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What influence have characteristics and upbringing on being an entrepreneur?

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Abstract

This research paper consists of an analysis of several characteristics and background traits and what kind of influence these have on the chance of being an entrepreneur. First, the effect of these different personal traits on being an entrepreneur is investigated, here we can conclude that the educational level of the family and the respondent are important for the chance of becoming an entrepreneur. However, we find negative support on the IQ of an individual influencing the chance of becoming an entrepreneur.

Keywords

Entrepreneur, Characteristics, Upbringing

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Introduction

Every firm needs some kind of chief executive officer (CEO), chairman, president, or entrepreneur. Someone who started the business from scratch and build it up to a booming firm, or not. But how does someone become this entrepreneur, this main person in the firm, the one that keeps the business running. People have a lot of different personality traits and characteristics. Some of these traits have been found to contribute to becoming an entrepreneur, others have the adverse effect (Bolton, Brunnermeier & Veldkamp, 2008).

In this paper, I will study different characteristics of people who conduct entrepreneurship and people who start working for a firm. Furthermore, I will investigate whether the educational level of the father and mother of the individuals have a significant effect on whether the individual starts its own business. Lastly, I will research what effect the IQ and sex have on being an entrepreneur. This will help with the difference between nature and nurture of the characteristics. This research is done using data from 'Brabantse zesdeklassers' (Cramer, Praag & Hartog, 1952 – 2010). This dataset contains information about pupils of the sixth form of primary schools in Noord Brabant in The Netherlands with their school achievements in 1983 and 1993. Later, in 2000 and 2010 the sample was renewed with data from the same pupils about their educational careers, labor market experience and other variables related to their entrepreneurial traits.

The research question analyzed in this paper is: "What is the effect of an individual's upbringing and acquired traits on the chance of being an entrepreneur?"

In general, an individual's characteristics are not exclusive to determine who becomes an entrepreneur, or who pursuits entrepreneurialism. Some researchers have found that there are variations in managerial talent aside from age, industry, and high school scores (Rosen, 1981). Other researchers found that performance is somewhat weaker correlated with personal traits and team skills and stronger correlated with determination and implementation skills (Bolton, Brunnermeier & Veldkamp, 2008). This paper provides more

insight into this topic by looking at an individual's upbringing environment and acquired traits on the chance of becoming an entrepreneur.

Overall, this paper finds evidence for the educational background from the family an individual grows-up in. The educational level of the mother has a fairly negative effect on the income of an individual as well as the educational level of the father. Furthermore, this paper only finds several positive correlations between a person's characteristics and being an entrepreneur, while in other papers, like the paper by Hambrick & Mason (1984) they find that an individual's personality, and their own values have an impact on how they take their approach within an organization and whether they become an entrepreneur.

The following sections contains a literary review of existing papers about this topic, and an introduction to the main variables in this paper. After that, a description of the data used in this paper will be given, next to an explanation on why this data is being used for this research. Thereafter, a methodology of the data and the analyses is given. This is followed by the results. To conclude, the paper ends with a conclusion and discussion about the results, the limitations of this research and possibilities for further research.

Literature review

This section starts with a definition of the main variables, namely entrepreneurship. Furthermore, previous literature will be explained and elaborated on what effect personality traits and upbringing have on the kind of entrepreneur a person becomes and what this does for the performance of the firm. To conclude this section there will be an explanation of how the research question is build up.

Entrepreneur

To measure what kind of individual's become an entrepreneur, it is important that first it is clear what is meant with this term.

There are different researchers who describe this term, entrepreneur. In the paper by Filion (2021), he describes an entrepreneur as an individual who has six main components. These main components are innovative, opportunity seeking, risk seeking, using resources, adding value and taking action.

Resick et al,.(2009) describe entrepreneurs as ones who serve a unique and important organizational role. They influence the general reputation of a firm, the relations outside the company and the direction a firm is heading, whether this is positive or negative. Entrepreneurs achieve a positive influence in their firm by among other things creating adaptability, managing a certain culture, and communicating a vision to the organization.

In this dataset there is a variable that includes whether an individual either is an entrepreneur, has ever been an entrepreneur or has never been an entrepreneur. An entrepreneur is defined as an individual who starts and owns a business. This individual carries the most responsibilities and risks but also enjoys the most profits and rewards (Boyett, 1996).

Previous Literature

In the paper by Hessels et al., (2008)[2] they investigate drivers of motivations and aspirations for entrepreneurs by estimating a two-equation model. In the paper they try to explain the aspirations for entrepreneurship by using motivations and socioeconomic variables. Furthermore, they try explaining the motivations for entrepreneurship by only using socioeconomic variables. One of the main findings is that the motivation to increase wealth is a mediator between the entrepreneurial aspirations and the socioeconomic variables. Another finding is that the level of social security in a country has a negative influence on entrepreneurial aspirations.

Schoon & Duckworth (2012) describe in their paper which individuals become entrepreneurs. As predictors they use early life experiences like socioeconomic backgrounds, but also social skills and the employment types of the parents. They define entrepreneurship as owning a business and being self-employed. Schoon & Duckworth conclude that social skills and the fact whether the individuals had entrepreneurial intentions for both men and women are associated with becoming an entrepreneur. Next to this, for men they find that a self-employed father is associated with becoming an entrepreneur. For women they find not the self-employment of the father, but the socioeconomics resources of the parents are associated with becoming an entrepreneur.

Hessels et al., (2008)[1] investigate in their paper 'Drivers of entrepreneurial aspirations at the country level: the role of start-up motivations and social security' whether entrepreneurial aspirations can be explained by start-up motivations and the level of social security in a country. In this paper, distinctions are made between three different motives. Namely, the necessity motive, the independence motive, and the increase wealth motive. The findings in this paper suggest that the supply of entrepreneurs in a country is negatively affected by the social security in this country. Furthermore, they find that certain levels of entrepreneurial aspirations, like job growth and entrepreneurial export, have a positive effect on the motive of increasing wealth.

Data

This part of the paper will give an overview and explanation of the dataset used for this research. Furthermore, it will give an understanding of why this particular dataset is used.

Dataset

The data used in this paper is called 'Brabantse zesdeklassers' (Cramer, Praag & Hartog, 1952 – 2010). This dataset contains data from around 3000 individuals from multiple elementary school in North Brabant in The Netherlands. In 1952 the individuals were pupils of the sixth form of primary school, they submitted a survey and until 1957 the surveys of these pupils were complemented with information about their educational achievements. In 1983, the people that already filled in a survey in 1952 were asked to fill out a follow-up questionnaire, primarily about their position in the labor market. Again, in 1993 a follow-up survey was sent with even more questions about their position in the labor market, but also questions related to entrepreneurialism.

Relevance

For this research it is essential to on the one hand have data a significant group of people about their upbringing environment. This information expresses itself in, for instance, the size of the family the individual grew up in, the educational levels of their father and/or mother, and the social class a family is assigned to. On the other hand, information about the individuals IQ, the highest education level, highest level of skills, the industry an individual works in, and the gross income an individual earns. The dataset 'Brabantse zesdeklassers' has this data for around 2300 individuals (after controlling for missing variables), and from different time periods. It starts between 1952-1959, where the individuals still live with their parents, in this way we get a good insight in their upbringing environment. In the surveys of 1983 and 1993 we get more information about the different educational studies the individual followed and in what kind of industry, with the corresponding salary. Together this makes a substantially good dataset to try and answer the research question in this paper.

Methodology

In this section of the paper there will first be an explanation on what parts of the dataset is used and why. Furthermore, the analyses on the change of become an entrepreneur by personal traits and upbringing environment will be executed.

Variables

Out of the dataset 'Brabantse zesdeklassers' the part 'Brabant2010' will be used. This dataset contains data the data from the survey of 1952-1957, the survey of 1983, and the survey of 1993. This means this is the most complete dataset because it has the data from the three different surveys all in one dataset. The dataset is a screening of all three of the surveys and is transformed and/or combined into the resulting list of variables.

Firstly, there are variables in the dataset that have missing observations. When there are missing values and one does a regression in stata, the variables with missing observations will be excluded from the analysis. Variables that have missing observations that were dropped are 'efparents'. This variable had 40 missing observations and the individuals that missed the observation in 'efparents' also missed observations in other variables, for instance observations in social variables like the social class a family is in or Next to this, there are three observations of IQ, namely 'efiq', efiqa, and efiqw. IQ is an important variable in this research because this variable could have a direct causal thus, it is important to have at least one of these variables with an observation. If all three of these variables had missing values, the observation is also dropped. Lastly, the variable 'effamsize' with missing variables is dropped. This is because all the families have at least one child, because this child filled in the first survey in the years 1952-1957.

Secondly, there were some variables where the observations were missing, but in the description of the data it was a given that if there is no record of this variable, the value would be 0. These variables are changed to the value 0. An example of those variables is the variables 'efedufath' and 'efedumoth' these variables can have a big influence on the

educational level of the respondent, the IQ of the respondent and in the end on the gross income in guilders per year for the respondent.

Entrepreneur

To get an accurate idea of when someone is an entrepreneur, we need to look at different variables in the dataset. In the dataset there is a variable that measures whether an individual has ever performed entrepreneurship, still performs entrepreneurship, or has never performed entrepreneurship, and thus worked for a company instead of owning a company.

In this paper, there will be a simple linear regression and a forecasting model to predict the chance of becoming an entrepreneur based on the characteristics and background information we have in the dataset we use.

Analysis

The first linear regression we will measure the effect of the different characteristics and upbringing variables of the individuals on the chance of becoming an entrepreneur. The variable 'Female' is expected to have a negative effect on the change of being an entrepreneur because of the fact that the average income for females is lower than the average income for males (Baker et al., 1995). The variables 'Social Class' and 'Social Status' are expected to have a positive effect on the change of being an entrepreneur. These variables explain the social class an individual is in, based on the status of the father's job, there are three different classes, namely lower, middle, and high. The social status holds whether a family is social or not. The higher the class and the more social a family, the higher one gets on the social ladder, which implies higher income, education, occupation, and more risk-seeking (Kraus et al., 2013). The education of the father and mother are also expected to have a positive effect on the chance of being an entrepreneur as this is expected to correlate positively with the education of the individual and the higher the education the higher chance of being an entrepreneur (Chevalier et al., 2013). Furthermore, whether an individual has worked in their childhood, the IQ of the individual, the education and skillset of the individual and the health, and satisfaction of the individual are all expected to have a

positive effect on the chance of being an entrepreneur. The variable 'Skill' is expected to have a negative effect because when someone is good in one thing, there will be a great chance that this individual will not deviate from this and thus will not become an entrepreneur. Furthermore, for becoming an entrepreneur it is expected to have a variety of skills instead of one skill (Lazear, 2004). For the gross income we expect the higher one's gross income will be as an entrepreneur, the more chance of becoming an entrepreneur, thus this will have a positive effect, the other way around, in Figure 9 we see that the higher an individual's income, the greater the chance of being an entrepreneur and not the other way around, thus we can conclude that there is no endogeneity for this variable.

1) Linear regression

$$Entrepreneur \ 1993$$
$$= \beta_{GIncome} * Gross \ Income \ 1993 + \beta_{Female} * Female + \beta_{Classl} * Social \ Class$$
$$+ \beta_{Status} * Social \ Status + \beta_{EFather} * Education \ Level \ Father + \beta_{EMother}$$
$$* Education \ Level \ Mother + \beta_{Work} * Child \ Work + \beta_{IQ} * IQ + \beta_{Education}$$
$$* Highest \ Education \ Respondent + \beta_{Skill} * Highest \ Skill \ Respondent + \beta_{Health}$$
$$* Health \ Respondent + \beta_{Satisfaction} * Satisfaction \ Respondent + \in$$

For the second regression we used a prediction model based on the linear regression above. by predicting the variable 'Entrepreneur' we can make a simple linear regression with the prediction of entrepreneurship as the dependent variable and the following variables as independent variables. Again income, social class, social status, educational level of the father and mother of the individual, work during childhood, IQ, education of the individual, health of the individual, and satisfaction of the individual are expected to have a positive effect on the chance of becoming an entrepreneur. The variable 'Female' is in this case expected to also have a positive effect on the chance of becoming an entrepreneur because when a female can earn more as an entrepreneur than when working for a company, the chance of becoming an entrepreneur gets higher and females earn less than males based on the article by Baker et al., (1995)

2) *Prediction model*

Entrepreneurship

$$
\begin{aligned}
&= \beta_{GIncome} * Gross\ Income\ 1993 + \beta_{Female} * Female + \beta_{Class} * Social\ Class \\
&+ \beta_{Status} * Social\ Status + \beta_{EFather} * Education\ Level\ Father + \beta_{EMother} \\
&* Education\ Level\ Mother + \beta_{Work} * Child\ Work + \beta_{IQ} * IQ + \beta_{Education} \\
&* Highest\ Education\ Respondent + \beta_{Skill} * Highest\ Skill\ Respondent + \beta_{Health} \\
&* Health\ Respondent + \beta_{Satisfaction} * Satisfaction\ Respondent + \in
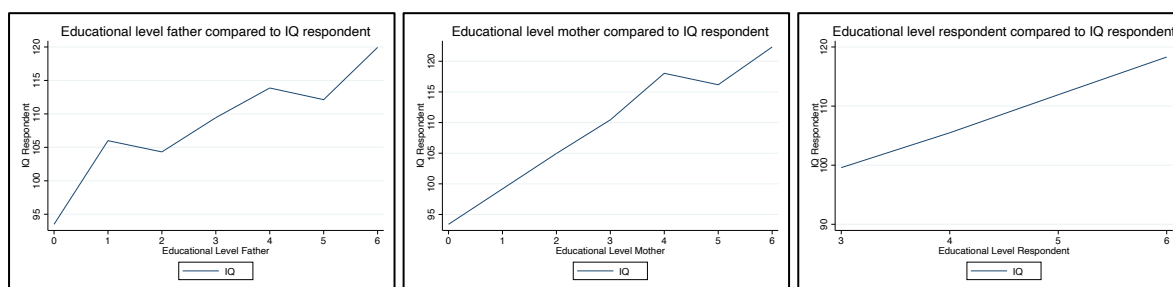\end{aligned}
$$

Results

This section of the paper will show the effects of the different variables on each other. Next to this, the results of the analyses done in this research are described and stated.

Descriptive statistics

To give a better understanding of the data, below are a number of figures with a description of their either notable results or results that are expected from them.

In the left and middle figure below, you can see that the higher the level of education of the father or the mother, the higher the IQ of the respondent. What is notable in these two figures is that the higher the education of the mother, the IQ of the child is higher compared to the same level of education of the father. This indicates that with a certain level of education of the mother, the child's IQ will be higher than with the same level of education of the father. Furthermore, at the sixth level of education for both father and mother, the IQ of the child is the same. In the right figure below, the level of education of the respondent itself is compared to the IQ of the respondent. The higher the education, the higher ones IQ, this is what is expected to see as the IQ of one has a strong positive effect on the level of education one follows.

Figure 1, Figure 2, and Figure 3. IQ of the respondent compared to the educational level of the father, the mother and the respondents own educational level
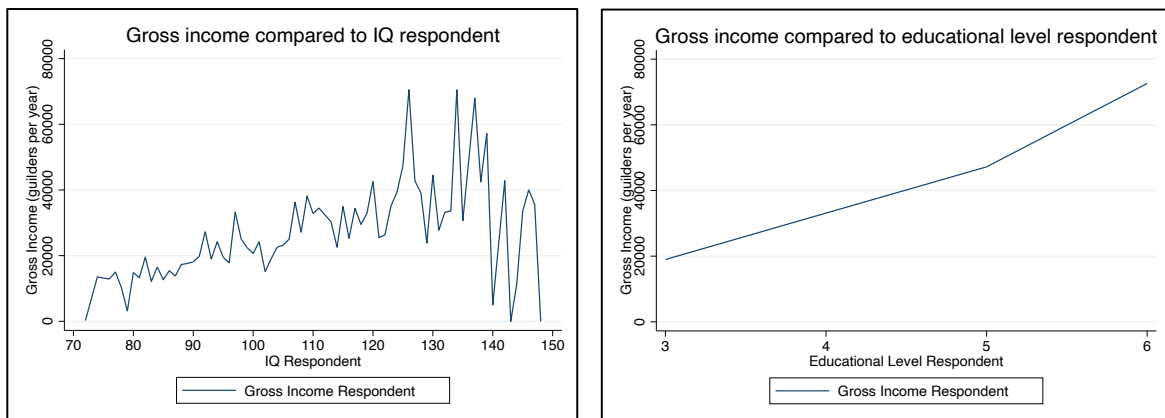

Explanation. In these figures the IQ level of the respondent is displayed against the level of education of the father, the mother and of the respondent itself. The educational levels are as follows: 0. No information, 1. Primary education form 1 & 2, 2. Primary education form 3 and up, 3. Secondary education lower stage, 4. Secondary education higher stage, 5. Higher education first stage, and 6. Higher education second stage.

the main goal of this research is to find out whether a person's upbringing and acquired traits have an effect on the chance of being an entrepreneur. As explained in the methodology, in this dataset there is a variable that measures whether an individual has ever been an entrepreneur, is an entrepreneur or has never been an entrepreneur.

In Figure 4 and Figure 5, the gross income of the respondents is compared to the educational level and the IQ of the respondents. For the right figure, you can see that the higher an individual's educational level, the higher their gross income in guilders per year. This is what you expect to see because the higher someone's education, the better a job generally this person gets, which involves a higher gross income. The figure on the left compares the IQ of an individual to their gross income in guilders per year. Here, at first, we see that the higher the IQ, the higher the gross income, but at the IQ level of around 135, the gross income becomes lower. This is not what we expect to see as the trend we expect is the higher the IQ of an individual, the better a job the individual gets and the higher the salary and thus the gross income.

Figure 4 and Figure 5. Gross income compared to the IQ and educational level of the respondent
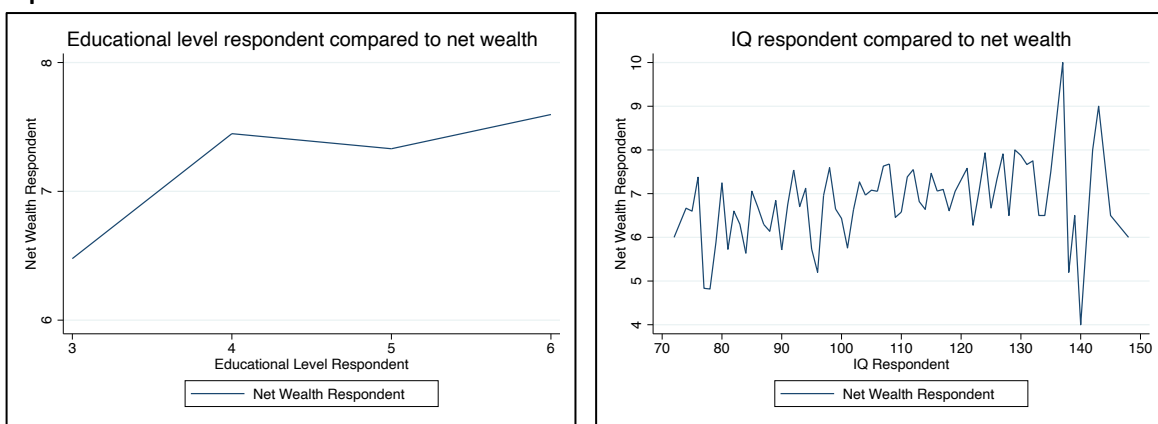

Explanation. In these figures, the gross income in guilders per year is compared to the IQ and the educational level of the respondent. In the figure on the right the educational level of the respondent is as follows: 0. No information, 1. Primary education form 1 & 2, 2. Primary education form 3 and up, 3. Secondary education lower stage, 4. Secondary education higher stage, 5. Higher education first stage, and 6. Higher education second stage.

In Figure 6 and Figure 7 the net wealth of the respondent is compared to the educational level and the IQ of the respondent. In the left figure we can see that every individual has a positive net wealth, and that the net wealth of the respondent becomes higher the higher

the level of education of the respondent, which stands to reason because the higher the educational level of an individual, the bigger the chance on a well-paying job, hence the higher the net wealth. In the figure at the right, we see the IQ of the respondent compared to the respondent's net wealth. An odd observation is that there are individuals with an IQ of 140 that have zero net wealth, which means they neither have any debts or assets while next to this we see an upward trend in the net wealth of the respondent compared to the IQ of the respondent.
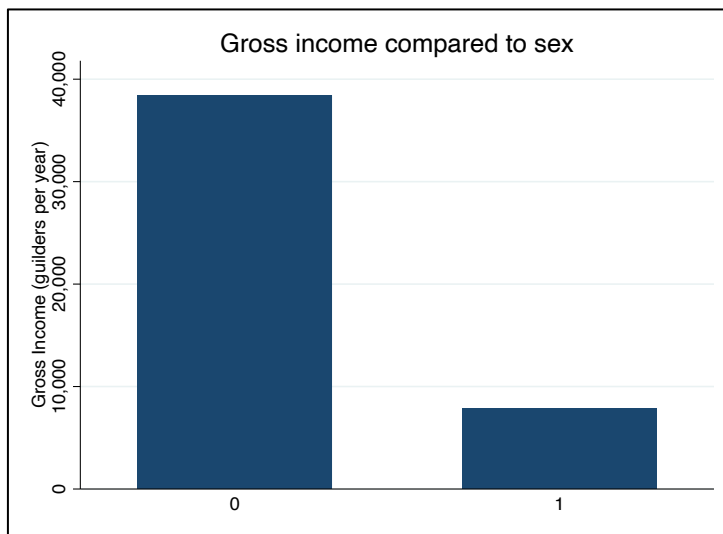
Figure 6 and Figure 7. Net wealth of the respondent compared to the educational level and IQ of the respondent

Explanation. In these figures the level of education from the respondent is compared to the net wealth and the gross income of the respondents. In the figure on the left educational level of the respondent is as follows: 0. No information, 1. Primary education form 1 & 2, 2. Primary education form 3 and up, 3. Secondary education lower stage, 4. Secondary education higher stage, 5. Higher education first stage, and 6. Higher education second stage. In both figures, the net wealth is as follows: 1. Debt larger than 50.000 guilders, 2. Debt between 10.000 and 50.000 guilders, 3. Debt smaller than 10.000 guilders, 4. 0 (nill), 5. Equity smaller than 10.000 guilders, 6. Equity between 10.000 and 50.000 guilders, 7. Equity between 50.000 and 100.000 guilders, 8. Equity between 100.000 and 250.000 guilders, 9. Equity between 250.000 and 500.000 guilders, and 10. Equity larger than 500.000 guilders.

In Figure 8, the gross income of the respondent is compared to the sex of the respondent. The sex is a dummy variable on the x-axis. 0 stands for male and 1 stands for female. In the figure we see a large difference in the gross income in guilders per year for males and females. This is expected as the average income for females lies a lot lower than the average income for males (Baker et al., 1995).
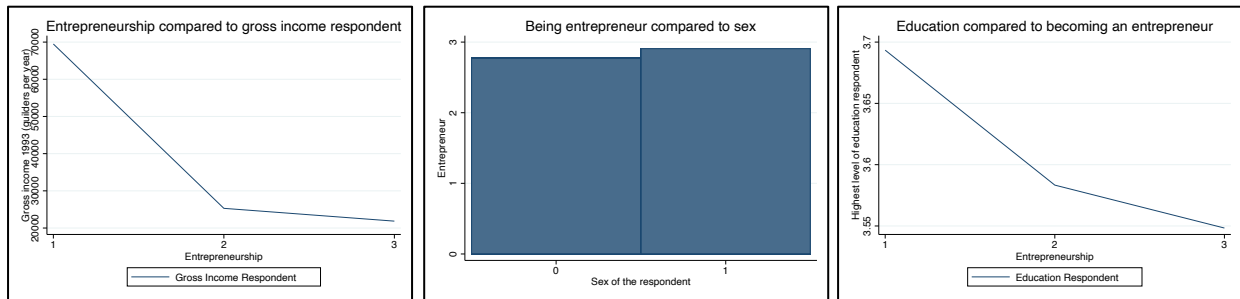
Figure 8. Gross income compared to sex respondent

Explanation. In this figure the gross income in guilders per year is compared to the sex of the respondent. On the x-axis the 0 stands for male and the 1 stands for female

In Figure 9, Figure 10, and Figure 11 being an entrepreneur is compared to the income of the respondent, the sex of the respondent, and the highest educational level of the respondent. As we see in Figure 9, when an individual is an entrepreneur, the gross income of this individual is a lot higher then when an individual has been an entrepreneur but is not an entrepreneur anymore or when an individual has never been an entrepreneur. This indicates that being an entrepreneur makes a higher income than working for a company. In Figure 10 we see that there is not a great difference for males and females for being an entrepreneur, but there is a slightly greater chance of being an entrepreneur when one is a male compared to when one is a female. In Figure 10, we compare the highest educational level of an individual to being an entrepreneur, here we see that only individuals that are between having a secondary education in the lower stage and a secondary education in the higher stage become an entrepreneur, and more to the higher stage. This indicates that individuals with an education between the levels 1 and 3 and between the levels 4 and 6 are less likely to becoming an entrepreneur. In Figure 9 , it can be seen that the higher an individual's gross income, the greater the chance of being an entrepreneur, and as seen in Figure the higher the education the higher the gross income of an individual. With this we can conclude that the income of an individual can be used as an independent variable on the chance of being an entrepreneur.

Figure 9, Figure 10, and Figure 11. Becoming an entrepreneur on the income, the sex and the highest educational level of the respondent

Explanation. In these figures entrepreneurship is compared to the income, sex and educational level of the respondent. Entrepreneurship is as follows: 1. Yes, and still an entrepreneur, 2. Yes, but not an entrepreneur anymore, and 3. Never been an entrepreneur. The gross income is in guilders per year. The sex is as follows: 0 stands for male and the 1 stands for female. Lastly, educational level of the respondent is as follows: 0. No information, 1. Primary education form 1 & 2, 2. Primary education form 3 and up, 3. Secondary education lower stage, 4. Secondary education higher stage, 5. Higher education first stage, and 6. Higher education second stage.

Analysis

In Table 1, we see the simple linear regression for entrepreneurship in 1993. We can see that against the expectations the social status of an individual does not have a significant effect on being an entrepreneur. Next to this, we see that social class has a negative effect on being an entrepreneur. This can be explained as that when an individual is higher social on the social ladder, there are certain expectations from the class on this individual. People do expect individuals to have functions like managers or CEOs, but not in a way that it is their own company (Wiley & Eskilson, 1983). Furthermore, we see that the fathers' and mothers' education have a significant negative effect on the individual being an entrepreneur. This can again be led back to the fact that the higher the education, the more expectations the parents have from their child, but not in a sense of starting their own company, because this brings a lot of uncertainty. Lastly, we see that the education of the individual and the level of satisfaction are higher for people who are an entrepreneur. This could be explained as when individuals are higher educated, they are tempted to take higher risks because they assume that they understand what they are doing better than lower educated people (Taatila, 2010). The satisfaction expectedly comes with being your own boss, and thus being more free and able to fill in your own time.

Table 1. Results linear regression for entrepreneurship in 1993

Entrepreneur '93	Coefficient	Robust std. err.	95% conf. interval	
$\beta_{GIncome}$ *	-0.000*	-0.000	-0.000	0.000
β_{Female}	0.118**	0.051	-0.018	-0.218
β_{Class}	-0.245***	0.043	-0.329	-0.116
β_{Status}	0.001	0.086	-0.168	0.171
$\beta_{EFather}$	-0.001*	0.032	-0.064	0.063
$\beta_{EMother}$	-0.016**	0.037	-0.086	0.057
β_{Work}	-0.115**	0.079	-0.270	0.041
β_{IQ}	-0.002*	0.001	-0.005	0.001
$\beta_{Education}$	0.107***	0.030	0.049	0.165
β_{Skill}	-0.050**	0.016	-0.081	-0.019
β_{Health}	-0.020*	0.024	-0.066	0.027
$\beta_{Satisfaction}$	0.006*	0.015	-0.024	0.036
Constant	3.191***	0.217	2.764	3.617

Explanation. *** p<0.01, ** p<0.05, * p<0.1

In Table 2, we see the results of a prediction regression on entrepreneurship. Entrepreneurship in this regression implies the chance of an individual being an entrepreneur. The closer to zero the more chance of an individual being an entrepreneur. This model explores the relationship between entrepreneurship and the independent variables as also mentioned in the second regression. This regression examines the relationship between the independent variables, and the dependent variable, in this case entrepreneurship. The prediction model tells us which of the characteristics are predictive for entrepreneurship. Here we can see that a male, who has a higher status, who's education is high and who is satisfied with his life has the highest chance of being an entrepreneur.

Table 2. Results prediction regression for entrepreneurship

Entrepreneurship	Coefficient	Robust std. err.	95% conf. interval	
$\beta_{GIncome}$ *	-0.000***	-0.000	-0.000	0.000
β_{Female}	0.118***	0.000	0.118	0.118
β_{Class}	-0.245***	0.000	-0.245	-0.245
β_{Status}	0.001***	0.000	0.001	0.001
$\beta_{EFather}$	-0.001***	0.000	-0.001	-0.001
$\beta_{EMother}$	-0.016***	0.000	-0.015	-0.015
β_{Work}	-0.115***	0.000	-0.115	-0.115
β_{IQ}	-0.002***	0.000	-0.002	-0.002
$\beta_{Education}$	0.107***	0.000	0.107	0.107
β_{Skill}	-0.050***	0.000	-0.050	-0.050
β_{Health}	-0.020***	0.000	-0.020	-0.020
$\beta_{Satisfaction}$	0.006***	0.000	0.006	0.006
Constant	3.191***	0.000	2.764	3.617

Explanation. *** p<0.01, ** p<0.05, * p<0.1

Conclusion and discussion

To conclude, in this section the research question will be answered, discussed and some limitations and recommendations for further research will be given.

The research question of this paper was as follows: "What is the effect of a person's upbringing and acquired traits on the chance of being an entrepreneur?". To answer this question, we found that there is a negative effect of the father's educational level on the change of the respondent becoming an entrepreneur, as well as the mother's educational level. Furthermore, we see that educational level is highly positive correlated to the change of being an entrepreneur and the satisfaction of an individual.

This research supports the findings of Lemos et al. (2011). One of their main findings is that parental education is strongly related to differences in income of the child. This is what we see in the difference in effects in the educational level of the mother and the father. Furthermore, this paper supports the research of Baker et al., (1995) that finds that the average income for females lies a lot lower than the average income for males. In this research, we see that when an individual is a female, the gross income will be a lot lower then when this individual is a male with keeping the rest of the variables the same.

A limitation of this research is that the dataset only contains data from individuals in The Netherlands. This means that for entrepreneurs in, for example, the United States, the individuals characteristics, and upbringing environment could have a totally different effect on when a person becomes an entrepreneur. Looking at this we cannot say that the conclusions in this research are applicable and further research in other countries and comparing this research needs to be done to find out what kind of effect the characteristics and upbringing environment really have on the chance of an individual being an entrepreneur.

Possible improvements that could be added in future research are more variables for characteristics, for instance variables like respect, listening skills, communication, and a more concrete variable for being an entrepreneur. Furthermore, other research on the characteristics of an individual and what effect they have on the performance of the organization would be interesting to see. Furthermore, an ordered logit model could be used in future research, as this regression contains ordinal dependent variables. This means that there are more than two categories for de dependent variable. Entrepreneur can take three different categories and thus an ordered logit model could give better insight into what types of individuals become entrepreneurs.

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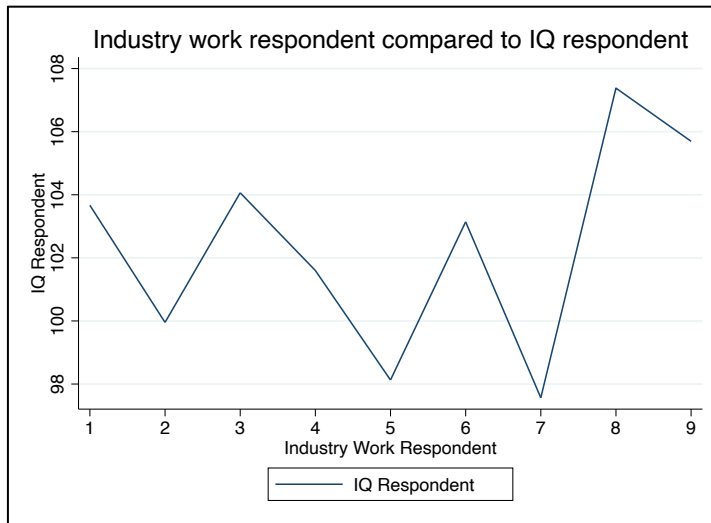
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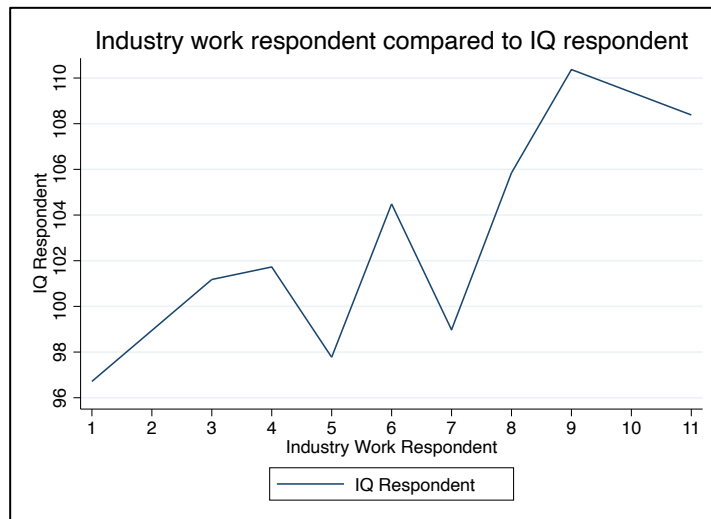
Appendix

Figure 9. IQ of the respondent compared to the industry they work in in 1983
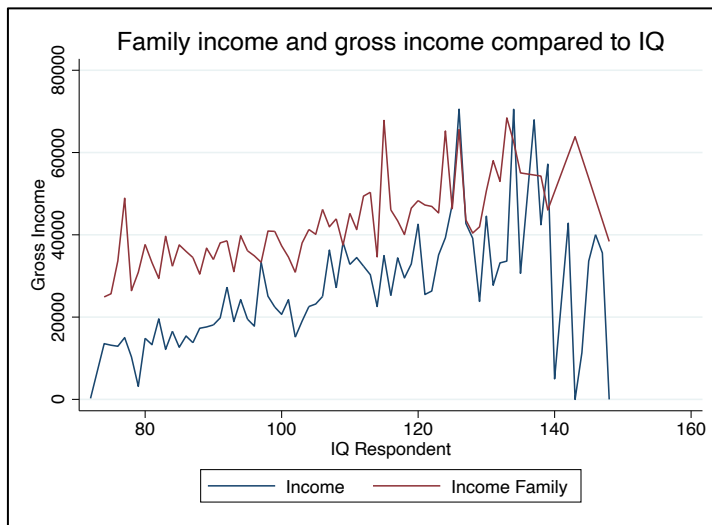

Explanation. In this figure, the IQ of the respondent is compared to the industry the respondent worked in in 1983. The different industries are as follows: 0. Agriculture, fisheries & no response, 1. Mining & quarrying, 2/3. Industry, 4. Public utilities, 5. Construction and installation companies, 6. Trade, hotels & restaurants, 7. Transport, storage & communication, 8. Banking and insurance and 9. other services.

Figure 10. IQ of the respondent compared to the industry they work in in 1993
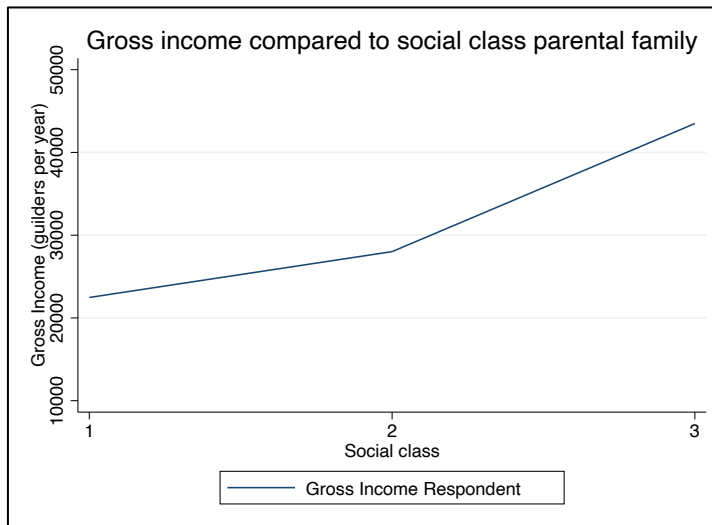

Explanation. In this figure, the IQ of the respondent is compared to the industry the respondent worked in in 1993. The different industries are as follows: 1. Agriculture, fisheries, 2. Mineral extraction, 3. Industry, 4. GEB, production & installation 5. Construction and installation, 6. Trade & catering, 7. Transport, storage & communication, 8. Real estate, banking & insurance, 9. Other business services, 10. Repair, and 11. Other services.

Figure 11. IQ of the respondent compared to the family income and gross income of the respondent
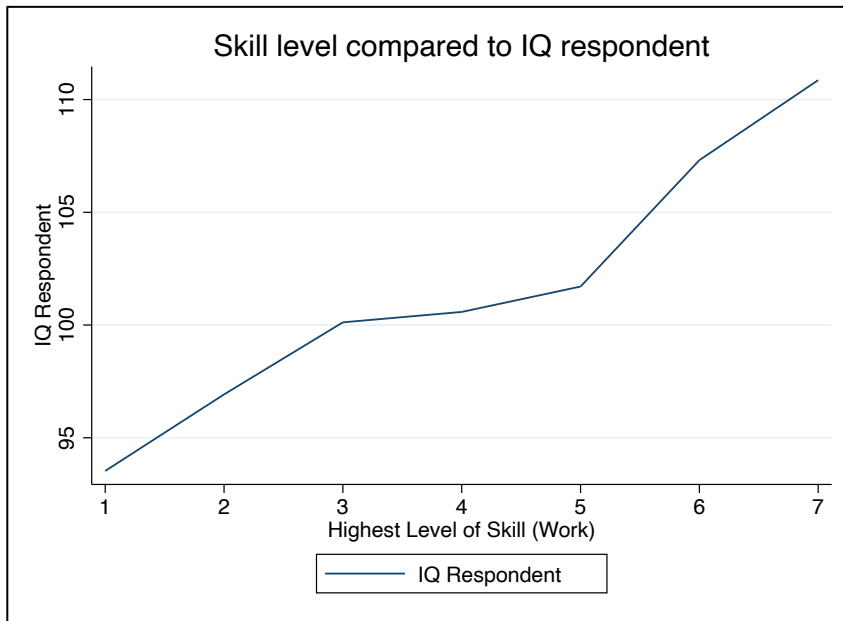

Explanation. In this figure, the IQ of the respondent is compared to the gross income and family income of the respondent. The gross income and family income is in guilders per year. The family income contains the income of the respondent as well as his or her partner.

Figure 12. The gross income of the respondent is compared to social class respondent grew up in

Explanation. In this figure, the gross income of the respondent in guilders per year is compared to the social class the respondent grew up in. This social class is derived from the status of the father's job. The different social classes are as follows: 1. Lower, 2. Middle, and 3. Higher.

Figure 13. IQ level of the respondent compared the highest level of skill of the respondent

Skill level compared to IQ respondent

Explanation. In this figure, the IQ level of the respondent is compared to the highest level of skills of the respondent up until 1993. The skills are subdivided into seven groups, these are as follows: 1. Very simple work, 2. Simple work, 3. Moderately complicated work, 4. Fairly complicated work, 5. Complicated work, 6. Very complicated work, and 7. Practical work on a scientific basis or purely scientific work.