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Administrative Sciences

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Suggested Citation: Azubayeva, Balaussa (2021) : The impact of cultural capital on development of entrepreneurship in Wales, Administrative Sciences, ISSN 2076-3387, MDPI, Basel, Vol. 11, Iss. 4, pp. 1-24,
<https://doi.org/10.3390/admsci11040152>

This Version is available at:

<https://hdl.handle.net/10419/275270>

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Article

The Impact of Cultural Capital on Development of Entrepreneurship in Wales

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Abstract: The focus of this paper is the impact of parental cultural capital on offspring's occupational choice in relation to entrepreneurship. Despite growing interest to cultural motives for entrepreneurship on an individual level, few studies link these two domains empirically. This study follows the Culture Based Development research paradigm (CBD) developed by Tubadji and explores how culture influences occupational choices of school graduates during school-to-work transition. The main hypothesis of this paper is that sons of entrepreneurs are more likely to choose transitions into entrepreneurship after graduating school. I test three hypotheses on a unique historic dataset from Wales, UK, employing Probit analysis. I found a significant correlation between entrepreneurial background of father and son's entrepreneurial entry. Poor socio-economic status of a father is also a predictor of entry into entrepreneurship of their son, motivated by necessity. The findings of this research contributed to the applicability of CBD to a historic dataset of earlier periods to capture a significant cultural impact on entrepreneurship development in Wales, UK.

Keywords: cultural capital; entrepreneurship; Culture Based Development; culture



Citation: Azubayeva, Balaussa. 2021. The Impact of Cultural Capital on Development of Entrepreneurship in Wales. *Administrative Sciences* 11: 152. <https://doi.org/10.3390/admsci11040152>

Received: 26 September 2021

Accepted: 7 December 2021

Published: 13 December 2021

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1. Introduction

Entrepreneurship has always been perceived as a major driver of economic development of a given locality (Fritsch 2008; Dejardin and Fritsch 2011; Croce 2017; Verheul et al. 2002; Acs 2006; Mura and Kajzar 2019). Obschonka et al. (2021), in their latest book titled *Footprints: Geography of Entrepreneurial Psychology* on the geography of entrepreneurship, identified hard and soft factors influencing the development of entrepreneurship in geographic localities. While the hard factors, such as laws, public policy, demographics, labour force qualification, etc., can be measured, the influence of “soft factors” (or sometimes referred to as “intangibles” (Lee 2017)), such as culture in the development of entrepreneurship, is much less clear (Fritsch and Storey 2014). The impact of culture, history, and traditions is still an exciting and puzzling part of the entrepreneurial process and many aspects of cultural impact on human entrepreneurial behaviour remain unexplained (Tubadji et al. 2020b; Lyu et al. 2021; Lounsbury et al. 2019; Lee 2017).

To answer this puzzle, regional economics research has looked at the cultural characteristics of human behaviour and attitudes at the heart of entrepreneurial activity (Huggins and Thompson 2020a). The importance of human behaviour and its underlying cultural motives has been highlighted by Huggins and Thompson (2020a) in relation to entrepreneurship and its accompanying benefits for the regional development. Their explanation of entrepreneurship triggers goes beyond conventional importance of location, industries, and/or capital. They use a behavioural theory to research the roots of uneven economic development across cities and regions. According to Huggins and Thompson (2020b), the difference in regional economic development is due to differences in psycho-cultural context shaping human behaviour on an individual level. Thus, both insights, by Obschonka et al. (2021) and Huggins and Thompson (2020a, 2020b), outline novel pathway for developing further our knowledge on the important role of cultural context for regional economic growth from a psychological perspective.

Admittedly, the importance of the cultural context is empirically emphasized in economic research (Brieger and De Clercq 2019). However, the term culture is abstract and non-tangible, and, therefore, the definition of culture is quite varied. For this reason, Guiso et al. (2006) provide a definition of culture that is narrowed down to those dimensions that make it easier to identify a causality between cultural and economic outcomes. One of the definitions of culture states that culture encompasses “those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation” (Guiso et al. 2006) and, thus, puts a spotlight on the importance of ethnicity, religion, and social class as measurable cultural characteristics. Moreover, it is important to understand that every economic model would be underspecified if cultural components are not included in it, which is the official stance of the Culture Based Development research paradigm (Tubadji 2014). CBD defines culture as “a proto-institution which determines the formation of all other institutions in the locality and drives the likelihood of aggregate human preferences and choices in all main socio-economic activities in the localities” (Tubadji 2014). A growing amount of empirical work has supported this definition by showing that different types of cultural characteristics matters for a range of economic outcomes including relationship with entrepreneurial orientation (Alesina and Giuliano 2015; Kalisz et al. 2021; Mrabure et al. 2021). However, the exact mechanisms behind culture and entrepreneurship, although widely researched, are still not entirely clear in some important historical aspects.

The historic impact of culture has been highlighted in terms of cultural path dependence by the Culture Based Development (CBD) paradigm. CBD is a specific research paradigm that studies culture in economic choice and develops a unique methodology for its empirical and theoretical exploration (Tubadji 2012, 2013, 2020). The CBD Research paradigm has been employed in studying how culture matters in explaining human behaviour in relation to migration (Tubadji and Nijkamp 2015), school-to-work-transition (Tubadji et al. 2017), productivity (Tubadji 2013), innovation (Tubadji et al. 2021c, 2021d), inequality (Tubadji et al. 2020a), and entrepreneurship (Tubadji et al. 2019). Consequently, in CBD’s terms, entrepreneurship is viewed as a function of the complex dynamics in the cultural context (Tubadji 2012, 2013, 2020), which links CBD very closely to the sociological theory of cultural capital (Bourdieu 1986). However, the CBD paradigm has not yet addressed Bourdieu’s cultural capital bias with historical variables for the context of the UK.

This paper attempts to address this gap specifically by considering the impact of cultural capital on professional orientation during school-to-work transition in Wales in the beginning of the 20th century. I will borrow here the CBD understanding that Bourdieu type bias may affect entrepreneurial activity. However, I will use cultural capital in its sociological Bourdieu individual level sense, addressing an intergenerational persistence between fathers and sons in relation to occupational choice, and in particular, a choice of entrepreneurial activity as a family firm. Using a unique historic dataset from Wales, UK, I investigate how the entrepreneurial background of fathers impacts on the occupational choice of their sons towards entrepreneurship. Thus, the original contribution of this study to the CBD research paradigm is providing a historical application and an analysis of the school-to-work transition in earlier historic periods using a unique historic dataset.

The structure of the paper is as follows: Section 2 provides an overview of studies on family firms and cultural capital transmission in entrepreneurial families, as well as empirical studies of CBD on entrepreneurship development. Section 3 introduces a model and estimation strategy, with the results of empirical application on individual entrepreneurship. Finally, Section 4 concludes.

2. Literature Review

2.1. Defining Cultural Capital

Parental cultural capital originating from the individual’s immediate familial context and its influence and significance were a foundation of the research in cultural theory

(De Graaf et al. 2000). Cultural capital is one form of the capital that is transmitted from parents to children through social class, occupation, and wealth. Bourdieu defined the term cultural capital as “familiarity with legitimate culture within a society”, referring to it as “upper-class culture” that enables social mobility. Cultural capital can be accumulated from three sources: (1) objectified in works of art, books; (2) institutionalised through education, qualifications, and occupation; and (3) embodied in preferences, language, manners, etc. More specifically, Pierre Bourdieu’s (1984, 1986) sociological theory on intergenerational cultural capital transmission points to environmental, intra-familial factors from parents that shape an individual’s personality in various ways including education (De Graaf et al. 2000) and occupational choice. Parental socio-economic status plays a crucial role in developing children’s personalities on a social level by biasing their choices (Bourdieu 1986). Bourdieu (1986) argues that children inherit their parental cultural capital in the form of occupation and social status. Consequently, Bourdieu’s stance on cultural capital can be interpreted as an intergenerational transmission of parental cultural capital that facilitates persistence in the social mobility of offspring and accelerates motivation to choose a parental pathway as their occupational choice (Bourdieu 1986; Tubadji et al. 2021a). Considering that cultural and social aspects of capital also have economic value, the cultural capital theory is relevant as a framework for this research to understand the reasons behind cultural capital transmission from parents to children. Parental entrepreneurial background, therefore, can be of particular importance for enabling a transfer of cultural capital from parents to their children in their occupational choices to enter family business or to start and run their own (Lo Bello and Morchio 2021).

The literature around the topic of intergenerational transmission of cultural capital is primarily concentrated on ‘fathers and sons’ combination than on ‘fathers and daughters’ or ‘mothers and daughters’ (Kearl and Pope 1986; Corcoran et al. 1976; Long and Ferrie 2013). Moreover, economic outcomes for daughters are often viewed as a household income in conjunction with the earnings of their husbands (Olivetti and Paserman 2015) or as a comparison with sons (García-Mainar and Montuenga 2020). The results are often reported as elasticities in intergenerational earning mobility between fathers and sons (Nicoletti and Ermisch 2008; Olivetti and Paserman 2015), and less so as cultural determinants, such as occupational persistence (Hoffmann et al. 2015). The dataset used for this study contains occupational details of fathers and sons only; therefore, this research paper builds on previous findings in a “fathers and sons” duplet and attempts to explain earning mobility through parental cultural capital measured in occupation and social class.

2.2. Cultural Capital in Entrepreneurship

It is well recognised that sons of self-employed fathers are more likely to become self-employed themselves (Hout and Rosen 2000; Hoffmann et al. 2015), or inherit a firm from their father-founder (Burkart et al. 2003). Schoon and Duckworth (2012) used the 1970 British Birth Cohort to conclude that having a father-entrepreneur is found to influence sons’ entrepreneurship intention significantly and positively at 16 years of age. A study by Patuelli et al. (2020) looked at young adults aged 15–16, and examined the effect on “entrepreneurial intention” from three factors of environment: (1) parental influence, (2) peer pressure, and (3) the effect from neighbourhoods. The data come from adolescents in an Italian high school and are based on a survey carried out in 2015. They found significant evidence of a strong parental effect on high school students’ intention to start their business. However, despite a very extensive questionnaire consisting of 200 questions, the study was measuring the intentions of pupils rather than their real actual choices after school. Hoffmann et al. (2015) emphasized the importance of a parental role model in explaining the dominance and transmission of self-employment in a family. Similar findings are reported by an Australian study (Shoebridge et al. 2012) for entrepreneurial success for the indigenous population, with an emphasis on family members including spouses, extended family members, role models and mentors. Using a natural experiment, Wyrwich (2015) investigated entrepreneurship development through intergenerational transmission

of entrepreneurship values. He found the importance of internalising the entrepreneurial values by children of self-employed fathers for keeping their entrepreneurial activity, even in view of low external institutional approval for entrepreneurship. The extent of the influence of parental cultural capital in relation to entrepreneurial propensity goes beyond one generation and can include grandfathers too, either directly or indirectly through parents (Laspita et al. 2012). Another contribution to our knowledge of father and son occupational choices has been accomplished by a study of Lo Bello and Morchio (2021), which suggested a high occupational persistence between fathers and sons, which also facilitates faster job security for sons entering the labour market but with lower wages. Put differently, the proximity of an entrepreneurial occupational context impacts on an individual's decision on self-employment (Sorgner and Fritsch 2018). These findings are the foundation for testing our first hypothesis that argues that the entrepreneurial cultural capital of fathers is transmitted to their sons to become self-employed themselves.

2.3. Cultural Capital in CBD

CBD reinterprets cultural capital originating from Bourdieu's theory as a form of socially constructed discrimination that biases economic choices (Tubadji 2014, 2020). Building on Bourdieu's work on cultural capital bias, CBD suggests that external social judgements determine the socio-economic outcomes of an individual as opposed to their personal choice. For example, empirically, CBD examined cultural capital approximated by migrant background, which showed its significance towards schooling achievements and wage differentials after school in the Netherlands (Tubadji et al. 2017). Moreover, CBD found that cultural capital is a driver of income inequality in the spatial distribution of human capital in Italy due to a difference between cultural heritage and modern living culture (Tubadji et al. 2021b). Similarly, in China, CBD identified local cultural capital in the form of living culture and cultural heritage as a motivator for entrepreneurship (Dai 2021). Additionally, statistical significance of culture has been empirically measured by CBD in local socio-economic development in Germany using an innovative application of multi-dimensional scale for cultural factor definition that included human capital and cultural capital as explanatory mechanism for land prices and GDP (Tubadji 2012). Overall, cultural capital is argued by CBD to be a root of socio-economic growth in some European countries and an ameliorating factor of economic growth models (Tubadji 2014). In this study, a CBD research paradigm is applied to intergenerational transmission of cultural capital approximated by occupational choices during school-to-work transition in earlier historic periods in Wales. The aim of this application is to check if cultural capital bias existed in earlier periods and influenced the socio-economic outcomes of individuals.

A further section highlights the findings from psychological research that expand our understanding of entrepreneurship psychology and adds more evidence to significance of parental role in relation to entrepreneurship.

2.4. Bronfenbrenner's Theory and Its Contribution to CBD

Psychological research highlights family as a main factor of influence on child's psychological traits development, including future career aspirations (Bronfenbrenner 1986). Normally, family and parents represent the closest proximity for a growing child; however, additionally, there are three types of external influence on a growing child from external systems according to the research paradigms developed by Bronfenbrenner (1986). One of the systems is Exosystem that influences children's development indirectly through their parents. Exosystem refers to a parental world where they "live their lives", which is represented primarily by parental social networks, such as friends and colleagues, as well as their world of work. Bronfenbrenner (1986) discusses findings of psychological research that suggests that entrepreneurial nature of fathers' work is associated with a childbearing approach, where the focus is on individual achievement and striving (Miller and Swanson 1958; Caudill and Weinstein 1969; Thurik and Dejardin 2011). Meanwhile, a "bureaucratic" employment of a father is more associated with childbearing

style which prioritises permissiveness and a focus on development of interpersonal skills. Thus, a specific occupational background of parents seems to have a specific trajectory of influence onto shaping of child's individual personality (Bronfenbrenner 1986).

While the above-mentioned Bronfenbrenner's psychological Exosystem model emphasises the impact of the parental social network on a growing child, sociology points to the process of inheritance of traits, preferences, and habitual way of living from parents to their children (Bourdieu 1986). This is the point where the Exosystem psychological model by Bronfenbrenner comes to an intersection with Bourdieu's sociological theory on cultural capital, which links to nurture and environmental factors shaping individual personality. Both Bourdieu's and Bronfenbrenner's views on outcomes for children converge on an individual level and highlight the importance not only of parents but also the context. Similarly, cultural context is a crucial concept in the Culture Based Development paradigm (Tubadji 2012, 2014) that strongly influences human behaviour. In my understanding, CBD emphasises the importance of cultural context and thus provides a novel recombination of Bourdieu's cultural capital and Bronfenbrenner's Exosystem psychological model to analyse the economic outcomes of individuals. Put differently, CBD appears as a comprehensive conceptual framework to study a critical role of parental cultural capital in socioeconomic outcomes of individuals in entrepreneurship that serves as a channel for the exertion of cultural impact.

2.5. Human Capital and Entrepreneurship

Human capital is found to be one of the significant drivers for entrepreneurship (Qin and Kong 2021; Dunn and Holtz-Eakin 2000; Lazear 2004; Block et al. 2011) and is an important factor for its success (Unger et al. 2011). In addition, human capital can be a substitute of formal institutions in weaker institutional presence and have a positive effect on entrepreneurship density (Nguyen et al. 2021). Garry Becker (1964) pioneered in identifying the importance of human capital for individual's economic outcomes by comparing human capital investment with a business investment in equipment. Education as a proxy for human capital has been known as an impact factor for successful transition to entrepreneurship (Åstbro and Bernhardt 2005; Kim et al. 2006). Human capital as formal entrepreneurship education was found to be effective for entrepreneurial intentions amongst college graduates (Aboobaker and Renjini 2020). Thus, academic achievement could be also viewed as a marker for ability, ambition, and resilience—the skills required for a successful entrepreneur to work hard and achieve. The findings of Bonnett and Furnham (1991) indicate that amongst British adolescents aged 16–19 with an interest in entrepreneurship, the idea of becoming entrepreneurs is the most attractive option for those possessing a greater internal locus of control, and stronger values for hard work. However, the research undertaken by Blanchflower (2000) concluded that the least educated have higher probabilities of starting self-employment. This finding could explain the motivation to start a business out of a need rather than for profit and growth (Davidsson 1991). This type of poorly educated entrepreneur is typically pushed into entrepreneurship by a necessity and will prefer self-employment with a low number of employees (Amorós and Cristi 2011). They are also called survival entrepreneurs that generally deliver lower outcomes for the economy (Naudé 2007). Despite modest economic returns, slum entrepreneurship seems to be an effective measure against poverty (Shepherd et al. 2021). Yet, Blanchflower (2000) maintains that entrepreneurial activity is also attractive for the most highly educated, who are driven by opportunities and growth. This finding is most pertinent to developed countries and rich economies (Amorós and Cristi 2011). Similar to the study by Shepherd et al. (2021), the findings of Thompson et al. (2012), who investigated youth entrepreneurship in deprived communities in Wales, suggested the importance of internal character traits of young people rather than education per se. The research question in that study looked at how deprivation is related to entrepreneurial activity development in certain disadvantaged urban areas in Wales. Whilst there is evidence that those who failed to get a job are more likely to start

businesses due to a lack of other alternatives, the personal characteristics of individuals become significant when environmental effects disappear. This suggests the prevailing significance of internal personality traits over external economic factors that contribute to the potential of entrepreneurial activity. Therefore, an individual's human capital in the form of internal personality traits is a significant factor in preferences towards starting and owning a business (Dunn and Holtz-Eakin 2000; Stuetzer et al. 2016). Consequently, the estimation model of our study must include schooling as a proxy for human capital as one of the key explanatory variables.

Additionally, human capital can be strengthened by the age factor. Age has shown a positive effect on human capital accumulation. For instance, a study on youth entrepreneurship in Greece and Germany found evidence on cultural persistence regarding age-related readiness to take up entrepreneurial activity. Children of 15 to 24 years of age were less ready for business than 25- to 34-year-olds (Tubadji et al. 2019). In addition, cultural relativity to the student's propensity was reported in the same study in line with evolutionary economic theory. Thus, this finding highlights the significance of age as a contributing factor for maturity and readiness to engage with entrepreneurship, and as such, age variables should be included in the estimation model as an independent variable.

2.6. Small Family Firms

Literature on entrepreneurship on an individual level covers primarily research on small firms. Small family firms are viewed as a source for entrepreneurship (OECD 2000, p. 155). Small scale entrepreneurship, also called informal entrepreneurship, is more prevalent when the economy is at a low developmental level (Thai and Turkina 2014). One of the most distinguishing factors in small firms is that small family firms typically tend to employ family members rather than attracting talent from outside (Casson 1999) and tend to have intentions to pass the firm ownership onto the next generation of family members (Mahto et al. 2019). Family firms predominantly involve several family members except the head of a household, usually a father, and are governed by cultural norms and nepotism (Bertrand and Schoar 2006). In family firms, also called "dynastic" firms, the concept of trust is becoming of a paramount importance, as dynastic firm owners tend to distrust anyone from non-family labour workers. This is one of the main culturally defined reasons why nepotism and bias are dominant in family firms. This study also suggests that there is an association between dynastic firms and low wages, as well as long hours of work, as dynastic firms are more omnivores in labour-intensive craft production in those districts where there is a plethora of other dynastic firms too. Family firms are also reluctant to increase their staff, preferring instead to overload the available working family members and children. Family cultural traditions in small firms govern human behaviour of family members and intervene with the achievement of strategic goals, which results in parsimony and uneven economic outcomes of a firm (Fang et al. 2021). Driven by parsimony, family firms tend to stay conservative as regards to their main strategy and are less likely to include innovation or change of their main activity (Fang et al. 2021). However, despite being reluctant to change, small family firms do need to innovate through strengthening their entrepreneurial orientation (Lumpkin and Pidduck 2021) to stay competitive in the market (Cruz and Nordqvist 2012). Similarly, Burkart et al. (2003) argue that to achieve higher economic outcomes a firm needs to attract external managers, which typically contradicts family traditions in dynastic firms. Top positions are usually occupied by the head of a household (Bertrand and Schoar 2006). These findings indicate a strong cultural influence that governs decision-making in small family firms, as regards to the overarching management and strategic direction, and especially, firm's employment decisions. The hypotheses of this study follow this argument in relation to preferences towards family members employment due to cultural determinants in the decision-making process. The original contribution of this study to the body of knowledge is new evidence of applicability of CBD research paradigm to analysing the school-to-work transition in earlier periods using a unique historic dataset.

3. Application of CBD Model on Entrepreneurship in Wales in Late 19th Century

3.1. Model and Estimation Strategy

In order to measure the effect of parental cultural capital on offspring's occupational choice towards entrepreneurship, the following CBD model will be explored empirically:

$$Sons_Entrep = \beta_0 + \beta_1 F_CC + \beta_2 S_A + \beta_3 S_E + \beta_4 S_M + e \quad (1)$$

Sons_Entrep = Sons that chose Entrepreneurship as their occupation during school-to-work transition.

F_CC = Father's Cultural Capital—main variable of interest. This independent variable stands for father's occupation, wage level and linguistic identity. It comes in three forms in three different specifications described below. Hence, there are three different Father's Cultural Capital variables: *F_CC*(1) defines *Fathers_Trade*, *F_CC*(2) defines *Poor_Fathers* with a below average wage, and *F_CC*(3) defines *Welsh_Fathers* with Welsh surnames. More details are given in Section 3.2.

S_A = Sons' Age. This variable indicated the age at which a student left the school. This variable is referred to as *age_at_leaving* in Table 1, Descriptive statistics.

Table 1. Descriptive Statistics—Correlation between main variables.

	<i>Poor_Father</i>	<i>Age_at_leaving</i>	<i>Prev_school_outofSwansea</i>	<i>Total_length_study</i>	<i>Sons_Entrep</i>
<i>Poor_Father</i>	1				
<i>Age_at_leaving</i>	0.027	1			
<i>Prev_school_outofSwansea</i>	0.0243	0.6309 *	1		
<i>Total_length_study</i>	−0.0075	0.0767	0.1229 *	1	
<i>Sons_Entrep</i>	0.3390 *	−0.1626 *	−0.1532 *	−0.0413	1

Notes. The table presents pairwise correlation coefficients at significance level 0.05 denoted with a star.

S_E = Education. This independent variable defines the number of terms each student attended during schooling. This variable is referred to as *total_length_study* in Table 1, Descriptive Statistics.

S_M = Migrant. This independent variable indicates if a student was previously educated in a school from another city. This variable is referred to as *pre_school_outofSwansea* in the Table 1, Descriptive statistics.

This model is motivated by CBD research paradigm (Tubadji 2012, 2013, 2020) and allows to examine the influence of culture on the development of entrepreneurship. Namely, two dimensions of culture are viewed here, i.e., parental cultural capital in the form of occupation, and offspring's cultural capital in the form of migrant status, controlling for merit (human capital). The original CBD model is adapted here to ensure examination of three main hypotheses, which are stated as follows:

Hypothesis 1. *Fathers in Trade influence their sons' decisions to enter entrepreneurship based on their father's entrepreneurial background with the intention to start a business motivated by profit and opportunities.*

Hypothesis 2. *Poorer Fathers influence their sons' decisions to enter entrepreneurship based on their father's entrepreneurial background with the intention to start a business motivated by need.*

Hypothesis 3. *Fathers of Welsh origin influence their sons' decisions to enter entrepreneurship based on their father's entrepreneurial background with the intention to start a business motivated by their linguistic cultural capital.*

To conduct comprehensive exploration of these hypotheses, Probit regression is used to test the model (1) above. I test four specifications, starting from the basic model exploring first only the relationships between father's cultural capital and the sons' choice of

entrepreneurship as occupation during the school-to-work transition. Next, I add individually each control variables separately which allows me to compare their individual impact on occupational choice as entrepreneurship. The control variables include age at leaving school, family geographical movement history (migration), and length of education. The age at leaving variable shows the age at which every boy graduated the school. The migration variable indicates whether a particular boy studied in a different city prior to starting the secondary school, and the education variable specifies the number of terms each boy attended the school before graduating. The sequence of adding the explanatory variable into the model is explained through the potential endogeneity of age at leaving and length of education variables. To exclude any possible endogenous effects, the variable length of education was added after the migration variable is tested. Ultimately, I compare all four explanatory variables to obtain a total clear picture of their strength when considered together, as CBD suggests ([Tubadji 2014](#)), to fully specify the model. Having all four explanatory variables allows us to discard any unwanted heterogeneity of the model.

3.2. Data and Definitions of Variables

The dataset of this research is a historic dataset from Wales, for one of the Swansea's secondary school for the period of 1900–1915, which contains father entrepreneurs and their sons' occupational choices, including the choice to stay in their father's business as self-employment. This is a unique hand-written historic dataset from the 'Welsh Not' period, discovered in Glamorgan Archives in Swansea, Wales, which had to be hand digitised. The data cover a period of 15 years, from 1900–1915 (the period which coincides with the gradual ending of the Welsh Not period ([Roberts 1998](#))).

The data set is very rich in detail. It contains an entire population of 300 boys from Dynevor Secondary Boys School, Swansea, Wales. Each student in the dataset has their own personal records, with their schooling details such as their date of birth, date of admission, daily attendance and length of study, number of passed exams, distinctions, certificates, scholarships, student–teacher work assignments, occupational choice upon graduation, and their fathers' occupation.

The database was further augmented with the average weekly wage for each occupation from the Office for National Statistics (ONS), UK. This allowed us to identify occupational income in order that fathers could determine their wage status. From this, I generated a variable of poor fathers (referred to as Poor_Fathers) indicating those fathers with wage levels below average within the dataset. Next, I identified fathers with Welsh family names ([Morgan and Morgan 1985](#)). Names as a marker for cultural transmission between generations have been successfully used in economic research ([Olivetti and Paserman 2015](#); [Clark 2014](#); [Santavirta and Stuhler 2020](#)). In summary, this augmentation allowed us to quantify the effect of the father's cultural capital associated with parental wage level and Welsh linguistic identity.

Moreover, the dataset contains information on whether a child was previously educated in a different city prior to joining the Dynevor Secondary Boys school. This variable is defined as Family migration history. This variable is a part of the estimation model based on the findings of economic research that suggests that highly educated migrants seem to have preferences for entrepreneurship ([Peroni et al. 2016](#)).

According to the literature, geographical location, history, culture, and environmental conditions are key factors for facilitating entrepreneurship ([Fritsch et al. 2019](#)). Wales in the 19th century, and South Wales in particular, had relatively favourable conditions for the development of entrepreneurship from the demographic perspective of population growth and industrial development ([Evans 1989](#)). Namely, as noted previously, historically, a major demographics explosion happened during the 19th century in Wales, when the population almost doubled twice by 1851, and by 1911. This gives us reason to believe that due to the demographics, the attractiveness of Wales in the late 19th century for entrepreneurs could be high.

Using this archival data of the late 19th century, this study will investigate the impact of environmental factors such as parental entrepreneurial activity on the probability that their children would choose to join father's small business or trade activity after graduating secondary school during school to work transition.

The dependent variable in this study is *Sons_Entrep*, which stands for sons-entrepreneurs, is measured by the number of sons that chose the entrepreneurial pathway after secondary school. More specifically, this variable covers those sons that chose their father's business or any other form of entrepreneurial activity after graduating school. The occupational choice of the graduates is recorded in their personal register in the admission book of the Dynevor school. Each boy has a form with the details of their schooling during their school time, and details on what choices they made after they left school: a higher education, job, or any other study for further qualification. The list of the sons' occupations can be found in the Appendix B.

The main explanatory variable of interest is parental cultural capital which is defined as *F_CC* and stands for father's cultural capital. *F_CC* in this study is tested through three hypotheses in its three different forms in respect to fathers' occupation. First, I measure the effect of parental entrepreneurial background on entrepreneurial choice of their sons in the Estimation 1. Fathers are categorised as an independent variable *Fathers_Trade* (*F_CC*(1)); this variable includes fathers who are either an employer with a business, or self-employed, and/or in trade-related occupations such as grocer, boot maker, draper, butcher, salesman on his account, hawker, baker etc. The full list of occupations in Trade category is available upon request from authors. The list of occupations in the dataset was defined through old occupations dictionaries to establish the ones of entrepreneurial nature ("A Dictionary of Occupational Terms Based on the Classification of Occupations used in the Census of Population, 1921" Compiled by the Ministry of Labour and published by HMSO, 1927 (Christian 2016)), Cambridge Dictionary n.d. (accessed on 22 August 2021 from <https://dictionary.cambridge.org/>), Family Researcher n.d. Dictionary of Old Occupations: A-Z Index, (accessed on 22 August 2021 from <https://www.familyresearcher.co.uk/glossary/Dictionary-of-Old-Occupations-Index.html>). Second, I measure the effect of fathers in lower wage category on the likelihood of their sons becoming entrepreneurs in the estimation 2. Fathers with wages below the margin are classified as an independent variable *Poor_Fathers* (*F_CC*(2)). Wage levels for old occupations were sourced from reports of the Office for National Statistics (ONS), UK for the respective period. This allowed to identify average income level of fathers' occupations, and create a variable for poorer fathers that earned below the income average during the period of the dataset. Third, I measure the effect of fathers of Welsh origin on their sons' becoming entrepreneurs during school-to-work transition in the estimation 3. Fathers with Welsh names are grouped into an independent variable *Father_Welsh* (*F_CC*(3)). The variable covers fathers with Welsh surnames verified by the Welsh surnames dictionary by Morgan and Morgan (1985).

3.3. Descriptive Statistics

Table 1 presents gives an overview and correlation of all independent variables used in this study and the total number of observations. As evident from the table, three explanatory variables show relatively strong correlation with Sons Entrepreneurs (denoted by *Sons_Entrep*), but with a variation in signs from positive to negative. Out of the three, the strongest correlation is observed between *Poor_Father* and *Sons_Entrep*, with a positive correlation of 0.34 which is a moderate relationship between standard economic variables. Two negative correlations of variables *age_at_leaving* (*S_A* variable in the model) and *pre_school_outofSwansea* (*S_M* variable in the model) with the main dependent variable *Sons_Entrep* have coefficients of -0.16 and -0.15 respectively, which is generally considered to be low correlation in economic research (Taylor 1990). This result gives an indication of an important role of parental cultural capital in sons' occupational choice based on the correlation table only. Two explanatory variables *pre_school_outofSwansea* and *age_at_leaving* show a positive correlation coefficient of 0.63 between themselves

suggesting thereby the significance of age and being previously educated in another city. This background of previous out-of-Swansea education is referred to as ‘migrant’ in the dataset. Moreover, the last significance in the correlation table is observed between *total_length_study* (*S_E* variable in the model) and *prev_school_outofSwansea* with a minor coefficient of 0.123. These correlations identified in the Table 1 show the interrelationship and influence of migrant history on the schooling, in terms of its length and, consequently, age at graduating the school (Tubadji et al. 2017; Peroni et al. 2016).

The figure below measures associations between two main variables of interest without regression. Namely, the bar chart in Figure 1 presents the relationship between father’s background and number of sons who chose entrepreneurial pathway upon their graduation. Sons are grouped into category 1, and category 0, where “1” stands for sons-entrepreneurs and “0”—for all other occupations. The figures are grouped by fathers’ occupations in three categories: (1) fathers working in Trade industry, (2) fathers with less than average wages, and (3) fathers with Welsh names. Namely, Figure 1 shows the distribution of sons of Fathers in Trade, sons of Poor Fathers and sons of Welsh Fathers.

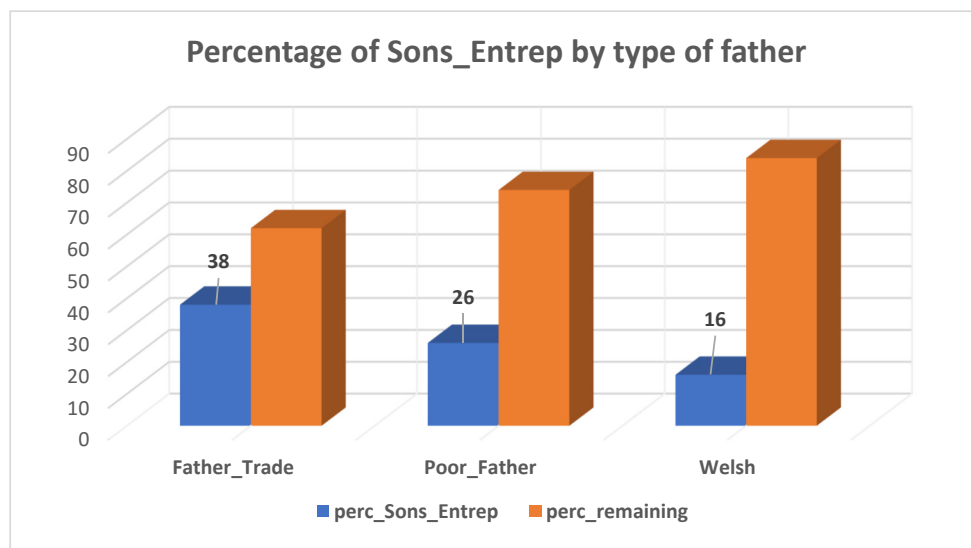


Figure 1. Distribution of Sons Entrepreneurs within Fathers in Trade, within Poor Fathers, and within Welsh Fathers categories.

Figure 1 presents the percentage distribution of sons going into entrepreneurship based in their father’s occupation. In absolute numbers, the largest number of sons choosing entrepreneurship is in the Poor_Father category, i.e., the quantity of sons going into entrepreneurship is the largest in this category. This figure is followed by two other categories, Father_Trade and Father_Welsh, with almost identical numbers, 20 and 22 respectively. However, percentage wise, the largest number of entrepreneurial sons would belong to sons in the Father_Trade category as compared to the total number of sons in this category. Figure 1 with Fathers in Trade indicates that over one-third of their sons ended transitioning to entrepreneurship. The next percentage significance is presented in the Poor_Father category, where entrepreneurship is chosen by a quarter of sons. And the least preference towards entrepreneurship among the three fathers’ categories is evident in the Welsh_Father’s category, with only one sixth of sons going into entrepreneurship. The difference to note is that when a father has a Welsh name, entrepreneurship is selected by much smaller number of students than when a father is poor or has a trade occupational background. Hence, this relationship between being Welsh and having entrepreneurial aspirations seems to indicate some sort of discrimination.

In absolute numbers, the fathers’ categories rank as follows: the biggest group is Poor_Father, amounting to 154 fathers, followed by 117 Welsh_Fathers, and Father_Trade being the third with 67 fathers working in trade industry. Two categories, Poor_Father

and Father_Welsh, have similar larger number of students than that selected for other occupations, 120 and 100 respectively. In contrast to that, only 38 sons of fathers in trade chose other occupations, which has, however, a higher preference within this category percentagewise.

Based on the descriptive statistics above, the following statistical importance can be observed. The highest percentage of sons going into entrepreneurship is observed in the Father_Trade category, around 38%. Next is the Poor_Father category, with 26% of sons, followed by Welsh_Fathers' category with 16% as the lowest percentage of sons motivated to do entrepreneurship.

The next section will describe the non-parametric analysis through a Kaplan–Meier Survival Analysis.

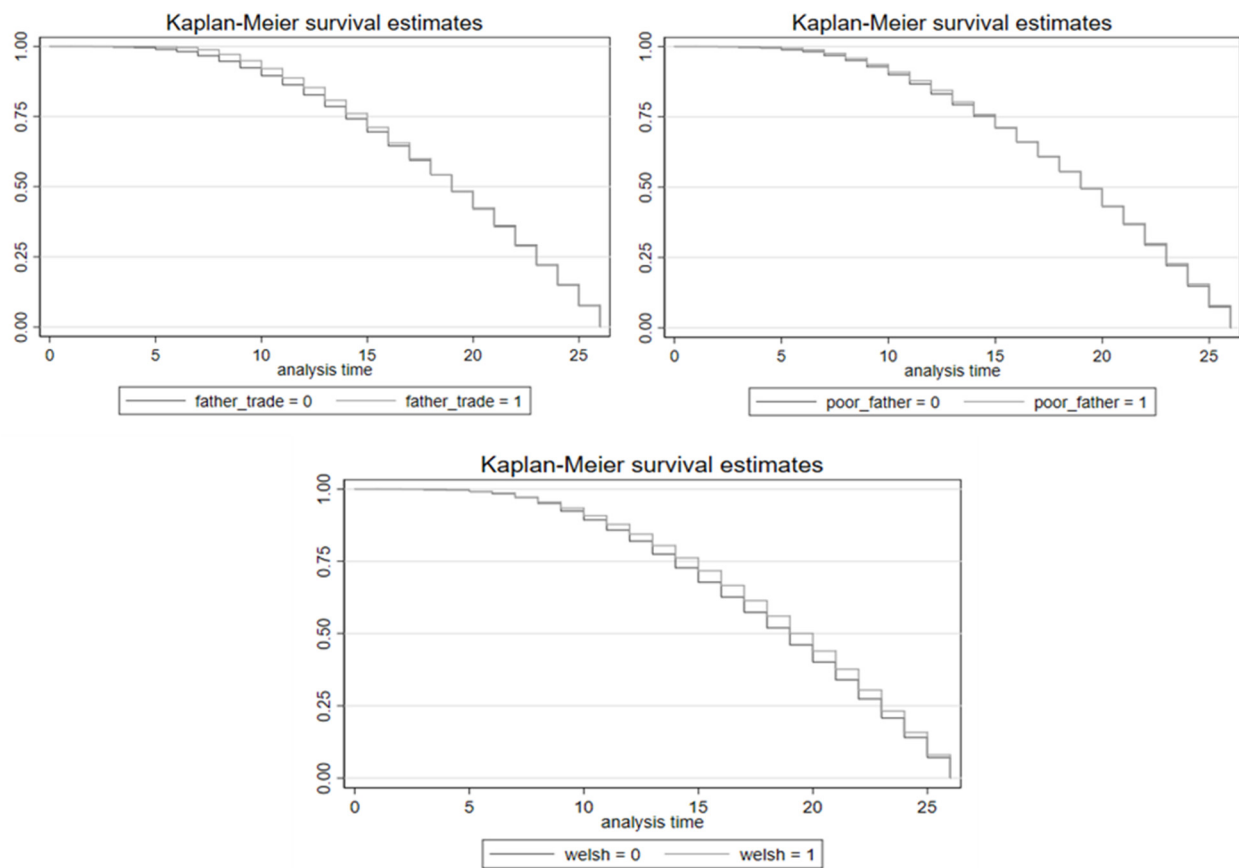
3.4. Kaplan–Meier Survival Analysis

The rationale for using this type of non-parametric analysis among others is that it tests the most standard assumption that schooling is the most conventional enabler for opportunity (Qin and Kong 2021). Additionally, this method exploits the length of schooling variable at variation as all other variables are dichotomous (Goel et al. 2010). I have used the length of schooling variable that has a variation of 1 to 26 terms per each observation. The time starting from the defined point of beginning to attend the school until the occurrence of event of transition to work or further higher education study is counted as survival time. In this analysis, the Kaplan–Meier estimate measures the survival over time of schooling for sons separately in relation to three groups of fathers. The analysis shows statistical difference in the survivals of sons in a particular group of fathers, whether they would have an early transition to work or a longer time of schooling.

Normally, schooling is associated with the creation of opportunity, and, thus, the expected pattern of schooling survival in the analysis should vary per group. However, as evident from the Figure 2, estimation 1 for Fathers_Trade and estimation 2 for Poor_Fathers have low, statistically non-significant results. The pattern of schooling appears to be identical for most students in two groups. The third group for Welsh_Fathers shows a little more variation, suggesting an earlier transition based on the linguistic identity. The $Pr > Chi2$ coefficient of 0.014 for the Welsh_Fathers group supports that mild statistical significance. Therefore, the schooling cannot explain different socio-economic outcomes that the students achieved. Moreover, it seems that non-parametric analysis may not be a suitable method to identify the cultural capital bias. As further sections will show, the bias can only be revealed through econometric analysis with occupational variables, which carries a cultural aspect with it. The next section will describe the parametric analysis through regression.

3.5. Results

The parametric analysis starts with identifying specific variables that will be used in the regression in accordance with the methodology of the CBD research paradigm. The model presented in the methods section will be tested against three hypotheses of this study. The main explanatory variable in this model is father's cultural capital quantified by occupation, wage level and linguistic identity. Three additional explanatory variables account for demographics through sons' age at leaving the school and entering entrepreneurship, family migration history, and schooling controls through the length of sons' education. I gradually regress the outcome variable on each of the four explanatory variables to check the significance of each of them separately on the outcome variable. I control for the dynamics of change in their significance level as well as any coefficient fluctuations. Below is the detailed description of the results of testing of three hypotheses through Probit regressions.



<i>Father Trade</i>	Events observed	Events expected	<i>Poor Father</i>	Events observed	Events expected	<i>Welsh</i>	Events observed	Events expected
0	2493	2484.79	0	2179	2156.62	0	1526	1463.44
1	754	762.21	1	2284	2306.38	1	1721	1783.56
Total	3247	3247	Total	4463	4463	Total	3247	3247
chi2(1) =	0.14		chi2(1) =	0.56		chi2(1) =	6.03	
Pr>chi2 =	0.7054		Pr>chi2 =	0.4548		Pr>chi2 =	0.0141	

Figure 2. Kaplan–Meier Survival Analysis.

Table 2 above presents the results at margins of testing of the H01 through model (1) with four specifications. The first specification shows the impact of fathers working in trade on their sons' decisions to enter entrepreneurship. The result of this specification shows the high significance of that variable on the dependent variable. The second specification examines how much of that relationship can be explained through the age of sons upon leaving the school. This specification resulted in a negative significance of the age factor on the decision to become an entrepreneur. The third specification adds a new explanatory variable of migration and shows whether migrant family status impacts on the entrepreneurial spirit of sons. As evident from the Table 2, this variable does not show any significance and does not alter the other two variables, either their significance or coefficient size. The last, fourth specification introduces the fourth explanatory variable of the education quantified as length of study. This explanatory variable does not have

any explanatory power, and it also cancels the significance of the age factor, but does not alter the main variable of interest of father's trade background, and its coefficient and the significance level remained the same. It is important to note that the education related explanatory variables used in specifications (length of study and age at leaving) are added separately to avoid heterogeneity. The order of adding each new variable for a specification is deliberately calculated to include a migration variable between the potentially heterogeneous education-related variables. Overall, the only positive influence on entrepreneurial spirit of school graduates is shown to be fathers' entrepreneurial background. This evidence goes in line with the previous CBD research findings of cultural capital effect in relation to school-to-work transition of immigrants in the Netherlands (Tubadji et al. 2017).

Table 2. Estimation 1. Testing of the Hypothesis 1. "Sons-Entrepreneurs of Fathers in Trade".

<i>dep. var.</i>	<i>Sons_Entrep</i>	<i>Sons_Entrep</i>	<i>Sons_Entrep</i>	<i>Sons_Entrep</i>
	<i>dy/dx</i>	<i>dy/dx</i>	<i>dy/dx</i>	<i>dy/dx</i>
<i>Father_Trade</i>	0.06	0.19 ***	0.19 ***	0.19 ***
<i>Age_at_leaving</i>		−0.05 ***	−0.05 ***	−0.03
<i>Prev_school_outofSwansea</i>			−0.11	−0.09
<i>Total_length_study</i>				−0.01
<i>N</i>	213	211	211	211

Note: *** $p < 0.01$.

Table 3 presents the results at margins of testing of the H2 through our model (1) with four specifications. The first specification shows the impact of fathers with lower wages on their sons' decisions to enter entrepreneurship. The result of this specification shows a high significance of the main variable, Poor_Fathers, on sons' decisions to enter entrepreneurship. This result seems to suggest having a motivation for entrepreneurship driven by the need rather than a profit or prestige. Apart from that, the coefficient for Poor_Father is higher than for the Father_Trade, 0.23 versus 0.19 respectively (please see Table 2 above). The further three steps of adding additional variables into the specifications follow the same logic as in the previous estimation for Father_Trade in Table 2. Age variable shows negative significance on the decision to enter entrepreneurs, suggesting a need to drop out of school early to start earning money (Behrman et al. 2017; Cardoso and Verner 2006). Possibly, the poorer financial position of fathers put pressure on sons to seek bread winning or engage into other activity instead of attending school (Verner and Alda 2004). When the further variable of migration is added to the regression, the model does not change the significance of the main variable or age factor. Ultimately, similar to the previous estimation, adding the last variable of schooling strengthens positively the explanatory power of the main variable and deletes previous significance of the age at leaving factor. This finding goes in line with the CBD empirical applications and indicates that cultural capital bias is a mechanism behind socio-economic outcomes on individual level (Tubadji 2012, 2014).

Table 3. Estimation 2. Testing of the Hypothesis 2. "Sons-Entrepreneurs of Poor Fathers".

<i>dep. var.</i>	<i>Sons_Entrep</i>	<i>Sons_Entrep</i>	<i>Sons_Entrep</i>	<i>Sons_Entrep</i>
	<i>dy/dx</i>	<i>dy/dx</i>	<i>dy/dx</i>	<i>dy/dx</i>
<i>Poor_Father</i>	0.23 ***	0.23 ***	0.23 ***	0.23 ***
<i>Age_at_leaving</i>		−0.03 ***	−0.03 ***	−0.02
<i>Prev_school_outofSwansea</i>			−0.07	−0.05
<i>Total_length_study</i>				−0.01
<i>N</i>	297	285	285	285

Note: *** $p < 0.01$.

Table 4 presents the results at margins of testing of the H3 through our model (1) with four specifications. The first specification shows the impact of Welsh fathers on their sons' decisions to enter entrepreneurship. The result of this specification shows no significance of being Welsh on entering entrepreneurship by young graduates. Age at leaving the school becomes negatively significant, similarly to the previous two estimations. However, any age significance disappears after adding migration and education variables. Similarly, the migration factor regressed separately did not have any effect on Welsh sons for going into the business field. Therefore, it is possible to conclude that Welsh fathers did not have any effect on entrepreneurial decisions of school graduates. This might suggest a certain level of discrimination in the sense that Welsh linguistic origin might hinder people from going into entrepreneurship (Ivanova-Gongne et al. 2021). However, earlier research reported positive discrimination of Welsh-speakers in relation to lowering of unemployment rates in West Wales (Drinkwater and O'Leary 1997). Overall, the model behaved similarly to the previous two estimations: when more controls are added, such as the schooling variable, the age factor loses its significance. I can conclude, therefore, that this model with Welsh Fathers as the main explanatory variable does not show any statistical significance.

Table 4. Estimation 3. Testing of the Hypothesis 3. “Sons-Entrepreneurs of Welsh Fathers”.

<i>dep. var.</i>	<i>Sons_Entrep</i>	<i>Sons_Entrep</i>	<i>Sons_Entrep</i>	<i>Sons_Entrep</i>
	<i>dy/dx</i>	<i>dy/dx</i>	<i>dy/dx</i>	<i>dy/dx</i>
<i>Welsh</i>	−0.09	−0.08	−0.09	−0.08
<i>Age_at_leaving</i>		−0.05 *	−0.05 *	−0.04 *
<i>Prev_school_outofSwansea</i>			−0.12	−0.11
<i>Total_length_study</i>				−0.01
<i>N</i>	213	211	211	211

Note: * $p < 0.1$.

In relation to the coefficients, the most prominent result is revealed in the Poor_Fathers' category. Here, the effect in the Probit estimation is at its maximum when poverty is considered through fathers' wages. The coefficient for poverty is more significant by 0.04 points than the coefficient for Trade across all four specifications in Table 3. Put differently, the likelihood to become an entrepreneur was slightly higher if a father was poor than if a father was in one of trade-related occupations.

4. Discussion and Conclusions

This study investigates the role of fathers' entrepreneurial background on offspring's occupational choice, using a historical dataset of a Swansea secondary boys' school for the period of 1900–1915. Following the Culture Based Development research paradigm, I test three hypotheses, employing a probit analysis. Namely, I analyzed entrepreneurship occupational choices of sons from three groups of fathers categorized by their professional background, Fathers_Trade, socio-economic status, Poor_Fathers, and linguistic identity, Welsh_Fathers.

The probit estimations indicated the significance of Poor Fathers in relation to entrepreneurship as occupational choice in Hypothesis 2, followed by the significance of Fathers in Trade with lower marginal effect coefficient in Hypothesis 1. This means that the resulting correlation effect between Poor_Fathers and son-entrepreneur is strengthened by the necessity factor: out of three Probit estimations, the most significant effect is present in relation to having a poorer father. The coefficient at margins for Poor_Fathers is 0.23, versus 0.19 Father_Trade, respectively. Thus, overall, Hypotheses 1 and 2 received a support from the results of the analysis, with the second hypothesis having a higher significance level. This means that the Poor_Fathers variable was proven to be highly correlated with sons' choices to start entrepreneurial activity after school. The third group, Welsh fathers, seemed not to have any effect on the occupational choice for entrepreneurship, therefore, the Hypothesis 3 was rejected.

For comprehensiveness of estimation, I also employed two non-parametric analysis. The first non-parametric analysis shows the distribution of sons in three groups of fathers. The sons are divided into two groups, the entrepreneurs, and all other occupations. The results highlighted the importance of Fathers in Trade and Poor Fathers in relation to the entrepreneurship occupation choice. The second non-parametric analysis, the Kaplan–Meier Survival analysis, explored the education variable and revealed no significance on the outcome variable of occupational choice.

In summary, the results suggest that the occupational choice towards entrepreneurship was more likely to be made by sons of entrepreneurs and even more so by sons of necessity entrepreneurs. When controlling for age, education, and migration-related variables, the results remained the same.

Additionally, the gradual probit regression results of control variables showed that sons of poorer entrepreneurial fathers tend to stay at school less through negative significance of the length at school variable. This finding is supported by the evidence that necessity entrepreneurs (as opposed to opportunity entrepreneurs) share similar characteristics, such as a low level of education (Poschke 2013). However, the negative significance of the length at school variable was to observe at all three groups of sons in Fathers_Trade, Poor_Fathers and Welsh_Fathers categories in this study. Moreover, the Kaplan–Meier non-parametric survival analysis revealed no significant differences in education between the three groups of sons. Similar to that finding, the study by Van der Zwan et al. (2016) reported that education was found to be an insignificant factor of influence for both necessity and opportunity entrepreneurs. Thus, the education variable on its own could not explain the difference in socio-economic outcomes for sons in this study. Bourdieu's stance on cultural capital transmission provides a plausible explanatory mechanism behind the low social mobility of offspring and occupational choice persistence (Bourdieu 1986). Therefore, Hypothesis 2 is significantly supported by the results of this study and can be interpreted as that parental cultural capital biases occupational choices of their children.

Similar to Hypothesis 2, there is also support for our Hypothesis 1, which showed a good significance level of Fathers_Trade variable, suggesting thereby the correlation between father's background in trade occupations and sons' choice to enter entrepreneurship as their first occupation after school. This outcome follows prior research findings in cultural theory and cultural entrepreneurship, indicating the higher likelihood of entrepreneurial preferences in families with an entrepreneurial father (Hout and Rosen 2000; Hoffmann et al. 2015), and, more general, parental self-employment is found to be positively correlated with a person's decision to start their own business (Wyrwich 2015). This finding is also in line with Bourdieu's theory of cultural capital (Bourdieu 1986) and is due to intergenerational transmission of preferences towards entrepreneurship, and the effect is much stronger than that of having, for example, entrepreneurial co-workers (Nanda and Sørensen 2010). As noted previously, the marginal significance coefficient for Fathers_Trade is slightly lower than that of Poor_Fathers in Hypothesis 2. Nevertheless, Hypothesis 1 is sufficiently supported by the results of the analysis and shows significance in culturally determined entrepreneurship choices (Tubadji 2012, 2013, 2020). The factors of influence guiding pull and push entrepreneurs in the study of Van der Zwan et al. (2016) are personality-related: push entrepreneurs (opportunity driven) tend to be more optimistic in how they perceive opportunities, financial support, or start-up trainings amongst available resources. Therefore, motivations and aspirations for entrepreneurship could be mixed and are once again culturally determined (Puentes et al. 2019). Hypothesis 3 is rejected due to no significance in estimation results. The Welsh linguistic identity of fathers seems to have no effect on the decisions of sons to start a business or to join their family business. The aim of this hypothesis was to check if Welsh linguistic identity would motivate any form of linguistic entrepreneurship (De Costa et al. 2021) or urge to strategize in some way business growth through their linguistic background (Orozco 2021), particularly during the time of English language dominance (Morris 2014;

Jones 2013). As evident from the results, the parental linguistic identity did not seem to matter for self-employment decisions of sons.

As the results suggest entrepreneurship propensity of sons in this study seems to manifest itself because of proximity of entrepreneurial fathers in a family. This finding supports cultural theory research on the decisive nature of familial context, and cultural entrepreneurship research on the importance of children's prior exposure to entrepreneurship (Carr and Sequeira 2007; Steier 2009; Uhlaner et al. 2012), particularly for sons of self-employed fathers (Hout and Rosen 2000; Hoffmann et al. 2015). Admittedly, entrepreneurial intentions of sons might be also reinforced genetically as future entrepreneurial predispositions are found to be heritable on a genetic level (Nicolaou and Shane 2010); however, this analysis focuses only on external factors of the immediate environment, which is an intergenerational transmission of parental cultural capital in relation to entrepreneurship as an occupational choice. Based on these results, Bourdieu's individual level bias is arguably presented in the necessity factor, which seems to be an additional facilitating and, perhaps, involuntary force for entrepreneurship. Bourdieu's cultural capital bias describes the unfair educational evaluation of pupils' abilities based on socio-economic status of parents, when equally performing pupils receive higher marks if they are from a noble background (Bourdieu 1986). In this study, sons are more likely to become entrepreneurs if their fathers are poor. Therefore, the motivation behind occupational persistence between poorer fathers and their sons could be a need for survival and faster job security (Lo Bello and Morchio 2021). The motivation for entrepreneurship out of necessity is typical of nascent entrepreneurs in weaker economies (Naudé 2007). This goes in line with the findings of prior research that necessity entrepreneurs are motivated by their human capital and certain socio-economic endowments (Block et al. 2015) and are more likely to behave in a parsimonious way due to the nature of their involuntary motivation aimed at survival.

Therefore, I conclude that sons of entrepreneurial fathers are more likely to make the occupational choice towards entrepreneurship at the school-to-work transition. This conclusion is supported by the results of the 1970m British Cohort Study conducted by Schoon and Duckworth (2012) and with studies concluding that sons of self-employed fathers are more likely to become self-employed themselves (Hout and Rosen 2000; Hoffmann et al. 2015). Furthermore, the distinguishing result of this study's analysis indicates that the effect of predisposition is strengthened if father-entrepreneur's income is below the average level. This finding reinforces the notion of necessity entrepreneurs in small firms (Wennekers et al. 2005; Van der Zwan et al. 2016) and their culturally determined approach to the firm's internal employment and management in a parsimonious way (Fang et al. 2021). Most importantly, this finding indicates that the presence of culturally determined bias in occupational choices are in line with the CBD research paradigm (Tubadji 2012, 2013, 2020). The factor of necessity indicates Bourdieu's cultural capital bias, which CBD re-interprets as a form of discrimination in economic choices (Bourdieu 1986).

Based on the results of the analysis of this paper, entrepreneurial cultural capital of fathers seems to be transmitted to their sons to become self-employed themselves, and is mostly driven by their socio-economic status. CBD was proved to be instrumental empirically to identify the impact of culture on the development of entrepreneurial propensity of school graduates in Wales. As expected from CBD, it seems that local cultural bias is a driving force for individual transitions to entrepreneurship within a family. The unique contribution of this study to the CBD research paradigm is the first application of the CBD on the historic dataset and identification of the cultural capital bias described by Bourdieu (1986) in earlier periods. Thus, the CBD research paradigm provided solid positive evidence of the culturally determined mechanism in economic outcomes for entrepreneurship in Wales at the start of 20th century. This research demonstrated that drivers of entrepreneurship can be culturally determined and can originate from human behavior in psychological and sociological terms. From the sociological side, it is parental cultural capital, and from the psychological side, it is the immediate environment in which a child is raised.

Both Bourdieu's (1986) theory of cultural capital and Bronfenbrenner's (1986) theory of Exosystem intersect and influence economic outcomes during school-to-work transition.

The focus of this investigation is entrepreneurship and how preferences towards entrepreneurship are transmitted through generations based on cultural context (Mura and Kajzar 2019). The main hypothesis of this study is successfully tested using the CBD research paradigm, which appears to be applicable in measuring the impact of culture on entrepreneurship persistence in small family firms using a dataset from earlier historic periods in Wales. Overall, the findings in this study provide additional contribution to the body of knowledge on cultural entrepreneurship through cultural capital transmission within a family from fathers to sons in relation to occupational choice based on CBD's interpretation of the historic dataset. This study supported previous findings indicating the high likelihood of intergenerational transmission of self-employment in entrepreneurial families or small firms (Hout and Rosen 2000; Hoffmann et al. 2015; Burkart et al. 2003). That is, sons of fathers-entrepreneurs are more likely to become entrepreneurs themselves. Moreover, the effect is strengthened if the father's income is below average.

The evidence of this study has implications for policies supporting small businesses in the cultural entrepreneurship realm (Lounsbury et al. 2019; Mura and Kajzar 2019; Puente et al. 2019). The literature on this topic, including this study's findings, show that small firms driven by necessity tend to stay small, set smaller goals, and achieve less, but are likely to be sustainable and stay in the market for longer (Poschke 2013). Hence, such firms require more support in education, recruitment, accounting, and finance, as well as support in resources and funding. As discussed previously, small firms are reluctant to innovate because of their tendency not to employ talent from outside and preferences to their existing business model; therefore, policy-supporting innovation in small firms can help to increase the outputs and development of new workplaces (Adams 1982). A lack of education or a specific qualification, fear of failure, and other factors can be a barrier for cultural entrepreneurship as well (Jain and Ali 2013); thus, policies providing specialist support in relation to obtaining new qualifications, as well as specialist training to enhance knowledge on cultural entrepreneurship, are important.

The potential limitation of this historic dataset could be noted in relation to the relatively low number of observations. However, I employ estimations that extract most of the available data. More research is needed on a larger sample of data.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Historical Context for this research.

A major demographic explosion happened during the 19th century in Wales when the population almost doubled during the period of 50 years from 1801 to 1851 (Jones and Lewis 2019). It grew from 601,707 to 1,188,914 people and increased by two-fold again 1851 and 1911 ultimately reaching the level of 2,442,041 based on the numbers from Census, UK. The study by Jones and Lewis (2019) gives an extensive description of the population statistics in the 19th century describing the growth amounting to ultimately an eminent and unimaginable number of 1524% during the whole 19th century in Wales. These demographic statistics and the development of industry provides a favourable context for the development of entrepreneurship (Fritsch and Wyrwich 2014, 2017, 2018; Obschonka et al. 2021).

Appendix B

Occupational Ranking by Status.

To classify original occupations of fathers and sons from the data set into occupational categories and social classes, a multi-stage approach has been employed. First, we obtained a clear definition of each old occupation to understand the nature of the job associated with it. For these purpose, three sources were used: (i) “A Dictionary of Occupational Terms Based on the Classification of Occupations used in the Census of Population, 1921” Compiled by the Ministry of Labour and published by HMSO, 1927 (Christian 2016), (ii) Cambridge Dictionary n.d. (accessed on 22 August 2021 from <https://dictionary.cambridge.org/>), and (iii) Family Researcher n.d. Dictionary of Old Occupations: A-Z Index, (accessed on 22 August 2021 from <https://www.familyresearcher.co.uk/glossary/Dictionary-of-Old-Occupations-Index.html>). Second, all occupations were distributed into nine occupational groups by type based on the latest pre-pandemic (i.e., normal conditions) Standard Occupational Classification 2010 (SOC2010) by the Office of National Statistics (ONS), UK¹. Third, the nine occupational groups were matched against a grid of social class classification system, developed by the National Readership Survey (n.d.), <http://www.nrs.co.uk/>, accessed on 30 April 2021). NRS is a classification system which is based on occupations. The NRS system is then simplified into 4 groups, collapse the two upper and two lower social status groups respectively into one highest and one lowest group, as we did not have sufficient number of fathers and sons in the respective occupations in the very extremes (National Readership Survey n.d. Source: <https://www.nrs.co.uk/>, accessed on 30 April 2021).

Namely, from the Dictionary of Occupational Terms Based on the Classification of Occupations used in the Census of Population 1921 Compiled by the Ministry of Labour and published by HMSO, 1927 (Christian 2016), Cambridge Dictionary n.d. (accessed on 22 August 2021 from <https://dictionary.cambridge.org/>), we obtain the definitions for old occupations. For example, “Commercial Traveller” is defined in the Dictionary of Occupational Terms in the following way:

ORDER XXIII.—COMMERCIAL, FINANCE, AND INSURANCE OCCUPATIONS (excluding Clerks).

Code 773.—Commercial Travellers.

“Commercial traveller, commercial representative, salesman, traveller, travelling salesman, wholesale representative travels from place to place seeking orders for goods from old and new customers (usually retail shopkeepers (770) (q.v.)) for the firm he represents; usually operates in particular districts; displays samples to prospective buyers in their shops, or may arrange extensive displays of goods, inviting buyers (772) to attend; works on commission basis, on salary and commission or on salary only”.

The list of occupations in the data set was classified into 9 SOC2010 occupational groups based on the precise definitions. The Standard Occupational Classification (SOC2010) consists of the following major groups: 1. Managers, Directors and Senior Officials; 2. Professional Occupations; 3. Associate Professional and Technical Occupations; 4. Administrative and Secretarial Occupations; 5. Skilled Trades Occupations; 6. Caring, Leisure and Other Service Occupations; 7. Sales and Customer Service Occupations; 8. Process, Plant and Machine Operatives; 9. Elementary Occupations (Source: Standard Occupational Classification 2010—SOC2010. Office for National Statistics 2010).

Appendix C

Table A1. Classification of Welsh First and Family Names.

Christian Names			Surname	
Alfred	Gillbert	Neville	Bennet	Lloyd
Archibald	Glanffrwd	Noel	Bevan	Marles
Arthur	Gomer	Norman	Beynon	Morgan
Aubrey	Gwilym	Oswald	Beynor	Owen
Daniel	Harold	Idris	Bowen	Parry
Benjamin	Harry	Percy	Conway	Phillips
Bertram	Henry	Philip	David	Powell
Cecil	Herbert	Rees	Davies	Price
Clifford	Hertwell	Reginald	Edwards	Probert
Cyril	Horace	Richard	Evans	Rees
Daniel	Horace	Robert	Gimblett	Rhys
David	Howard	Roger	Griffiths	Rice
Edgar	Hubert	Ronald	Gwynne	Richards
Edward	Idwal	Samuel	Hanson	Roberts
Edwin	Isaac	Sidney	Harden	Rowland
Eleayer	Islwyn	Stanley	Harries	Rowlands
Ernest	Ivor	Stephen	Harris	Seline
Evan	James	Sydney	Hathaway	Thomas
Francis	John	Taliesin	Hopkins	Tomlinson
Frank	Joseph	Thomas	Hughes	William
Frederick	Leyshon	Trevor	Jenkins	Williams
Gabriel	Llewelyn	Tudor	John	
Garnet	Lovat	Uriel	Jones	
Geoffrey	Luther	Vincent	Knogle	
George	Mervyn	William	Lewis	
Vivian	Milton	Willie	Llewelyn	

Notes. Based on the register of Welsh surnames provided in [Morgan and Morgan \(1985\)](#).

Appendix D

Table A2. Descriptive Statistics of Main Variables.

Part of the CBD Mode	Variable	Definition	Source	Obs	Mean	Std. Dev	Min	Max
Intergenerational mobility	<i>Sons_Entrep</i>	Sons that chose to join their father's business or an apprenticeship to acquire trade-related qualification after school	<i>Admission Register Dynevor School (1900–1915)</i>	297	0.14	0.35	0	1
Cultural Capital	<i>Father_trade</i>	dummy variable = 1 if father occupation is butter merchant, millwright, wholesale confectionaire, carpenter, grocer, mattress maker, etc.	<i>Admission Register Dynevor School (1900–1915)</i>	213	0.23	0.42	0	1
	<i>poor_father</i>	Fathers with less than average weekly wage in £ for the profession	<i>Admission Register Dynevor School (1900–1915)</i>	299	0.52	0.50	0	1
	<i>father_welsh</i>	dummy variable = 1 if family name of a father is Welsh	<i>Morgan and Morgan (1985) Welsh Surnames, University of Wales Press</i>	213	0.55	0.50	0	1
Controls	<i>Age_at_leaving_school</i>	Age at which a pupil left/graduated the school	<i>Admission Register Dynevor School (1900–1915)</i>	286	16.00	1.68	12	22
	<i>prev_school_outofSwansea</i>	variable = 1 if a pupil attended schools located outside of Swansea before starting this secondary school	<i>Admission Register Dynevor School (1900–1915)</i>	298	0.05	0.21	0	1
Human Capital	<i>Length of schooling</i>	The number of study terms kept by a pupil during the school years between admission and leaving. The terms include autumn, spring and summer terms.	<i>Admission Register Dynevor School (1900–1915)</i>	298	11.01	5.79	1	26

Note

- ¹ The 2020 the Standard Occupational Classification 2020 (SOC2020) by the Office of National Statistics, UK takes into consideration the temporarily disadvantaged position of businesses and services, shifting them to lower grades due to the economic shock due to the pandemics.

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