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30 May 2017

Online at <https://mpra.ub.uni-muenchen.de/79454/>

MPRA Paper No. 79454, posted 31 May 2017 06:19 UTC

# **How to escape poverty through education?: Intergenerational evidence in Spain**

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## **Abstract**

This paper analyzes the determinants of escaping poverty through education in Spain, with this being the country that, according to Eurostat (2010), is among the top European countries regarding the percentage of the population affected by poverty. Specifically, the paper studies the transmission of poverty over two generations by analyzing the factors that affect the probability of having completed the secondary level of education. To that end, we use the conceptual Quantity-Quality model of Becker-Lewis, empirically estimated by using the Survey of Living Conditions (2011) provided by the Spanish Statistical Institute. Our results confirm the intergenerational transmission of poverty in Spain, in such a way that the probability that the respondent has completed secondary education is determined, although not exclusively, by the family conditions of the respondents during their teenage years.

Keywords: Poverty, Education, Intergenerational Transmission, Spain.

JEL Classification: D12, I32, I21

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## **I. Introduction**

This paper explores the determinants of escaping poverty through education in Spain. It is clear that the transfer of material disadvantages from parents to children is a significant factor in all countries, and chronic poverty is identified as one of the main sources of inequality. Identifying the causes and transmissions during a lifetime has become an important issue from both the micro- and macro-perspectives; that is to say, from the point of view of individual behaviors, and because the existence, or not, of the intergenerational transmission of poverty (ITP) limits, or facilitates, economic growth. In line with this importance, the ITP has received some attention in the economic literature (Deal et al., 1998; Castañeda and Aldaz-Carroll, 1999; Moore, 2003; Partridge and Rickman, 2005; Ludwig and Mayer, 2006; Duncan et al., 2007; Bird et al., 2010; Bigsten and Shimeles, 2011; Israeli and Weber, 2014; Canavire-Bacarreza and Robles, 2017) and, specifically, according to Bonahora (2005), the ITP can be seen as a special case of intergenerational socio-economic mobility, since the latter is defined as a change in the socio-economic status from one generation to the next.

This literature shows that poverty in childhood increases the chances of poverty in adulthood, with this ITP being strongly mediated by other socio-economic factors operating throughout an individual's life. Castañeda and Aldaz-Carroll (1999) approach the ITP in Latin America by studying the probability that individuals attain a secondary education level as a key threshold from poverty, and highlight the role of gender and the parents' education level in the transmission of poverty. The authors also find an inverse relationship between the number of children at home and the investments in them (indicative of resource deprivation). Bonahora (2005) finds, for the case of Buenos Aires, that individuals coming from poor households usually have eight or fewer years of study and, in general, their average monthly income is insufficient to ensure family

welfare. Aldaz-Carroll and Moran (2001) focus on family factors that help to “escape the curse of poverty” in Latin America, highlighting the need to focus on factors such as parental education, ethnicity, household demographics, and children's early-childhood care experience, rather than on the economic environment of the household, given the bidirectional relationship between income and educational level.

Against this background, this paper analyzes the determinants of the ITP in Spain through educational variables.<sup>1</sup> Specifically, we focus on studying the transmission of poverty between two generations by analyzing the factors affecting the probability of having completed the secondary level of education. To that end, we use the conceptual Quantity-Quality model of Becker-Lewis (Becker and Lewis, 1973), which is empirically estimated through a Probit specification using the Survey of Living Conditions (2011) provided by the Spanish Statistical Institute. Spain is, according to Eurostat (2010), among the top European countries regarding percentage of population affected by poverty (only surpassed by some Eastern countries and Greece), and with a situation exacerbated by economic crisis and the severe increase in the unemployment rate. Despite this, this paper is, to the best of our knowledge, the first study on the existence of ITP in Spain and its conditioning factors. Our results confirm the mediating effect of socio-economic conditions, and suggest the existence of gender and age differentials regarding ITP, an instrument that, besides reflecting differences in social behaviour from the 1950s to today, helps to predict what we can expect in the future.

## **II. Data and Empirical Strategy**

We use the Survey of Living Conditions-*Encuesta de Condiciones de Vida-ECV* (INE. Instituto Nacional de Estadística, 2011) in order to analyze whether the factors of

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<sup>1</sup> Intergenerational transmission of socioeconomic variables and behaviors has been analyzed, for example, in Molina et al. (2011) for the case of well-being, in Giménez and Molina (2013) for education, in Giménez et al. (2014) and in Giménez et al. (2015) for housework time, in Molina (2014) for the case of altruism, or in Duarte et al. (2016) for the smoking behavior.

poverty that conditioned individual lives when they were teenagers have influenced their current situation as adults, and whether or not they have escaped poverty. We employ the Quantity-Quality model of Becker-Lewis (Becker and Lewis, 1973), as a relation between the probability of attaining the secondary level of education, and a set of variables related to the domestic environment. Thus, we study the factors affecting this probability via a Probit specification.

Following the prior literature, we assume that the socio-economic characteristics of the individual (gender, age, etc), as well as those of the respondent when she/he was a teenager (education level of parents, socio-economic status, adults and siblings at home) affect the probability of achieving the secondary education level.

Table 1 shows the descriptive statistics of our family variables. Column 1 for males, column 2 for females, column 3 for father, column 4 for mother, and column 5 for the whole sample. The level of education among the respondents is divided between secondary and higher education, and in the case of fathers and mothers the vast majority have secondary education. As for work, we find that the majority of men, women, and parents are employees, while the opposite is true for mothers, who represent only a low percentage of workers. The average number of adults and children in the house is 2, and almost all live in single-parent homes. To measure the economic situation in the household when the adult was a teenager, we have taken as a reference variable the measure used by the INE as ‘a good economic situation’.

(Table 1 about here)

### **III. Empirical Results**

Estimates for the probability that the individual has completed secondary education are shown in Table 2. The first column refers to the full sample, and the following columns

show the results for different subsamples: men, women, employees, and non-employees.

(Table 2 about here)

First of all, our results confirm that the probability that individuals have completed secondary level of education is positively and significantly correlated with the fact that the parents had completed that same level, with this result being robust across the different subsamples. According to the literature, the fact that the father was working when the respondent was a teenager positively and significantly affects the probability, except in the case of women and non-workers. Thus, the influence of the mother, in terms of literacy, seems to transmit to both women and men, while the influence of the father is stronger and significant for men. The economic situation of the household when the individual was a teenager also positively and significantly affects the current situation of the individual. The number of children, as well as the number of adults living in the home, has a negative effect on the probability of completing secondary education, since, as the literature notes, a greater number of people living in the home reduces the likelihood of the parents investing more in the household. However, this probability is not affected by the household composition, i.e., whether or not it is a single-parent household.

In addition to the variables studied in the literature, and given the significant social and economic transformation of Spanish society in the second half of the 20<sup>th</sup> century, we wanted to determine whether the age of the respondent is related to the probability of reaching the secondary level of education. The empirical analysis distinguishes four time bands (1950-60, 1960-70, 1970-80 and 1980-90). Considering 1960-70 as the omitted category, we find that the probability of reaching a more advanced educational level is higher when the adult is younger. This factor could be

directly related to the economic situation in which the family lived and the changes in economic conditions with the Spanish transition to the democratic period during the 80s and 90s, which meant an increasing generalization of education in Spain.

#### **IV. Conclusions**

The objective of this work has been to consider how the economic characteristics of the home and the characteristics and conditions of the parents affects the child's risk of poverty in adulthood. The main conclusion of our study is to confirm that, as happened in other countries, the hypothesis of ITP also holds in Spain. In this regard, our results show that the probability that the respondent has completed secondary education (our proxy of escaping poverty) is determined, although not exclusively, by the family conditions of the respondents when they were teenagers.

We find similarities with other findings in the existing literature, that the probability that an individual completes secondary education depends on the level of studies of the parents, and that the father was employed. In terms of the latter, the prior literature shows a distinct correlation between the level of studies of the father and his likelihood of employment with the education and employment prospects of the child, as we can see in our results. The composition of the household does not play an important role, contrary to much of the literature. Living in a household with two parents is a positive determinant, although this negatively influences the number of minors and of adults in the household. One fundamental variable referring to the economic situation in the home when the adult was an adolescent - which, as we have seen, is significant - is the extent to which it is transmitted to the current situation of the household.

In our view, the recognition of the existence of ITP is of great interest for policy makers, as it allows for the anticipation of the evolution of poverty. Thus, we suggest two major research and policy strategies – protection against and prevention of poverty.

By analyzing the individual or family characteristics behind the existing poverty trap, protection against poverty could be facilitated. Moreover, in terms of prevention, educating parents may help to reduce the risk of poverty in their children. Despite these interesting results, given the limitations of the data, this study must be considered as a first approximation to understanding the phenomenon of ITP in Spain.

## **Disclosure statement**

No potential conflict of interest was reported by the authors.

## **Funding**

Financial support from the Spanish Ministry of Economy (Project ECO2012-34828) is gratefully acknowledged.

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**Table 1.** Descriptive Statistics.

Variables	Male		Female		Father		Mother		Total	
	Average	SD	Average	SD	Average	SD	Average	SD	Average	SD
Age	42.70	(9.64)	42.9	(9.56)	74.83	(11.85)	71.61	(11.59)	42.77	(9.59)
Primary education	0.08	(0.272)	0.08	(0.272)	0.04	(0.21)	0.07	(0.25)	0.16	(0.37)
Secondary education	0.25	(0.435)	0.25	(0.431)	0.87	(0.34)	0.89	(0.31)	0.51	(0.50)
Superior education	0.14	(0.352)	0.18	(0.383)	0.09	(0.28)	0.04	(0.20)	0.33	(0.47)
Employees	0.36	(0.48)	0.30	(0.46)	0.97	(0.17)	0.26	(0.44)	0.66	(0.47)
Non employees	0.13	(0.33)	0.21	(0.41)	0.03	(0.17)	0.74	(0.44)	0.34	(0.47)
Households with both spouses	0.43	(0.49)	0.45	(0.50)					0.90	(0.30)
N. adult members	1.36	(1.70)	1.44	(1.73)					2.87	(1.34)
N. minor members	1.13	(1.56)	1.19	(1.57)					2.38	(1.46)
Good economic situation	0.13	(0.34)	0.15	(0.36)					0.29	(0.45)
Observations	8249		8705		15477		15871		16954	

Note: The descriptive analysis is about dichotomous variables. Standard deviations are in parentheses. Data from the Spanish Living Conditions Survey 2011 (INE). The sample is restricted to individuals between the ages of 25 and 59. Primary education is equivalent to having less than a secondary school diploma. Secondary education is equivalent to having a secondary school diploma. Superior education is equivalent to having more than a secondary school diploma. Employees include individuals who work as salaried employees and businessmen. The variables for father, mother, and the conditions of the household refer to the household when the adult was a teenager.

Table 2. Estimations of the Probit Model

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Age (1950-60)	-0.459** (0.033)	-0.387** (0.046)	-0.529** (0.045)	-0.388** (0.043)	0.552** (0.050)
Age (1970-80)	0.201** (0.037)	0.191** (0.052)	0.204** (0.053)	0.184** (0.048)	0.218** (0.059)
Age (1980-90)	0.369** (0.056)	0.326** (0.076)	0.412** (0.084)	0.335** (0.079)	0.375** (0.079)
Gender (Men)	-0.144** (0.028)	-	-	-0.224** (0.036)	-0.039 (0.044)
Labor Situation	0.539** (0.028)	0.434** (0.042)	0.628** (0.039)	-	-
Mother's Education	0.645** (0.055)	0.571** (0.079)	0.719** (0.078)	0.752** (0.082)	0.553** (0.075)
Father's Education	0.344** (0.069)	0.499** (0.097)	0.180* (0.098)	0.276** (0.102)	0.405** (0.093)
Mother's Labor Situation	0.038 (0.033)	0.087* (0.049)	-0.009 (0.046)	0.042 (0.044)	0.029 (0.052)
Father's Labor Situation	0.151** (0.075)	0.222** (0.112)	0.106 (0.100)	0.256** (0.108)	0.067 (0.103)
Composition of Household	0.065 (0.072)	0.069 (0.112)	-0.065 (0.096)	0.138 (0.096)	-0.016 (0.112)
No of Adults	-0.042** (0.010)	-0.055** (0.014)	-0.031** (0.014)	-0.045** (0.014)	-0.041** (0.015)
No of Minors	-0.064** (0.008)	-0.065** (0.012)	-0.064** (0.012)	-0.064** (0.012)	-0.063** (0.013)
Economic Situation	0.461** (0.034)	0.470** (0.049)	0.461** (0.048)	0.445** (0.044)	0.487** (0.053)
Mc Fadden R <sup>2</sup>	0.151	0.135	0.171	0.106	0.130
No of observations	14368	6995	7373	9653	4715

Note: Robust standard errors are in parentheses. Data from the Spanish Living Conditions Survey 2011 (INE). The sample is restricted to individuals between the ages of 25 and 59. Primary education is equivalent to having less than a secondary school diploma. Secondary education is equivalent to having a secondary school diploma. Superior education is equivalent to having more than a secondary school diploma. Employees include individuals who are salaried or businessmen. The variables for father, mother, and the conditions of the household refer to the household when the adult was a teenager. \* Significant at 90%. \*\* Significant at 95%. \*\*\* Significant at 99%.