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Familial Influences and Higher Education

Anjali Shah

I. INTRODUCTION

College is a place of many things: a place to learn, a place to make new friendships, a place to discover what interests you, and so much more. Some have always dreamed of attending a college or university, while for others, higher learning is not their desired goal. What distinguishes these two types of people from each other is influenced by many factors. Some of these include place of residence, family income, family structure, education level of the parents, race, and gender. It is not incorrect to say that the family is one of the greatest influences on a child's decision to pursue higher education. While most of the research in the past has looked at the magnitude of many factors at once, I specifically plan to analyze how strong the effects of family income, family structure, and the education level of the parents are on a child's decision to acquire a college education.

This paper will take a section by section approach to address the research problem. Section II will lay out the theoretical foundation and the hypotheses that I propose. Section III will introduce related past research and literature that correlates with the research question. Section IV explains the empirical model that was utilized. Section V discusses the results of the model and Section VI draws conclusions from the results and makes policy implications.

II. THEORY AND HYPOTHESES

Human capital is defined as the income-producing skills, knowledge, and training acquired by a person. According to Gary Becker (1993), who developed the model for human capital, parents have a large influence on the educational attainment, i.e. human capital level, of their children. Parents make investments in the human capital of their children by facing direct and indirect costs. Direct costs are in the form of expenditures for tuition, books, supplies, special fees, and so on. However, room and board cannot be considered as a part of direct costs because it is presumed that a child would need food and shelter regardless of whether or not they attended college. Indirect cost, which can be referred to as the opportunity cost of sending a child to college, is the earnings foregone when children spend time attending school rather than entering the labor market. Another indirect cost includes the time spent by parents during childhood and adolescence nurturing and fostering the growth and education of their children.

A basic assumption of the human capital theory is that education and training increase an individual's level of human capital, resulting in an increase in the person's production potential. Since earnings are related to productivity, it is rational to assume that those with a higher level of human capital will usually receive greater earnings than those with less human capital (Briggs and Marshall, 1989). Therefore, parents with higher human capital levels of education tend to earn higher incomes. Richer families have the ability to invest in the education and training of their children, including the earnings foregone when children spend time in school rather than at work. Thus, the children are able to look towards home for financial resources, not having to rely so much on loans, scholarships, and financial aid. On the other hand, parents who earn lower incomes tend to be not very highly educated. These parents might be willing to lend their children the money to help them further obtain training if the parents could expect to get paid back later when they are old. But children may not carry out their part of the bargain, especially in highly mobile societies where children often live far apart from their parents. As a result, parents with lower incomes are less willing than parents with higher incomes to finance the education of their children (Becker, 1993).

When looking within the family, past research has shown that the structure of the family has a significant impact on the child. Analysis has proven that those with more education (i.e. greater human

capital) are more likely to get married before having children and have a low probability of getting divorced. The logic behind this is that people who are more educated tend to place their focus on receiving an education and developing their careers before starting a family. They plan on having children after getting married because they want to provide the most stable environment for their children that is possible. People with high levels of human capital have been shown to choose mates that have similar beliefs, traits, and levels of education. This reduces the chances of getting divorced. Having both parents married to each other has been shown to have a positive influence on a child's decision to go beyond high school. If both parents earn incomes and are married to each other, then they have both the financial resources and time to spend on their children. Quality time is an immeasurable asset that allows the child to be motivated to increase their knowledge (Haveman and Wolfe, 1994).

On the other hand, single-parent families and step-families appear to have a negative impact on the child's education level. Having only one parent around means that they have less time to give their child on a daily basis. Being the only parent, they have to work very hard to earn an income and support the family in every aspect. Therefore, they do not have as much time to look after how well the child is doing in school. Also, the parent becomes more financially strapped and less able to send their child to college (Gordon, 1996). Step-families appear to face the same situation. Analysis has shown that stepparents have a closer and tighter connection to their biological children compared to the stepchildren. As a result, they would rather give the financial resources to their children than the stepchildren to finance their higher education (Seng Loh, 1996).

The last factor, the education level of the parents, usually tends to be a positive, rather than harmful, influence on a child's attainment of higher education. Parents that have a higher level of human capital transmit the desire to attain a higher education to their children. Parents usually want their children to achieve more than themselves. If parents have low levels of human capital, research has shown that there is usually no pressure or motivation on the children to further their education. However, parents with greater human capital want their children to be educated at the same level as they are and possibly more. For example, if the parents finish high school, than they want their child to at least finish high school. Also, parents with higher levels of human capital are more capable in preparing their children for a formal college education via informal instruction in the home. This is a very significant method in which the desire to increase human capital levels is transmitted from one generation to the next.

Family income level, family structure, and education level of the parents are three factors that have a considerable influence on a child's decision to pursue higher education. Important in their own ways, they often end up being linked to one another. However, there are three separate hypotheses that I am proposing, one for each factor. They are:

1. Family income level and education attainment of children has a positive relationship. As income increases, so will the level of education the child attains.
2. Both parents married and living together has a positive relationship with a child's educational level. However, single-parent families and step-families have a negative relationship with the child's educational level.
3. The educational level of the parents and the attainment of higher education by the child have a positive relationship. The more educated the parents are, the more likely the child is to pursue higher education.

III. LITERATURE REVIEW

There are many pieces of literature that have studied and analyzed human capital and the decision to pursue higher education. Some of the literature can be applied to more than one factor while others are focused solely on one factor.

Many books and articles support the concept that as the income level of the family increases, so does the child's attainment of higher education. Gary Becker in his book "Human Capital" (1993) states that through his research findings he discovered somewhat of a strong correlation between income levels and higher education. Mark Blaug in "The Empirical Status of Human Capital" (1976) claims that demand for higher education is partially due to income. Although Henry Levin's "Measuring

Efficiency in Educational Attainment" (1974) examined the different factors that influence a child's desire to attain a post secondary education back in the early 1970s, he found that family income level is one of the strongest influences. Also, Soloman and Taubman rationalized in their book "Does College Matter?" (1973) that the higher the income level of the family, the more likely the child is to acquire a college education.

The idea that family structure impacts the child's decision to attain a college degree is also given much support. Becker (1993) also states that he found a strong relationship between family structure and education. Both parents being married to each other has a positive relationship, while separated, divorced, or unmarried parents have a negative correlation to a child's education. Haveman and Wolfe in "Succeeding Generations: On the Effects of Investment in Children" (1994) agree with Becker by claiming that single-parent families and step-families have a negative influence on the education of children while both parents together has a positive influence. Eng Seng Loh, through his own work in "Changes in Family Structure, Attained Schooling, and Adult Poverty Status" (1996), looked at how family structure and changes within it affect the child's schooling. He discovered that there is a negative impact on a child's education level due to single-parent families or divorce after the child is born and old enough to understand what is happening around them.

Parents that have a higher level of human capital transmit the desire to attain a higher education to their children.

Many researchers have studied the education level of parents transmitting the motivation for higher education through generations. Joseph Altonji and Thomas Dunn in "The Effects of Family Characteristics on the Return to Education" (1996) proved through their own work that education does transmit through generations and how educated the parents are has a substantial influence on a child. Gary Becker (1993) and Lewis and Taubman (1973) both found that there is a positive correlation between the human capital level of the parents and the child's desire to attain a college degree. Although it is somewhat dated, Mushkin's "Economies of Higher Education" (1962) states that the level of education by the parents transmits to children. In other words, the motivation for education is generated within the family.

IV. EMPIRICAL MODEL AND DATA

In order to test the three hypotheses, I gathered the data for my empirical model from the National Longitudinal Survey of Youth (NLSY) (1994). The NLSY is a study that is derived from in-person interviews with 12,686 people between 1979 and 1994. The NLSY is the best and most logical database because it contains a large cross-sectional sample of youths with a diverse set of socio-economic backgrounds. I restricted my sample size to those that were between the ages of 14 and 17 in 1979 and controlled for both race and gender of the respondent so my model would have less bias.

The dependent variable is years of educational attainment measured by using the most completed years of education as of May 1993. I created the variable into a dummy variable (COLLEGE), where it was valued as 1 if the respondent had received a college education and 0 of they had not gone past high school. The independent variables are all background variables from 1979. They consist of: 1) family income level in 1979 (INCOME), 2) completed years of education by the mother (MOMEDU), 3) completed years of education by the father (DADEDU), and 4) the possible different family structures including both parents living together (TOGETHER), single-parent families (SINGLE), and step-families (STEP).

I also included a variable for the respondent if they had any siblings (SIBLINGS) in 1979. This is important because as the number of children increase, the family income gets spread out more and makes it more difficult for the parents to finance a college education. In addition, if the respondent was the oldest child they might have received the crucial attention during childhood that is necessary for learning. But as the number of siblings increased, the income began

to disappear. If the respondent was the youngest child, they might have had to fight for parental attention when they were young and growing up. However, by the time they became ready for college, more financial resources were available because the older siblings had probably moved out of the home.

The final variables included dealt with reading sources. The presence of reading sources can have a tangible result on a child for a couple of reasons. First of all, the availability of resources such as books, newspapers, and magazines can be an aid to the child's school education. Second, it can be representative of how interested the parents are in motivating the child to pursue higher education. I suspect that these variables will have a strong correlation to the educational level of the parents because those with higher levels of human capital tend to provide access to reading sources to their children. Therefore, I included the variables for books using a library card as a proxy (LIBCARD), newspaper subscriptions by anyone within the home (NEWSPAPERS), and magazine subscriptions by anyone within the home (MAGAZINE).

The equation of my empirical model is:

$$COLLEGE = \alpha + \beta_1 BLACK + \beta_2 HISPANIC + \beta_3 MALE + \beta_4 LIBCARD + \beta_5 MAGAZINE + \beta_6 NEWSPAPER + \beta_7 MOMEDU + \beta_8 DADEDU + \beta_9 TOGETHER + \beta_{10} STEP + \beta_{11} SINGLE + \beta_{12} SIBLINGS + \beta_{13} INCOME$$

The data were extracted form the NLSY database and entered into the Statistical Package for the Social Sciences (SPSS). The program was written to create each variable as described above. In the next stage of the research project, the statistical analysis, an ordinary least squares (OLS) regression was used. The predicted results from the equation are direct. Having a library card, newspapers, and magazines are predicted to have a positive effect on the attainment of college education thus, (LIBCARD), (NEWSPAPER), and (MAGAZINE) should have positive coefficients. The mother's education and father's education help to increase the human capital level of the children, so college education is hypothesized to be positively affected by (MOMEDU) and (DADEDU). Both parents being together is expected to have a positive

Figure 1 **Regression Results**

Variable and Expected Sign		*Model 1*	*Model 2*	*Model 3*
Black		.047882	-.000262644	.046147
Hispanic		.206612***	.175989***	.148164***
Male		-.042964**	-.043902**	-.045476**
Libcard	(+)	.054474**	.06211***	.053565**
Magazine	(+)	.096972***	.117101***	.110102***
Newspaper	(+)	-.016508	.000339274	.005854
MomEdu	(+)	.031471***	.045627***	
DadEdu	(+)	.02482***		.037337***
Together	(+)	.023254		
Step	(-)		-.112394***	-.104418**
Single	(-)		.04128	.092553**
Siblings	(-)	-.018723***	-.020731***	-.022239***
Income	(+)	3.21602 E-06***	5.01949 E-06***	4.726 E -06***

** Significant to the .05 level
***Significant to the .01 level
All else significant to the .10 level

influence so the variable (TOGETHER) should have a positive coefficient. On the other hand, single-parent families and stepfamilies are expected to have a negative relationship with college education, so (SINGLE) and (STEP) should have negative coefficients. Because siblings take away from a child's financial resources and parental attention, college education is thought to be affected negatively by (SIBLINGS). Family income is an investment is human capital, therefore college is hypothesized to be positively influenced by (INCOME).

V. RESULTS

The regression accounted for approximately eighteen percent of the variance in college education attained by youth. This is explained by the r-square, which ranged from .17494 to .18344. This result is sufficient because only three factors are specifically analyzed. Sometimes the decision to acquire a college education or not is marked by differences in hard work and ability, which can be difficult to quantify and capture within the scope of an empirical model.

It seems that there is an overwhelming need for increased governmental programs that grant aid and loans to children that come from low-income families.

In the first model that I ran, using the education level of both parents and assuming they are both together, most of the variables achieved the results that were predicted (see Figure 1). I had no expectations for the control variables, with regards to the sign of the coefficient or the significance. Interestingly, (BLACK) and (HISPANIC) had a positive influence while (MALE) had a negative impact. Contrary to my expectations, the sign for the third reading source, (NEWSPAPER) was negative and there was no significance. One reason for this may be because all three sources were tested together and they began to negate the effect of the third variable that was tested. All of the other variables achieved the results that were expected. According to the model, an extra year of education by the mother and father would increase the college education of a child by roughly 3.1% and 2.7%, respectively. In addition, all of them were significant except for the variable (TOGETHER). A plausible explanation for this could be having both the mother's and father's education together represented both parents together and negated the significance of the variable (TOGETHER).

The second regression was run assuming that there was a single-parent family of a step-family structure with the mother in the home. This time some of the results were achieved as predicted while others were not. Both the variables (BLACK) and (NEWSPAPER) were insignificant. The variable (HISPANIC) was positive and significant while (MALE) was negative and significant. Both (SIBLINGS), which had a negative coefficient, and (INCOME), with a positive influence, were significant. The variable for mother's education (MOMEDU) increased in coefficient size to roughly 4.5% but maintained its significance. Oddly enough, the family structure variables did not completely end up as I had predicted. The (STEP) variable was negative as expected, decreasing college education by 11.2%, and was highly significant, but (SINGLE) turned out positive with no significance.

In the final model, the regression was run using the father as the only parent that was living in the home. Out of the three control variables, (MALE) was the only one that had a negative coefficient but it and (HISPANIC) were significant. The three reading sources all achieved the predicted results, but (NEWSPAPER) was insignificant again. The variable (STEP) remained the same except for the size of the coefficient decreased by almost 1% and (SINGLE) increased its coefficient size by roughly 5% and gained significance. The variable for father's education (DADEDU) surprisingly was extremely significant and resulted in a positive coefficient. With the father often times being out of the family home at an early age or unknown to their children, it is important to know that they still have a consequential impact on a child's decision to attain a college degree.

VI. CONCLUSION AND POLICY IMPLICATIONS

This research study gives support to the human capital theory in that the family has a weighty influence on a child's decision to acquire a college education. The first hypothesis dealing with family income level having a positive correlation on the human capital level of children was proven in my testing. It did not have a high coefficient but it was highly significant in all three models, showing that it has a substantial impact on the higher learning of children.

Looking at the second hypothesis, family structure and higher education of children having a positive relationship was confirmed to an extent. Both parents together have a positive impact on the attainment of higher education, but it was not significant. On the other hand, step-families have a significantly negative impact and single-parent families appear to have a significantly positive influence on children's education.

For the last hypothesis, the education level of the parents having a positive correlation to the human capital level of their children was given huge support in all three models. Highly significant with positive coefficients as predicted shows that how educated the parents are can truly affect how far the child goes in attaining a college education.

In terms of policy implications, it seems that there is an overwhelming need for increased governmental programs that grant aid and loans to children that come from low-income families. Although there are such programs already in existence, it is imperative that the aid reaches those who truly need it. Secondly, it might be helpful to create tutoring programs within the community that give children a chance to receive the help they need to do better in school at an early age. Mentor programs can give children someone to look up to as a role model since often times there is no one within the family. Finally, it would be beneficial if schools could provide easier access to books via library facilities, magazines, and newspapers that are readily available in the classrooms and libraries.

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