education, or higher education; share of peers with parents unemployed; and share of peers with parents that are home-owners. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

B Firm Performance

We are interested in measuring the characteristics of the pool of firms resulting from the increase in female entrepreneurship arising due to higher levels of early exposure to entrepreneurs (i.e. the firm led by the *compliers*). We can identify these firm characteristics using early exposure as an instrument for the time spent in entrepreneurship under four assumptions: i) Early exposure increases the time spent in entrepreneurship (relevance); ii) the exploited variation in early exposure to entrepreneurship is as good as random (independence); iii) higher levels of early exposure never decrease the amount of time spent in entrepreneurship (monotonicity); iv) early exposure has no direct effect on the firm performance of always-takers (exclusion restriction).

We show in Section 4 that the instrument is relevant and in particular that early exposure to entrepreneurs through female peers has a strong effect on the number of years women spent in entrepreneurship. Furthermore, we show in Section 3.2 that variation in early exposure to entrepreneurs can be considered conditionally random. Specifically, we show that within school across cohort variation in the share of peers with entrepreneur parents is uncorrelated with a large set of pre-determined characteristics. In this Appendix section we thus discuss the monotonicity assumption and the exclusion restriction.

One implication of the monotonicity assumption is that the first stage coefficient should be nonnegative for all subsamples. To provide evidence in favor of the monotonicity assumption we therefore estimate the first stage specification (Equation 2) for various subsamples. To conduct these tests, we first condition out school and municipality by year fixed effects in the full sample and use the remaining variation in early exposure across different subsamples. We show estimates from these first stage regressions, where the dependent variable is the number of years spent in entrepreneurship by age 25, 30, 35 and 40, in Table B1. Panel A reports the baseline estimates. Panel B reports estimates separately for those with a high (above median) predicted probability of becoming an entrepreneur and for those with a low (below median) predicted probability of becoming an entrepreneur. These predicted probabilities are calculated using a linear probability model relating individual-level controls to the probability of ever becoming an entrepreneur. Panel C reports estimates separately for students with parents who completed no more than compulsory schooling and those with parents who completed more than compulsory schooling. Panel D reports estimates separately for school cohorts 1980-1986 and school cohorts 1987-1992. Panel E reports estimates separately for students with parents who have income below and above the median income among all parents with children from the same school cohort. Panel F reports estimates separately for individuals residing in urban and rural municipalities, where urban municipalities refer to the 30 largest municipalities in Denmark. Panel G reports estimates separately for schools that are and that are not classified as poor schools. We classify a school as poor if the school is among the 50% schools with the highest share of children of parents in

the bottom quartile of the income distribution. The first stage estimates are positive and largely significant across all subsamples and age groups, lending support to the validity of the monotonicity assumption.

We now turn to the discussion of the exclusion restriction. If the exclusion restriction is violated, the 2SLS estimates will be biased. Specifically, they will capture a combination of the effects of early exposure on the characteristics of firms led by compliers, and changes to the characteristics of firms led by *always-takers*. While the exclusion restriction cannot be directly tested, we can investigate the sensitivity of our 2SLS estimates to potential violations. To simplify derivations, we focus on the firm characteristics of women who enter entrepreneurship due to early exposure (i.e., the extensive margin of entrepreneurship), rather than the firm characteristics of women who enter or increase their tenure in entrepreneurship due to early exposure (i.e., changes to the extensive and intensive margin of entrepreneurship).[65]

Specifically, let Z_i indicate exposure to entrepreneurs, which we assume to be binary (high/low) for simplicity. Let D_i be an indicator for being an entrepreneur, let $D_i(Z_i)$ denote the entrepreneurship status for a given value of Z_i, and let $Y_i(D_i, Z_i)$ denote potential outcomes of i for different combinations of D_i and Z_i. With this notation, we can divide the population into four mutually exclusive groups: compliers (C: $D_i(Z_i)) = Z_i$), always-takers (AT: $D_i(Z_i) = 1$), never takers (NT: $D_i(Z_i) = 0$) and defiers (DF: $D_i(Z_i) = 1 - Z_i$). As is standard in the IV framework and in line with the tests shown in Table B1, we assume that there are no defiers (monotonicity), that is, there are no individuals who would avoid becoming an entrepreneur due to early exposure to entrepreneurship ($Pr(D_i(Z_i) = 1 - Z_i) = 0$). Using this notation, we can write the 2SLS Wald estimator as:

$$\beta_{2SLS} = \frac{E[Y_i|Z_i = 1] - E[Y_i|Z_i = 0]}{E[D_i|Z_i = 1] - E[D_i|Z_i = 0]} \tag{5}$$

Focusing first on the reduced form estimate expressed in the numerator, notice that it

[65] As documented in Figure 2, early exposure to entrepreneurs through female peers leads to a large and persistent increase in the probability that women become entrepreneurs. Because we focus on the extensive margin of entrepreneurship, the interpretation of the 2SLS estimates changes slightly compared to when we focus on changes to the number of years spent in entrepreneurship. Specifically, when instrumenting for entry into entrepreneurship using early exposure, the compliers are women who enter entrepreneurship due to early exposure, while always-takers are women who would enter entrepreneurship regardless of early exposure. By contrast, when instrumenting for the number of years in entrepreneurship, compliers include women who either enter or extend their entrepreneurial tenure due to early exposure, while always-takers are those whose entry and tenure remain unaffected by early exposure. Note that while focusing on the firm characteristics of women who enter entrepreneurship due to early exposure simplies the intuition behind the derivations, the results from this exercise are qualitatively and quantitatively similar if we use the number of years spent as an entrepreneur as the endogenous variable, in line with changes to the extensive margin of entrepreneurship being the most relevant margin.

can be written as:

$$
\begin{aligned}
&E[Y_i|Z_i=1] - E[Y_i|Z_i=0] \\
&= \Big[E[Y_i|Z_i=1, D_i=1]P(D_i=1|Z_i=1) + E[Y_i|Z_i=1, D_i=0]P(D_i=0|Z_i=1)\Big] \\
&- \Big[E[Y_i|Z_i=0, D_i=1]P(D_i=1|Z_i=0) + E[Y_i|Z_i=0, D_i=0]P(D_i=0|Z_i=0)\Big] \\
&= \Big[E[Y_i(1,1)|C]P(C) + E[Y_i(1,1)|AT]P(AT) + E[Y_i(0,1)|DF]P(DF) + E[Y_i(0,1)|NT]P(NT)\Big] \\
&- \Big[E[Y_i(1,0)|AT]P(AT) + E[Y_i(1,0)|DF]P(DF) + E[Y_i(0,0)|C]P(C) + E[Y_i(0,0)|NT]P(NT)\Big] \\
&= E[Y_i(1,1)|C]P(C) + E[Y_i(1,1) - Y_i(1,0)|AT]P(AT)
\end{aligned}
$$

where the final step removes defiers, according to the monotonicity assumption and exploits that firm outcomes are zero for individuals who never become entrepreneurs ($Y_i(0, Z_i) = 0$). Focusing next on the first stage estimate expressed in the denominator, notice that it can be written as:

$$
\begin{aligned}
&E[D_i|Z_i=1] - E[D_i|Z_i=0] \\
&= \Big[E[D_i|Z_i=1, D_i=1]P(D_i=1|Z_i=1) + E[D_i|Z_i=1, D_i=0]P(D_i=0|Z_i=1)\Big] \\
&- \Big[E[D_i|Z_i=0, D_i=1]P(D_i=1|Z_i=0) + E[D_i|Z_i=0, D_i=0]P(D_i=0|Z_i=0)\Big] \\
&= P(D_i=1|Z_i=1) - P(D_i=1|Z_i=0) = P(C)
\end{aligned}
$$

Therefore, the Wald estimator becomes:

$$\beta_{2SLS} = E[Y_i(1,1)|\mathrm{C}] + E[Y_i(1,1) - Y_i(1,0)|\mathrm{AT}] \times \frac{P(\mathrm{AT})}{P(\mathrm{C})} \tag{6}$$

which allows us to identify the characteristics of firms created by compliers under different assumptions about the impact of early exposure to entrepreneurs on the firms created by always-takers using the following relationship:

$$E[Y_i(1,1)|\mathrm{C}] = \beta_{2SLS} - E[Y_i(1,1) - Y_i(1,0)|\mathrm{AT}] \times \frac{P(\mathrm{AT})}{P(\mathrm{C})} \tag{7}$$

If we assume that exposure has no influence on the firms created by always-takers (i.e., the exclusion restriction holds), the 2SLS estimate will capture the characteristics of firms

created by compliers. If this assumption does not hold, Equation 7 shows that we can investigate how the estimated characteristics of firms led by compliers change when we allow the effect of early exposure on the firms of always-takers ($E[Y_i(1,1)|\text{AT}]$) to vary. Indeed, because early exposure is conditionally random, we can estimate $P(\text{AT})$ as the proportion of women who become entrepreneurs when exposure is low.[66] Similarly, we can estimate $E[Y_i(1,0)|\text{AT}]$ as the average characteristics of firms led by female entrepreneurs who were exposed to a low share of entrepreneurs among their female peers. For the cumulative number of jobs created by age 40, we estimate that $E[Y_i(1,0)|\text{AT}]$ is equal to 19.4, which is close to the overall mean of 21.1. Thus, the only unknown parameters in Equation 7 are the characteristics of firms created by compliers ($E[Y_i(1,1)|C]$) and the characteristics of firms created by always-takers exposed to a high share of entrepreneurs ($E[Y_i(1,1)|AT]$).

Figure B1 illustrates the relationship between the characteristics of firms led by compliers and always-takers, with the dependent variable being the cumulative number of jobs created by age 40. Specifically, the figure reports how the estimates of $E[Y_i(1,1)|C]$ vary when the effect of early exposure on always-takers ranges from zero - where the exclusion restriction is satisfied - to the most extreme situation where the effect on compliers is zero, in which case the effect of early exposure on the cumulative number of jobs created by always-takers would have to result in an increase of more than 110 percent. To facilitate interpretation, the y-axis indicates the values corresponding to the 95th, 90th, 75th, 50th, and 25th percentiles of the cumulative number of jobs distribution of firms created by men.

As discussed in Section 5.2, the figure shows that if the exclusion restriction is satisfied, meaning there is no effect of early exposure on the performance of the firms of the always-takers, then the cumulative number of jobs created by female compliers would place them between the 90th and the 95th percentile of the male distribution (the 2SLS estimate). However, if we assume that early exposure also improves the performance of female-led firms, including those created by always-takers (for example by reducing operational barriers through the transmission of specific information or human capital; see discussion in Section 5.2 and 6), the position of compliers in the distribution of cumulative jobs created decreases, as implied by Equation 7. Importantly, however, the figure illustrates that for compliers to be classified as unsuccessful entrepreneurs, the effect of early exposure on the performance of firms led by always-takers would need to be substantial. Specifically, the cumulative number of jobs created by always-takers would need to increase by over 99 percent - rising from 19.4 to 38.6 jobs - for the cumulative jobs created by compliers to fall into the bottom half of the distribution of jobs created by male entrepreneurs by age 40.

[66] We define exposure as being low when its value is in the bottom decile of the exposure distribution, after we have conditioned out the relationship between early exposure and all other covariates and fixed effects in our usual regression specifications (see Section 3.1 for more information).

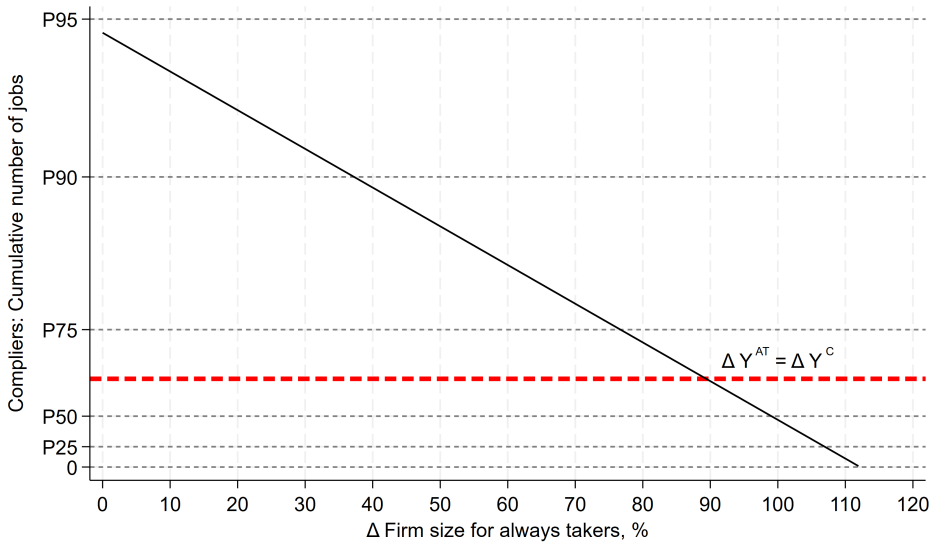
As an alternative benchmark for assessing how substantial the effect on always-takers would need to be for compliers to be considered unsuccessful entrepreneurs, we calculate the cumulative number of jobs compliers would need to create for their change in job creation to equal the increase in cumulative jobs created by always-takers due to early exposure to entrepreneurs. (i.e., $E[Y(1,1)|C] = E[Y(1,1) - Y(1,0)|AT]$). This scenario is in line with a model where early exposure has no effect on entry barriers and operates only by reducing operational barriers for compliers and always-takers in the same way. As such it reflects an extreme benchmark, since the findings in Section 4 show that early exposure in fact lowers entry barriers and increases women's likelihood of becoming entrepreneurs. We find that even in this case, indicated by the horizontal red line in Figure B1, the compliers would be positioned in the top half of the cumulative number of jobs distribution of male entrepreneurs by age 40. The fact that our findings remain consistent in this extreme scenario implies that our conclusions on the relative performance of female compliers would remain robust under more plausible violations to the exclusion restriction. Thus, taken together, our results suggest that early exposure can be instrumental in improving the allocation of entrepreneurial talent by encouraging potentially talented female entrepreneur to pursue and succeed in this career.

Table B1: Testing the monotonicity assumption

	N. years as entrepreneur			
	(1) by age 25	(2) by age 30	(3) by age 35	(4) by age 40
Panel A: baseline				
All	0.013***	0.034***	0.052***	0.066***
	(0.004)	(0.010)	(0.017)	(0.025)
Observations	384944	380881	377509	374641
Panel B: By predicted P(entrepreneur)				
P(entrepreneur): < Median	0.005	0.029**	0.049**	0.056*
	(0.005)	(0.013)	(0.022)	(0.032)
Observations	196471	194429	192638	191053
P(entrepreneur): > Median	0.023***	0.045***	0.065**	0.080**
	(0.007)	(0.016)	(0.028)	(0.040)
Observations	187968	185945	184360	183074
Panel C: By parent education status				
Parent education: More than comp.	0.011**	0.031**	0.041*	0.043
	(0.005)	(0.012)	(0.021)	(0.030)
Observations	253177	250356	248047	246146
Parent education: Compulsory or less	0.016**	0.037**	0.061**	0.094**
	(0.007)	(0.018)	(0.030)	(0.045)
Observations	131742	130499	129436	128466
Panel D: By cohort				
Cohort: 1980-1986	0.018***	0.034**	0.045*	0.051
	(0.006)	(0.015)	(0.025)	(0.035)
Observations	211757	209465	207658	206231
Cohort: 1987-1992	0.005	0.038***	0.068***	0.089**
	(0.005)	(0.014)	(0.025)	(0.035)
Observations	173186	171415	169850	168409
Panel E: By parent income group				
Parent income: < Median	0.004	0.031**	0.058**	0.080**
	(0.005)	(0.014)	(0.023)	(0.034)
Observations	193310	191585	190088	188730
Parent income: > Median	0.022***	0.037**	0.046*	0.052
	(0.006)	(0.015)	(0.026)	(0.037)
Observations	191608	189270	187393	185882
Panel F: Urban/rural municipality				
Urban municipality: No	0.012**	0.029**	0.047**	0.058*
	(0.005)	(0.014)	(0.024)	(0.033)
Observations	233525	231191	229270	227597
Urban municipality: Yes	0.014**	0.044***	0.060**	0.073**
	(0.007)	(0.015)	(0.025)	(0.036)
Observations	151285	149557	148104	146908
Panel G: Poor school				
Poor school: No	0.012**	0.035***	0.052**	0.063*
	(0.005)	(0.013)	(0.023)	(0.033)
Observations	223299	220705	218567	216833
Poor school: Yes	0.009	0.030*	0.049*	0.068*
	(0.007)	(0.016)	(0.028)	(0.040)
Observations	161170	159695	158463	157328

Notes. The table reports estimates of the effect of early exposure to entrepreneur parents through female peers on the number of years spent in entrepreneurship by age 25, 30, 35 and 40 for various subsamples. Panel A reports the baseline estimates. Panel B reports estimates separately for those with a high and low (above/below median) predicted probability of becoming an entrepreneur, obtained from a linear probability model relating individual level controls to the probability of ever becoming an entrepreneur. Panel C reports estimates separately for students with parents who completed no more than and more than compulsory schooling. Panel D reports estimates separately for school cohorts 1980-1986 and school cohorts 1987-1992. Panel E reports estimates separately for students with parents who have income below and above the median income among all parents with children from the same school cohort. Panel F reports estimates separately for individuals residing in urban and rural municipalities, where urban municipalities refer to the 30 largest municipalities in Denmark. Panel G reports estimates separately for schools that are and that are not classified as poor schools. We classify a school as poor if the school is among the 50% schools with the highest share of children of parents in the bottom quartile of the income distribution. Standard errors clustered at the school level in parentheses. * p< 0.1, ** p< 0.05, *** p< 0.01.

Figure B1: Cumulative Number of Jobs Created by Compliers and Effects of Early Exposure on the Firms Size of Always-Takers



Notes. This figure shows estimates of the cumulative number of jobs created by women entering entrepreneurship due to early exposure to female peers with entrepreneur parent (compliers), under different assumptions about the effect of early exposure to entrepreneurs on women who would have become entrepreneurs irrespectively of exposure (always-takers). The y-axis indicates the cumulative number of jobs created by female compliers, relative to different parts of the distribution of male entrepreneurs (the 95th, 90th, 75th, 50th and 25th percentile). The x-axis indicates the assumed effect on always-takers in percent. Let $Y_i(1,1)$ and $Y_i(1,0)$ denote the potential outcomes with and without early exposure and let AT indicate always-takers. Then the x-axis indicates $\frac{E[Y_i(1,1)-Y_i(1,0)|AT]}{E[Y_i(1,0)|AT]}$. Finally, the horizontal red line indicates the cumulative number of jobs created by compliers if early exposure leads to the same change in the number of jobs created for compliers and always-takers.

C Institutional setting

C.1 Educational system

In Denmark, students are required to complete nine years of compulsory education, which encompasses both primary and lower-secondary levels in a single block. School assignments are determined by local catchment areas, with each residential address corresponding to a specific public school (see Bjerre-Nielsen and Gandil, 2024, for more details about the Danish educational system). Most municipalities (87 percent) have at least two schools, with an average of 5 schools and a median of 3 schools per municipality. While private school students can enroll outside their designated catchment areas, they represent only about 7 percent of students during our sample period. Importantly, our empirical approach accounts for endogenous school selection by exploiting within-school variation (see Section 3).

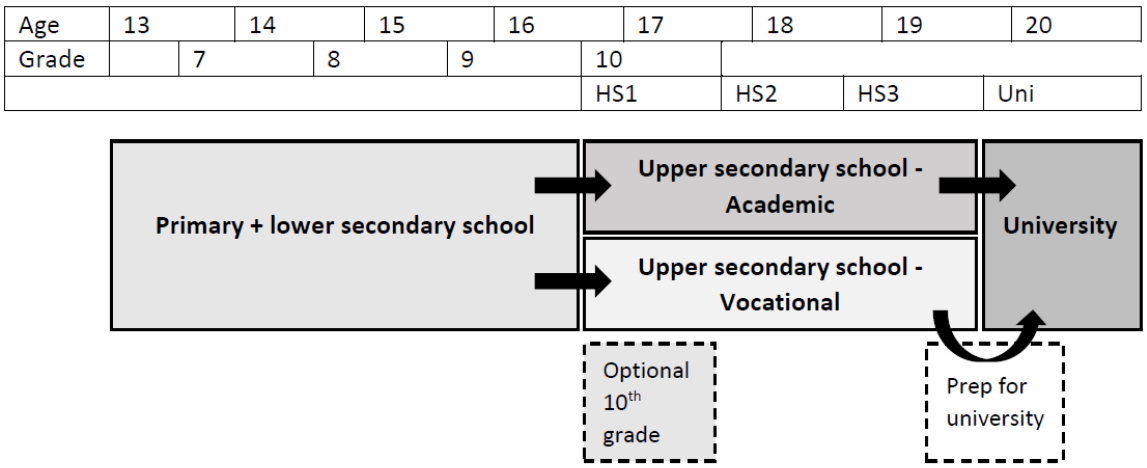
The end of compulsory schooling represents a pivotal point in the Danish educational system, where students must choose between concluding their formal education or pursuing further studies in academic or vocational upper-secondary education, both of which span three years. The academic track serves as a foundation for tertiary education, while the vocational track is meant to prepare students for specific jobs. Unlike students in the academic track, those completing vocational programs typically need to undertake additional coursework to qualify for university admission. Figure C1 in the Appendix shows a graphical representation of the Danish education system and of the educational choices students face at different points in time.

The Danish vocational education system offers over 100 specialized programs, nearly all following a dual model that alternates between classroom instruction and practical work experience in approved companies. These programs typically last 3 to 3.5 years and involve a 2:1 split between workplace training and college-based learning. The system is divided into four main subject areas: (i) Care, health, and pedagogy; (ii) Administration, commerce, and business service; (iii) Food, agriculture, and hospitality; and (iv) Technology, construction, and transportation. Further details on vocational education are available on the Danish Ministry of Children and Education's website.

C.2 Municipalities

During the study period, Denmark was divided into 275 municipalities, most of which were relatively small. In 1980, the average municipality population was 18,625, while the median population was just 9,860. The smallest municipality, Læsø, had a population of 2,683, whereas the largest, Copenhagen, had 498,850 inhabitants. Copenhagen stands out as an outlier, as the second-largest municipality, Aarhus, had a population of only 244,000 – less than half that of Copenhagen. Overall, only four municipalities had populations exceeding 100,000, and just 15 had populations over 50,000.

Figure C1: Schooling in Denmark



Notes. This figure illustrate the Danish education system from age 7 to higher education. Our treatment period goes from grade 7 to grade 9, when students are between 13-14 years old and 15-16 years old.