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ORIGINAL

The Power of Expectations on Students' Years of Schooling

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ABSTRACT

Both students and parents have expectations about students' academic future. The present study analyses the influence of both sets of expectations when students are at age 15-16 on the level of education achieved by students when they are 23-24 years old. For this purpose, a structural equation model is estimated by three-stage least squares, using panel data for the most populated Spanish region (Andalusia). Results show that when both students and parents expect degree level education (i.e. 16 years of schooling) the student appears to come quite close to achieving that level. They also show that socio-cultural variables, together with students' cognitive and non-cognitive outcomes, seem to explain the mechanism of formation of expectations and students' completed years of schooling.

Keywords YEARS OF SCHOOLING, PARENTAL EXPECTATIONS, STUDENTS' EXPECTATIONS, STRUCTURAL EQUATION MODEL, THREE-STAGE LEAST SQUARES

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1 INTRODUCTION

Setting expectations is a common human practice which affects many domains, such as education, economics, health, income, etc. (Delavande, 2014). In the present research paper, the generation of these expectations in respect to the education system, by both students and parents, will be accounted for, together with their ulterior influence on the total number of years of schooling achieved. This is particularly relevant, to the extent that human capital accumulation is a key contribution to socio-economic growth (Čadil, Petkovová, & Blatná, 2014).

Students are constantly generating expectations during their progression through the academic track (Eskelä-Haapanen, Vasalampi, & Lerkkanen, 2020), and previous literature has highlighted the relevance that students' expectations have on their academic performance. In this sense, authors such as Zafar (2011) or Khattab (2015) found that students' expectations are positively related to students' academic achievement in the short run. Moreover, students' expectations have also been found to be relevant in explaining other future outcomes, such as satisfaction with education (Appleton-Knapp & Krentler,

2006; Marimon, Mas-Machuca, & Berbegal-Mirabent, 2020; Maskey, 2012; Sanders, Field, & Diego, 2001).

Parental expectations also seem to be relevant in explaining students' academic achievement. In fact, authors such as Ma (2001) or Rubie-Davies, Peterson, Irving, Widdowson, and Dixon (2010) highlighted that they are more relevant than student, peer or teacher expectations in determining students' future academic outcomes. In fact, Fan and Chen (2001) performed a meta-analysis of 25 research papers on the influence of parental involvement on students' academic achievement, finding that parental expectations (considered as a dimension of this involvement) had the strongest association with students' academic outcomes. Additional meta-analyses have also reached the conclusion that parental expectations have a high influence on students' academic achievement (a meta-analysis of 50 studies for middle-school by Hill and Tyson (2009), one of 41 studies for elementary school students by Jeynes (2005b), or another one by Jeynes (2007), for secondary school students, comprising 52 studies). Castro et al. (2015) performed a meta-analysis on 37 studies of kindergarten, primary and secondary education students, also finding that parental expectations were relevant for these students' academic performance. Finally, a recent meta-analysis by Pinquart and Ebeling (2019), using 169 studies on the influence of parental expectations on students' academic achievement, found an effect size of around 0.30, which differed depending on students' age, socio-economic status, ethnicity, matching of type of expectations and achievement, type of expectations assessed, publication status of the research work and informant. This was also corroborated by Pinquart and Ebeling (2020), who updated the research to 261 studies. A similar effect size was found by Danişman (2017), who performed a meta-analysis on 67 research papers.

Moreover, the combination of both student and parental expectations seems to influence students' academic achievement. In this sense, Hao and Bonstead-Bruns (1998) indicated that the alignment between student and parental expectations positively contributed to students' academic achievement, while differences between them reduced this academic performance. This was supported by authors such as O. Marcenaro-Gutierrez, Lopez-Agudo, and Ropero-García (2017), who also analysed the influence that both student and parental expectations have on Spanish adolescents' academic achievement and their future academic track, finding that their coincidence positively influenced these outcomes. More recently, Lindberg, Yıldırım, Elvan, Öztürk, and Recepoğlu (2019) stated that the interaction between parents' and children's expectations contributes to children's success by providing more parental involvement.

Previous literature has indicated that these expectations are generated by both students and parents conditioned by their socio-economic characteristics (O. D. Marcenaro-Gutierrez & Lopez-Agudo, 2017). For instance, O. Marcenaro-Gutierrez et al. (2017) found, for Spanish adolescents, that girls' higher achievement in both reading and mathematics was mostly explained by female students' higher returns to their expectations. Li and Xie (2020) found that educational expectations are much less dependent on family background in East Asian societies than in the West, in that parents and children in the former all tend to hold high educational expectations, irrespective of family socio-economic status.

Besides, Hao and Bonstead-Bruns (1998) and Khattab (2015) remarked that ethnicity and immigrant status may condition the expectations that both students and parents have; similarly, Arbona and Novy (1991) also highlighted that students' gender and ethnicity influenced differences in their expectations. In fact, parent gender seems to interact differently with students' expectations. As found by Paa and McWhirter (2000), girls' expectations may be more influenced by their mothers than by their fathers; following Bandura's role-model theory Bandura (1986), this may be due to the fact that students might follow the model of the parent who is more similar to him/her. This way, parental years of schooling, together with gender, have also been identified as relevant predictors of students' future expectations (Tavani & Losh, 2003). Regarding these socio-economic and cultural background characteristics, Neuenschwander, Vida, Garrett, and Eccles (2007) performed a structural equation model using data of adolescents from Switzerland and the United States and found that students' socio-economic background and parental expectations play a relevant role in determining students' self-concept and students' academic achievement. OECD (2020) also indicated that adolescents who do not expect to complete higher education were more present among low socio-economic background students.

Nevertheless, socio-economic characteristics and students' cognitive skills (measured using, for example, Intelligence Quotient, IQ) are not the only ones that play a relevant role in generating these expectations; students' non-cognitive skills, also known as soft skills, are also important (Heckman & Kautz, 2012; Robles, 2012). However, in spite of their relevance, these soft skills have been frequently disregarded in studies on education expectations, either because their relevance was underestimated or due to a lack of measures of these skills in the datasets. Because of that, authors such as Schulz (2008) or Thurner and Böttcher (2012), among others, indicated that the lack of attention that these soft skills receive in the education system may alter students' expectations, to the extent that students may not be aware of other important capabilities they have besides cognitive skills. This underestimation of soft skills has also been found to influence students' employment expectations and perceptions regarding the value that employers give to these skills (Dolce, Emanuel, Cisi, & Ghislieri, 2020; Itani & Srour, 2016).

In this context, this research study intends to analyse the influence that both student and parental expectations have on the years of schooling that students finally achieve. To this end, a structural equation model is used, in which three equations are defined: the main one, explaining students' years of schooling, and two others that reproduce the generation process of both student and parental expectations. The last two equations account for the previously described variables which may potentially condition the generation of these expectations (socio-economic characteristics, cognitive skills and soft skills).

The present study is focused on the region of Andalusia, which is the most populated region of Spain (8.4 million people in 2019). In addition, this region presents low results in large-scale international assessment tests and very high dropout rates: around 23.5% of students had dropped out of compulsory education in 2017, which is 5.2% higher than the rate for Spain (IECA, 2020a). In this sense, in the Programme for International Student Assessment (PISA) 2018 (MECD, 2020; OECD, 2019), Andalusian students obtained 466

points in reading (compared to 477 for Spain and 487 for the OECD), 467 in mathematics (481 for Spain and 489 for the OECD) and 471 in science (483 for Spain and 489 for the OECD). Hence, this region represents a valuable case study to understand the sources of academic success.

Concretely, the present study intends to answer the following question: Are both student and parental expectations in secondary education influencing the years of schooling finally achieved by Andalusian students?

The rest of the paper is structured as follows: first, the dataset and methodology employed are described, followed by the results, their discussion and conclusions.

2 METHODS

The methodology employed for this research study is a structural equation model, which is estimated using three-stage least squares. This methodology has been chosen because it is assumed that the generation of expectations about students' years of schooling is different for the student and the parent, so two different equations for each group of expectations are needed. Then, student and parental expectations interact and, together with other variables related to socio-economic characteristics, cognitive and soft skills, determine the years of education that students finally achieve. Therefore, the base model would be defined by the following structural equation model, which is composed of 3 equations:

$$Y_i = STU\_EXP_i + PA\_EXP_i + R_i + X_i + SCH_i + \varepsilon 1i$$

$$STU\_EXP_i = STU\_A_i + X_i + SCH_i + \varepsilon 2i$$

$$PA\_EXP_i = IN_i + PA\_A_i + X_i + SCH_i + \varepsilon_{3i}$$

where Y_i, STU_EXP_i and PA_EXP_i are endogenous variables, while R_i, X_i, SCH_i, STU_A_i, IN_i, PA_A_i are exogenous variables (which are used as instruments); represents the student; are the years of schooling achieved at age 23-24; STU_EXP_i are students' expectations at age 15-16 about their years of schooling; PA_EXP_i are parental expectations at age 15-16 about their children's years of schooling; R_i are the reasons given by the student for not achieving a higher number of years of schooling at age 23-24; X_i are student socio-economic background characteristics (sex, immigrant status, grade retention, study room at home, computer and Internet at home, TV at home, video or DVD player at home, consult books at home, father years of schooling, mother years of schooling, level of income of the household, living with parents at home, reading and mathematics scores when aged 14-15, attitudes towards reading); SCH_i are school characteristics at age 15-16 (school funding); STU_A_i are students' assessments of their soft skills at age 15-16 (sports, music and arts, relationships, street knowledge, manual skills, sensitivity, courage); IN_i indicates who answered the parental questionnaire at age 15-16 (the mother, the father, the stepmother or the stepfather); PA_A_i are parental assessments of their child as a student and of his/her soft skills at age 15-16 (sports, music and arts, relationships, street knowledge, manual skills, sensitivity, courage); ε_{1i}, ε_{2i} and ε_{3i}, are idiosyncratic random error terms for each equation. Therefore, all variables were measured when students were 15-16, with the exception of Y_i and R_i, which were measured when students were 23-24,

and students' reading and mathematics scores, which were measured when students were 14-15.

The underlying idea in the specification of this structural equation model is that both student cognitive skills (such as ability) are proxied by student's actual scores in reading and mathematics when they were aged 14-15, and soft skills are proxied by the opinion of the student and the parent (respectively) on the student's soft skills. In this way, the potential issues in the estimations due to the omission of these relevant variables would be mitigated. However, to the extent that there may be some unobservables which are not controlled in the model, results will be interpreted as conditional associations and not as causal effects.

The estimations have been assigned using frequency weights to raise the sample to the population size and standard errors are robust.

The data employed in this research study is taken from the 2010 and 2018 Social Survey: Education panel and transitions to the Labour Market in Andalusia (IECA, 2020b). This is a panel in which a sample of 1,866 students born in 1994 took the first survey in the academic year 2009-2010, when they were in 10^{th} grade (age 15-16); they were surveyed again 8 years later, when they were aged 23-24 (in 2018). The 2010 Social Survey contained student, parent and household questionnaires, together with administrative information about students' scores in each subject and grade retention. These questionnaires are very rich in data and contain many variables which are a rarity in large-scale international assessment tests (like PISA) such as those related to soft skills. The 2018 Social Survey only contained a questionnaire for students, in which they answered questions about their current personal, educational and labour situation.

In particular, this dataset provides key information on the number of school years achieved by the students in 2018 when they were 23-24 and student and parental expectations for these years of schooling in the academic year 2009-10. This information was coded in years in the following way:

- Less than secondary education – 8 years of schooling.
- Secondary education – 10 years of schooling.
- High school – 12 years of schooling.
- Intermediate level vocational track – 12 years of schooling.
- Upper-level vocational track – 14 years of schooling.
- University degree – 16 years of schooling.

Of these 1,866 students, those who had some kind of health problem or special education difficulty (50 students) were dropped from the sample, together with those whose parental questionnaire was not answered by the father, mother, stepfather or stepmother –as parental expectations are being analysed– (26 students). Furthermore, student expectations present 5 missing observations, while parental expectations present 119 missing observations. Besides that, immigrant status has 2 missing observations and school funding has 2 missing values. This leaves a sample of 1,662 students. Sample selection between the students in the sample under analysis and those not included in the sample has been checked.

This analysis is shown in Table A1 (Appendix, available upon request); as can be seen, there does not seem to be any kind of sample selection.

3 RESULTS

3.1 Main results

Before presenting the results for the structural equation model using three-stage least squares, equation (1) has been estimated by only using ordinary least squares in order to see how not considering the generation process of student and parental expectations may influence students' years of schooling. These results are presented in Table 1. As shown, one additional year of students' expectations seems to positively associate with 0.17 students' years of schooling at age 23-24. Regarding parental expectations, one additional year of expectations seems to positively associate with 0.10 final years of schooling at age 23-24. Nevertheless, as previously indicated, the expectations' generation process has not been taken into account in these estimations, which may mean that many unobservables might be biasing these expectation coefficients. For this reason, the base model is going to be estimated.

Table 1 Influence of students' and parental expectations on students' years of schooling. Ordinary least squares estimation

Variables	Students' years of schooling
Students' expected years of schooling	0.17***
	(0.00)
Parents' expected years of schooling	0.10***
	(0.00)
Reason why the student did not achieve higher years of schooling (Ref.: I do not like studying)	
I found a job	-0.08***
	(0.03)
I did not need more	0.28***
	(0.02)
I do not have capacity	-0.06*
	(0.03)
To have my own income and pay my expenses	0,05
	(0.03)
At home they needed me to work	-0.63***
	(0.03)
To do household chores	0.42***
	(0.12)
I had to raise my children	-0.15***
	(0.05)
To become independent	0.23***
	(0.08)
Due to money problems	0,04
	(0.03)
I did not have enough marks	0.05*
	(0.03)

Continued on next page

Table 1 continued

Due to family problems	-0.74***
	(0.04)
Other	-0.43***
	(0.03)
Female student (Ref.: male student)	0.24***
	(0.01)
Immigrant status (Ref.: natives)	
First generation immigrants	-0.66***
	(0.04)
Second generation immigrants	-0.31***
	(0.04)
Repeater student: yes (Ref.: no)	-1.29***
	(0.02)
Repeater student. Missing flag	-0.10**
	(0.04)
Room for studying	0.03*
	(0.02)
Computer and Internet connection	0.36***
	(0.02)
Television	-0.62***
	(0.05)
Video or DVD player	0.37***
	(0.04)
Consult books (dictionaries, encyclopedias, etc.)	-0.10***
	(0.03)
Number of books at home	0.00***
	(0.00)
Father years of schooling	0,00
	(0.00)
Mother years of schooling	0.05***
	(0.00)
Household income (Ref.: totally insufficient)	
More than necessary, they can save	-0.25***
	(0.08)
Let to live well	0.28***
	(0.02)
Is enough	0.41***
	(0.02)
Is somewhat insufficient	0.21***
	(0.02)
Household income. Missing flag	0.81***
	(0.08)
The student lives (Ref.: with both parents)	
Only with the mother	-0.34***
	(0.02)
Only with the father	0.23***
	(0.06)
Student scores in reading in the academic year 2008/09	0.10***
	(0.00)

Continued on next page

Table 1 continued

Student scores in reading in the academic year 2008/09. Missing flag	0.22***
	(0.03)
Student scores in mathematics in the academic year 2008/09	0.06***
	(0.00)
Student scores in mathematics in the academic year 2008/09. Missing flag	-0.11***
	(0.03)
Reading habits (Ref.: do not read although parents say to)	
Do not read and parents do not say to	0.03*
	(0.02)
Read because parents tell to	0.17***
	(0.02)
Read because the student likes it	0.10***
	(0.02)
School funding (Ref.: public)	
Semi-private	0.14***
	(0.02)
Private	0.30***
	(0.06)
Constant	7.46***
	(0.09)
Observations	1662,00
R-squared	0,49

Notes: Standard errors in parenthesis. These estimations have been weighted using frequency weights to raise the sample to the population size and standard errors are robust. Estimation method: Ordinary Least Squares.
Dependent variable: Students' years of schooling.
Coefficient: *** significant at 1%, ** significant at 5%, * significant at 10%.
Source: Authors' own calculations.

Therefore, a structural equation base model has been obtained using three-stage least squares in Table 2. In this table each column represents equations (1), (2) and (3), respectively. In the case of the results for equation (1) –which are related to students' expected years of schooling– the table shows that one additional year of students' expectations may entail 0.36 years of schooling at age 23-24, while one additional year of parental expectations may entail 0.49 years of schooling when the student is 23-24. These are relevant results, to the extent that if both student and parents expected a university degree (that is 16 years of schooling), this would boost students' years of schooling by 6 years (when the student expects this level) and 8 years (when the parent expects this level), respectively. As shown, both results add up to 14, close to the 16 years of schooling reached when finishing a degree. This result might indicate that although educational expectations of both parents and student are important, parental expectations further increase students' years of schooling. Another interesting result is that girls seem to achieve 0.13 years more of schooling than boys (which, although significant, is a relatively small difference). Furthermore, first generation immigrant students seem to achieve almost 1.38 years of schooling less than natives, and students who live only with their father seem to achieve 1.30 years of schooling more than those who live with both parents. Regarding the reasons provided in the questionnaires, the one which penalised to a greater extent the years of schooling finally achieved by the student (0.83 years less of schooling) is when the student stated that "at

home they needed me to work". The estimations provided in Table 2 have been replicated without including the reasons given by the student for not achieving a higher number of years of schooling at age 23-24 and results do not change (tables provided upon request to the authors).

Table 2 Influence of students' and parental expectations on students' years of schooling. Three-stage least squares

Variables	Students' years of schooling (eq. 1)	Students' expected years of schooling (eq. 2)	Parents' expected years of schooling (eq. 3)
Students' expected years of schooling	0.36***	-	-
	(0.03)		
Parents' expected years of schooling	0.49***	-	-
	(0.03)		
Reason why the student did not achieve higher years of schooling (Ref.: I do not like studying)			
I found a job	-0.13***	-	-
	(0.02)		
I did not need more	0.21***	-	-
	(0.02)		
I do not have capacity	0.06*	-	-
	(0.03)		
To have my own income and pay my expenses	0,04	-	-
	(0.04)		
At home they needed me to work	-0.83***	-	-
	(0.04)		
To do household chores	0.21***	-	-
	(0.07)		
I had to raise my children	-0.29***	-	-
	(0.04)		
To become independent	-0.24***	-	-
	(0.08)		
Due to money problems	-0.09***	-	-
	(0.03)		
I did not have enough marks	0.11***	-	-
	(0.03)		
Due to family problems	-0.71***	-	-
	(0.04)		
Other	-0.53***	-	-
	(0.03)		
Female student (Ref.: male student)	0.13***	0.14***	0.14***
	(0.01)	(0.01)	(0.01)
Immigrant status (Ref.: natives)			
First generation immigrants	-1.38***	0.89***	1.01***
	(0.05)	(0.03)	(0.04)
Second generation immigrants	-0.37***	-0.18***	0.18***
	(0.05)	(0.05)	(0.04)
Repeater student: yes (Ref.: no)	-0.08***	-2.02***	-1.91***
	(0.03)	(0.02)	(0.02)
Repeater student. Missing flag	0.14***	-0.25***	-0.26***
	(0.04)	(0.04)	(0.04)

Continued on next page

Table 2 continued

Room for studying	-0.41***	0.48***	0.56***
	(0.02)	(0.02)	(0.02)
Computer and Internet connection	0.26***	0.54***	0.21***
	(0.03)	(0.02)	(0.02)
Television	-0.44***	0.84***	-0.43***
	(0.07)	(0.05)	(0.04)
Video or DVD player	0.48***	-0.41***	-0.44***
	(0.04)	(0.05)	(0.04)
Consult books (dictionaries, encyclopedias, etc.)	-0.23***	0.13***	0.08**
	(0.03)	(0.03)	(0.03)
Number of books at home	0.00	0.00***	0.00***
	(0.00)	(0.00)	(0.00)
Father years of schooling	-0.02***	0.02***	-
	(0.00)	(0.00)	
Mother years of schooling	-0.01***	0.07***	-
	(0.00)	(0.00)	
Years of schooling of the respondent parent	-	-	0.11***
			(0.00)
Years of schooling of the non-respondent parent	-	-	0.03***
			(0.00)
Household income (Ref.: totally insufficient)			
More than necessary, they can save	-0.51***	0.40***	0.12***
	(0.07)	(0.04)	(0.03)
Let to live well	0.06**	0.35***	0.38***
	(0.03)	(0.02)	(0.02)
Is enough	0.13***	0.47***	0.48***
	(0.02)	(0.02)	(0.02)
Is somewhat insufficient	0,03	0.30***	0.37***
	(0.02)	(0.02)	(0.02)
Household income. Missing flag	0.54***	0.22***	0.53***
	(0.08)	(0.05)	(0.04)
The student lives (Ref.: with both parents)			
Only with the mother	-0.05**	-0.39***	-0.40***
	(0.02)	(0.02)	(0.02)
Only with the father	1.30***	-1.05***	-1.48***
	(0.07)	(0.05)	(0.06)
Student scores in reading in the academic year 2008/09	0.04***	0.11***	0.05***
	(0.01)	(0.00)	(0.00)
Student scores in reading in the academic year 2008/09. Missing flag	0.39***	0.15***	-0.47***
	(0.04)	(0.04)	(0.04)
Student scores in mathematics in the academic year 2008/09	0.03***	0.05***	0.02***
	(0.00)	(0.00)	(0.00)
Student scores in mathematics in the academic year 2008/09. Missing flag	-0.19***	-0.34***	0,01
	(0.04)	(0.03)	(0.04)
Reading habits (Ref.: do not read although parents say to)			
Do not read and parents do not say to	0.14***	-0.20***	-0.14***
	(0.02)	(0.02)	(0.02)
Read because parents tell to	0.07***	0.16***	0.10***
	(0.02)	(0.02)	(0.02)

Continued on next page

Table 2 continued

Read because the student likes it	-0.15***	0.44***	0.25***
	(0.02)	(0.02)	(0.02)
School funding (Ref.: public)			
Semi-private	-0.06***	0.35***	0.31***
	(0.02)	(0.01)	(0.01)
Private	-0.12**	1.17***	0.30***
	(0.05)	(0.04)	(0.04)
Students' self-assessment of their soft skills:			
In sports	-	0.01***	-
		(0.00)	
In music, art in general	-	0.02***	-
		(0.00)	
In relationships	-	-0.02***	-
		(0.00)	
In street knowledge	-	0.11***	-
		(0.00)	
In manual skills	-	-0.06***	-
		(0.00)	
In being sensitive	-	0.08***	-
		(0.00)	
In being brave	-	-0.09***	-
		(0.00)	
The respondent was (Ref.: mother)			
Father	-	-	-0.06***
			(0.01)
Stepmother	-	-	1.14***
			(0.12)
Stepfather	-	-	0.67***
			(0.04)
Parents' assessment of the child as student	-	-	0.24***
			(0.00)
Parents' assessment of the soft skills of their children:			
In sports	-	-	0.01***
			(0.00)
In music, art in general	-	-	-0.01**
			(0.00)
In relationships	-	-	0.02***
			(0.00)
In street knowledge	-	-	0.01***
			(0.00)
In manual skills	-	-	0.00
			(0.00)
In being sensitive	-	-	0.01**
			(0.00)
In being brave	-	-	-0.05***
			(0.00)
Constant	0.76***	10.57***	10.87***
	(0.15)	(0.08)	(0.08)
Observations	1662	1662	1662

Continued on next page

Table 2 continued

Notes: Standard errors in parenthesis. "eq." stands for "equation". These estimations have been weighted using frequency weights to raise the sample to the population size and standard errors are robust.
Estimation method: Three-stage least squares. The instruments are all the exogenous variables.
Dependent variable: (eq. 1) Students' years of schooling, (eq. 2) student expected years of schooling and (eq. 3) parents' expected years of schooling.
Coefficient: *** significant at 1%, ** significant at 5%, * significant at 10%.
Source: Authors' own calculations.

In the case of results related to student and parental expectations (columns 2 and 3 in Table 2), the Table shows that although both students and parents expect almost one year of schooling more than natives when the student is a first- generation immigrant, these first-generation immigrants seem to finally achieve 1.38 years of schooling less than native students, as previously indicated. This high mismatch between educational expectations and educational attainment in the immigrant population (which is called immigrant optimism) has been documented for the Spanish case, noting that the later the student enters the Spanish education system, the higher this mismatch will be (de Miguel-Luken & Solana-Solana, 2017). In addition, girls and their parents seem to present higher expectations; as outlined by Reynolds and Burge (2008), girls may feel more encouraged by their parents, which would enhance their educational expectations. Furthermore, being a repeater student seems to reduce both students' and parents' expected years of schooling by about 2 years. It is worth noting that the influence of grade retention on educational expectations is higher than its effect on years of schooling finally achieved. This result might be the consequence of the social stigma attached to grade retention. In addition, the model shows the influence of socio-economic characteristics on the formation of educational expectations. Specifically, parental years of schooling of both the father and the mother seem to be positively associated with higher expectations from both students and parents. Another variable used to measure family socio-economic characteristics is household income, which also exhibits a positive association with expected years of schooling by parents and students. These results are in line with previous literature which notes that social background exerts a positive influence on shaping educational expectations (Salazar, Cebolla-Boado, & Radl, 2020). Another interesting result is that students who live only with their father expect (as well as their parents) to achieve between 1 and 1.50 years of schooling less than those living with both parents, although they finally achieve around 1.30 years of schooling more than students living with both parents, as previously indicated. In this sense, the lower level of expectations of students living in single-parent families might be explained by less parental involvement in children's education (Eccles, 2005; Jeynes, 2005a).

Moreover, students who achieve higher scores in reading and mathematics and read for enjoyment also expect (as well as their parents) to achieve higher years of schooling, and parental assessment of their children as students is positively associated with up to 2.4 years of schooling more when the parents assess their child with a 10. Finally, the results show that soft skills are significantly associated with both students' and parents' expectations. For example, students who perceived themselves as good at relationships, in manual skills and at being brave have lower educational expectations, while students who consider themselves as good at sports, at music and art, in street knowledge and those who defined themselves as

being sensitive, have higher expectations. However, in some cases these soft skills influence differently the expectations of parents and students. For example, in the case of music and art: students who perceived themselves as good at music and art have higher educational expectations, while having a high level of this soft skill seems to reduce parental expectations.

3.2 Robustness checks

In order to check the robustness of the main results, the estimations presented in Table 2 have been replicated including in equation (1) students' assessment of their soft skills and parental assessment of their child's soft skills (and also the assessment of the child as a student), alternatively in different specifications. The results on the influence of both student and parental expectations on students' final years of schooling do not seem to change, which would support the main results.[1]

Because of the existing correlation between students' test scores and some explanatory variables of the model, Table 2 has also been replicated excluding students' test scores in reading and mathematics, and the estimated parameters do not change (table available upon request to authors).

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4 DISCUSSION AND CONCLUSIONS

This present study analysed whether student and parental expectations in secondary education could influence (or not) the years of schooling actually completed by a student in the Spanish region of Andalusia. Concretely, this research study is novel in at least four aspects: (a) first, the rich dataset employed allows control over many variables which are not available in most education research data (e.g. soft skills); (b) it shows how student and parental expectations actually influenced the education paths followed by the student, as a panel dataset is available; (c) the use of three-stage least squares to estimate a structural equation model allows accounting for the formation process of both student and parental expectations, mitigating endogeneity problems; (d) this is the first study which analyses the influence of both student and parental expectations on years of schooling actually attained by students. In this respect, previous studies have analysed the effect of expectations on academic performance (short term effects).[2] Thus, this research goes further, since it explores whether educational expectations hold their effect in the long term. Results show that when both students and parents expect a degree level of education (16 years of schooling), the student seems to come quite close to achieving it.

[1] Table available upon request to authors.

[2] There are studies that analyse the influence of student and parental expectations on Andalusian students' academic achievement (Marcenaro-Gutierrez & Lopez-Agudo, 2017; Marcenaro–Gutierrez, Lopez–Agudo, & Ropero-García, 2017), but they do not focus on long term academic outcomes such as years of schooling.

The predictive power of parents' and students' educational expectations is high compared to other regressors included in equation 1. Variables related to household possessions have effect sizes of a similar value as parental expectations. For instance, a one-year increase in students' expectations or having a computer and an Internet connection at home leads students to study almost half a year more. Therefore, they can be seen as substitutes in the education production function. It is worth highlighting that test score coefficients have a lower effect in explaining years of schooling (equation 1) than educational expectations (equations 2 and 3). This result may confirm that test scores exert their influence through educational expectations.

Therefore, these results are significant to the extent that both students and parents seem to play a relevant role in the final school level achieved by the student. This way, lower student expectations could be compensated by higher parental expectations. However, it was found that these expectations are not independently set by students and parents, to the extent that they are dependent on many socio-economic, cognitive and non-cognitive variables, which usually go in the same direction for both expectations and the final years of schooling achieved by the student; that is, they are in some way "realistic". This is a relevant issue, insofar as these expectations differ depending on socio-economic status (i.e. they are lower for students from low socio-economic backgrounds), which could be a barrier to students' resilience. Therefore, both students and parents should be aware of the relevance that expectations have on students' future and try to keep them as high as possible.

Educational policy can shape the establishment of educational expectations in several ways. First, improving family economic conditions, such as household income and availability of educational goods, would be beneficial to increase educational expectations; for instance, the allocation of public funds to the provision of a computer and Internet connection at home may increase educational expectations of both parents and students. Other ways of improving educational expectations are related to academic performance. In this regard, grade retention is a particularly relevant issue, which penalises, to a greater extent, educational expectations than the actual years of schooling finally achieved. This difference should be attributed to the social stigma of grade retention. The high proportion of repeaters in Spain –28.7% of students have repeated a grade during compulsory education, and 33.3% in Andalusia (OECD, 2019 ; MECD, 2020)– could lower the educational expectations of students and parents, in particular for those from a socio-economically disadvantaged background, which is the group with a higher likelihood of repeating (Pedraja-Chaparro, Santín, & Simancas, 2015). Therefore, schools should look for alternatives, such as extra tutoring for children with difficulties, in order to try to avoid grade retention. More generally, any measure aimed at improving cognitive skills in adolescence is associated with higher educational expectations, which ultimately increases students' years of schooling.

In addition, studies carried out in this area will not only contribute to those related to academic success, but also to those that aim to identify and address the reasons behind the high number of school dropouts in Andalusia (and in Spain as a whole); consequently, further studies are needed in this area. Moreover, there is a need to conduct additional studies aimed at researching the factors influencing both students' and parental expectations

in a more detailed manner.

The present study has some limitations: first, there may be some unobservables which are not controlled in the model, so results have been interpreted as conditional associations and not as causal effects. Second, this study has high internal validity for the Spanish region of Andalusia, but not so much external validity. For that reason, this study has to be replicated for other regions and/or countries in order to obtain results that are valid for them.

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AVAILABILITY OF DATA

The data that support the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

Appleton-Knapp, S. L., & Krentler, K. A. (2006). Measuring Student Expectations and Their Effects on Satisfaction: The Importance of Managing Student Expectations. *Journal of Marketing Education*, *28*(3), 254–264. https://doi.org/10.1177/0273475306293359

Arbona, C., & Novy, D. M. (1991). Career Aspirations and Expectations of Black, Mexican American, and White Students. *The Career Development Quarterly*, *39*(3), 231–239. https://doi.org/10.1002/j.2161-0045.1991.tb00395.x

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, New Jersey: Prentice-Hall.

Castro, M., Expósito-Casas, E., López-Martín, E., Lizasoain, L., Navarro-Asencio, E., & Gaviria, J. L. (2015). Parental involvement on student academic achievement: A meta-analysis. *Educational Research Review*, *14*, 33–46. Retrieved from https://dx.doi.org/10.1016/j.edurev.2015.01.002 https://doi.org/10.1016/j.edurev.2015.01.002

Danişman, Ş. (2017). The Effect of Expectation on Student Achievement. In K. E. (Ed.), *The Factors Effecting Student Achievement. Meta-Analysis of Empirical Studies* (pp. 227–245). Switzerland; Cham: Springer.

Delavande, A. (2014). Probabilistic Expectations in Developing Countries. *Annual Review of Economics*, *6*(1), 1–20. https://doi.org/10.1146/annurev-economics-072413-105148

de Miguel-Luken, V., & Solana-Solana, M. (2017). Immigrants in the Educational System in Spain: Who Persists? *Social Indicators Research*, *132*, 733–755. https://doi.org/10.1007/s11205-016-1323-4

Dolce, V., Emanuel, F., Cisi, M., & Ghislieri, C. (2020). The soft skills of accounting graduates: perceptions versus expectations. *Accounting Education*, *29*(1), 57–76. Retrieved from https://dx.doi.org/10.1080/09639284.2019.1697937

Eccles, J. S. (2005). *Influences of parents' education on their children's educational attainments: The role of parent and child perceptions. London review of education*, *3*(3), 191–204. https://doi.org/10.1080/14748460500372309

Eskelä-Haapanen, S., Vasalampi, K., & Lerkkanen, M.-K. (2020). Students' Positive Expectations and Concerns Prior to the School Transition to Lower Secondary School. *Scandinavian Journal of Educational Research*, 1–14. https://doi.org/10.1080/00313831.2020.1791248

Fan, X., & Chen, M. (2001). Parental Involvement and Students' Academic Achievement: A Meta-Analysis. *Educational Psychology Review*, *13*, 1–22. https://doi.org/10.1023/A:1009048817385

Hao, L., & Bonstead-Bruns, M. (1998). Parent-Child Differences in Educational Expectations and the Academic Achievement of Immigrant and Native Students. *Sociology of Education*, *71*(3), 175–175. https://doi.org/10.2307/2673201

Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. *Labour Economics*, *19*(4), 451–464. https://doi.org/10.1016/j.labeco.2012.05.014

Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: A meta-analytic assessment of the strategies that promote achievement. *Developmental Psychology*, *45*(3), 740–763. https://doi.org/10.1037/a0015362

IECA. (2020a). *Dropout rates by sex.* Retrieved from https://www.juntadeandalucia.es/institutodeestadisticaycartografia/indsoc/indicadores/1038.htm

IECA. (2020b). Social Survey 2010 and 2018: Education panel and transition to the Labour Market in Andalusia. Retrieved from rom:https://www.juntadeandalucia.es/institutodeestadisticaycartografia/descarga/encSocial/panel_2018/panel2018.htm

Itani, M., & Srour, I. (2016). Engineering Students' Perceptions of Soft Skills, Industry Expectations, and Career Aspirations. *Journal of Professional Issues in Engineering Education and Practice*, *142*(1), 04015005–04015005. https://doi.org/10.1061/(asce)ei.1943-5541.0000247

Jeynes, W. H. (2005a). Effects of Parental Involvement and Family Structure on the Academic Achievement of Adolescents. *Marriage & Family Review*, *37*(3), 99–116. https://doi.org/10.1300/j002v37n03_06

Jeynes, W. H. (2005b). A Meta-Analysis of the Relation of Parental Involvement to Urban Elementary School Student Academic Achievement. *Urban Education*, *40*(3), 237–269. https://doi.org/10.1177/0042085905274540

Jeynes, W. H. (2007). The Relationship Between Parental Involvement and Urban Secondary School Student Academic Achievement. *Urban Education*, *42*(1), 82–110. https://doi.org/10.1177/0042085906293818

Khattab, N. (2015). Students' aspirations, expectations and school achievement: what really matters? *British Educational Research Journal*, *41*(5), 731–748. https://doi.org/10.1002/berj.3171

Li, W., & Xie, Y. (2020). The influence of family background on educational expectations: a comparative study. *Chinese Sociological Review*, *52*(3), 269–294.

Lindberg, E. N., Yıldırım, E., Elvan, Ö., Öztürk, D., & Recepoğlu, S. (2019). Parents' Educational Expectations: Does It Matter for Academic Success? *SDU International Journal of Educational Studies*, *6*(2), 150–160. https://doi.org/10.33710/sduijes.596569

Ma, X. (2001). Participation in Advanced Mathematics: Do Expectation and Influence of Students, Peers, Teachers, and Parents Matter? *Contemporary Educational Psychology*, *26*(1), 132–146. https://doi.org/10.1006/ceps.2000.1050

Marcenaro-Gutierrez, O., Lopez-Agudo, L. A., & Ropero-García, M. A. (2017). Gender Differences in Adolescents' Academic Achievement. *Young*, *26*(3), 250–270. https://doi.org/10.1177/1103308817715163

Marcenaro-Gutierrez, O. D., & Lopez-Agudo, L. A. (2017). The Influence of the Gap Between Parental and Their Children's Expectations on Children's Academic Attainment. *Child Indicators Research*, *10*(1), 57–80. https://doi.org/10.1007/s12187-015-9361-z

Marimon, F., Mas-Machuca, M., & Berbegal-Mirabent, J. (2020). Fulfilment of expectations on students' perceived quality in the Catalan higher education system. *Total Quality Management & Business Excellence*, *31*(5-6), 483–502. https://doi.org/10.1080/14783363.2018.1433027

Maskey, V. (2012). Grade expectation and achievement: Determinants and influential relationships in business courses. *American Journal of Educational Studies*, *5*(1), 71–88.

MECD. (2020). *PISA 2018. Programa para la Evaluación Internacional de los Estudiantes. Resultados de lectura en España*. Madrid: Ministerio de Educación y Formación Profesional.

Neuenschwander, M. P., Vida, M., Garrett, J. L., & Eccles, J. S. (2007). Parents' expectations and students' achievement in two western nations. *International Journal of Behavioral Development*, *31*(6), 594–602. https://doi.org/10.1177/0165025407080589

OECD. (2019). *PISA 2018 Results (Volume I): What Students Know and Can Do*. Paris: OECD Publishing. https://doi.org/10.1787/5f07c754-en

OECD. (2020). *Are students' career expectations aligned with their skills*. Paris: OECD Publishing. https://doi.org/10.1787/ed790c76-en

Paa, H. K., & McWhirter, E. H. (2000). Perceived Influences on High School Students' Current Career Expectations. *The Career Development Quarterly*, *49*(1), 29–44. https://doi.org/10.1002/j.2161-0045.2000.tb00749.x

Pedraja-Chaparro, F., Santín, D., & Simancas, R. (2015). Determinants of grade retention in France and Spain: Does birth month matter? *Journal of Policy Modeling*, *37*(5), 820–834. https://doi.org/10.1016/j.jpolmod.2015.04.004

Pinquart, M., & Ebeling, M. (2019). Parental Educational Expectations and Academic Achievement in Children and Adolescents—a Meta-analysis. *Educational Psychology Review*, *32*(2), 463–480. https://doi.org/10.1007/s10648-019-09506-z

Pinquart, M., & Ebeling, M. (2020). Students' expected and actual academic achievement – A meta-analysis. *International Journal of Educational Research*, *100*, 101524–101524. https://doi.org/10.1016/j.ijer.2019.101524

Reynolds, J. R., & Burge, S. W. (2008). Educational expectations and the rise in women's post-secondary attainments. *Social Science Research*, *37*(2), 485–499. https://doi.org/10.1016/j.ssresearch.2007.09.002

Robles, M. M. (2012). Executive Perceptions of the Top 10 Soft Skills Needed in Today's Workplace. *Business Communication Quarterly*, *75*(4), 453–465. https://doi.org/10.1177/1080569912460400

Rubie-Davies, C. M., Peterson, E., Irving, E., Widdowson, D., & Dixon, R. (2010). Expectations of Achievement. *Research in Education*, *83*(1), 36–53. https://doi.org/10.7227/RIE.83.4

Salazar, L., Cebolla-Boado, H., & Radl, J. (2020). Educational expectations in the great recession: has the impact of family background become stronger? *Socio-Economic Review*, *18*(2), 465–491. https://doi.org/10.1093/ser/mwy046

Sanders, C. E., Field, T. M., & Diego, M. A. (2001). Adolescents' academic expectations and achievement. *Adolescence*, *36*(144), 795–802.

Schulz, B. (2008). The importance of soft skills: Education beyond academic knowledge. *Nawa Journal of Communication*, *2*(1), 146–154.

Tavani, C. M., & Losh, S. C. (2003). Motivation, self-confidence, and expectations as predictors of the academic performances among our high school students. *Child Study Journal*, *33*(3), 141–151.

Thurner, V., & Böttcher, A. (2012). Expectations and deficiencies in soft skills. *Global Engineering Education Conference (EDUCON)*. https://doi.org/10.1109/EDUCON.2012.6201197

Čadil, J., Petkovová, L., & Blatná, D. (2014). Human Capital, Economic Structure and Growth. *Procedia Economics and Finance*, *12*, 85–92. https://doi.org/10.1016/S2212-5671(14)00323-2

Zafar, B. (2011). How Do College Students Form Expectations. *Journal of Labor Economics*, *29*(2), 301–348. https://doi.org/10.1086/658091