

The socialization of meritocracy and market justice preferences at school

ABSTRACT Previous research has shown that schools often justify student performance differences using meritocratic ideals. One potential consequence of such ideals is the legitimization of outcome inequalities across various spheres, including those traditionally associated with equality and redistribution. In this study, we argue that the promotion of meritocratic values during school-age can shape students' beliefs about meritocracy and influence their views on market-based access to health, pensions, and education. Using data from the 2017 National Study of Civic Education in Chile, which includes 5,047 8th-grade students from 231 schools, we estimated a series of multilevel models (lme4 library, R version 4.1.3) to test our hypotheses. Our findings show that a significant proportion of Chilean students agree with market justice principles—more so than adults. Most students endorse meritocratic views, particularly the notion that effort should be rewarded, which strongly correlates with market justice preferences: students who believe in meritocracy are more likely to justify inequalities based on financial capacity. At the school level, market justice preferences are higher in high-status schools but lower in schools with higher academic achievement. Furthermore, the conditional influence of meritocratic beliefs diminishes in schools with higher socioeconomic status and performance levels. These results suggest that the association between meritocratic beliefs and market justice preferences is already established at school age and is shaped by the school environment.

KEYWORDS market justice; meritocracy; socialization; family; schools; Chile

Front Matter

1 Introduction

Since its origins, educational institutions have been related to the idea of social mobility and access to better opportunities. Despite this, the consistent evidence of the high level of social reproduction at the school level represents a threat to the promise of education and a meritocratic system [1]. A large part of the research in this field at an international level has addressed the extent to which the social origin of students affects their academic results and their life opportunities [2], confirming that schools have severe difficulties in closing the socio-economic and cultural gaps of origin. Besides this socioeconomic perspective on school opportunities, recent research has addressed to what extent inequalities in the school context are also influencing students' perceptions, beliefs, and attitudes: Are social inequalities even perceived at the school context? Are they rejected by the students, particularly those who are worst-off in socioeconomic terms? Or, Is there evidence at the school level that social inequalities are tolerated and even justified? [3,4].

Given that the school environment has an important focus on performance, achievement and acknowledgment, meritocracy has been one of the principal concepts used for understanding and even for justifying performance differences among students. Meritocracy is a distributive system based on the belief that people should be rewarded and promoted based on their abilities, knowledge, and achievements [5]. It is often seen as a way to create equal opportunities and fairness, as individuals can rise to positions of power and influence based on their own merit rather than their background or connections. However, some argue that meritocracy can actually lead to tolerating or even justifying social inequalities, as it can create a hierarchy where those who already have resources and advantages are more likely to succeed [6,7]. In this regard, a great deal of academic research about meritocracy delves into the assessment of to what extent rewards and privileges in society are related to merit, emphasizing the so-called unfulfillable promise of meritocracy [8].

In the present paper, we address the role of the perception of meritocracy on the justification of social inequalities by eighth-grade students in Chile, a country characterized by a highly stratified educational system. In particular, we focus on justifying inequalities in health, education and pensions, which are traditional social policy areas where access to better services could be justified based on payment capacity, referred to as market justice [9,10]. Market justice preferences refers to a belief in a market-based distributive principle, where goods and rewards are allocated according to individual merit, effort and contributions in a free-market economy [11].

Most of the research on meritocracy and justice preferences has only considered adults, leaving aside the study of how beliefs in this field develop at student age as well as the impact of the school context and the family as the main socialization agencies [3]. Studying beliefs about meritocracy and market justice preferences at school age is crucial because these early beliefs can shape individuals' attitudes towards inequality and social justice later in life. As Castillo et al. [12] argues, meritocratic ideals serve as a principle that legitimizes the distribution of goods and rewards based on individual talent and effort, making it essential to understand how these beliefs develop during adolescence. Furthermore, early exposure to these beliefs may influence broader perceptions of fairness, as Reynolds and Xian [13] highlights, beliefs about the stratification system influence people's judgments about the fairness of inequality, suggesting that such attitudes formed at a young age can have lasting impacts. Additionally, García-Sierra [14] emphasizes that the effects of holding meritocratic beliefs are not uniform, as these ideologies may reinforce socioeconomic disparities depending on students' social backgrounds.

The Chilean case is particularly intriguing for studying market justice preferences. This country is characterized by acute and persistent economic inequality, which stands out in Latin America and among OECD countries [15]. In Chile, the poorest 50% captures only 10% of the total income and has negative wealth, while the richest 1% receives almost 27% of the income and holds 49.6% of the wealth [16]. Much of this inequality has been attributed to the deep neoliberal reforms that institutionalized privatization and commodification of various economic sectors. Such reforms were introduced during the dictatorship (1973-1989) and expanded in democracy through concessions, demand credits, and specific regulatory frameworks [17]. This shift in economic policy has allowed the unprecedented emergence of markets in areas related to social reproduction, such as health, pensions, and education, with provision and access managed by private entities and segmented by individual payment capacity, heavily reliant on State subsidies [18]. In health, although the majority of the population uses the public insurance system (78.9%), 15.3% are served by private insurers [19]. The pension system is based on individual capitalization, with mandatory contributions managed by private administrators investing in the financial market, currently involving 11 million contributors [20]. In education, 30.6% of school enrollment is in public schools, 54.0% in state-subsidized (voucher) private schools, and 9.3% in fully private schools, generally attracting higher-income groups [21].

Based on recent studies that relate school meritocracy to the justification of economic inequalities in the adult population [3,4], the central hypothesis guiding this research is that school-age students with a higher perception of meritocracy - both at school and at the societal level - will show a larger market justice preferences, as individual achievement would be seen as appropriately rewarded and social mechanisms for correcting inequalities as less necessary [3]. We focus on the student-age population as we point out that it is

possible to track down the origin of meritocratic beliefs (and their consequences) to early socialization processes. To this regard, we take into account the family and the school as two main socialization agencies that play a significant role in the socialization of cultural beliefs by transmitting cultural norms, values, and expectations to young people.

1.1 Justification of inequality and market justice

The justification of social inequality based on market-type criteria has been conceptualized as the individuals' adherence to the deservingness of social goods and services (such as health, education, and pensions) based on prices and individuals' ability to pay [9,22,23]. Research on social stratification beliefs, which explore individual perceptions of who deserves what and why [24], highlights that people's explanations and justifications of social inequality are closely tied to their judgments of deservingness. The influence of ideologies [25] and cultural schemas [26] is pivotal in shaping these explanations by offering symbolic representations that frame societal structures and expectations. While significant attention has been paid to wage inequality, income distribution, and payment differentials in the literature [27–30], there has been less examination of public beliefs about which life domains should be governed by market relations [10] and even less about children's acceptance or rejection of these market principles. This oversight is notable given the extensive encroachment of market logic into public goods, welfare policy, and social services over the past five decades [31,32], affecting areas such as pensions, health services, and education.

There are substantial differences in funding and delivery methods in the management of social services across nations [33,34]. Nordic countries, for example, predominantly employ public agencies to produce and provide social services, funding these through collective taxation and offering them in kind to the majority of citizens. This system prioritizes social justice, placing it above market mechanisms in accessing services. In contrast, other countries rely more heavily on for-profit entities and private funding, where service distribution depends mainly on individual financial capacity to pay user fees, highlighting the influence of market justice in service allocation. The trend toward marketization of welfare services has been growing since the 1980s [35], and this shift is increasingly evident even in countries where market solutions have traditionally had a minor role in social policy [36]. The expansion of marketization has been related to a larger justification of market mechanisms, whereby societies with larger private spending on services show larger market justice preferences [11].

Robert E. Lane proposed the underpinnings of the concept of market justice, which he differentiated from political justice. For him, “it is the genius of the market to stimulate wants without at the same time stimulating a sense of deserving more than one gets” [9]. Contrary to the evidence that unequal distribution produces feelings of dissatisfaction, anger, and resentment that might motivate forms of collective action [37–40], Lane pointed out that in market settings, social comparisons are more likely to motivate increased effort rather than

feelings of acute injustice because individuals attribute outcomes to their actions. In this sense, unequal levels of well-being would be, to some extent, a function of their talents and efforts, instead of being based on distributive principles that characterize welfare states, such as need and equality (see [41]).

Despite high-income inequality and limited social mobility in Chile, and in Latin America in general, there is a prevalent belief that individuals are solely responsible for their economic outcomes, a view that varies across the region [42–45]. The reliance on private welfare providers and widespread user fees [46] adds complexity to this context, as reflected in surveys conducted by the Center for Public Studies (CEP). According to this data, 35.9% prefer private health insurance, and 63% would prefer private education [47]. Yet, research on children’s justification in this area remains limited, highlighting a significant gap in understanding how younger generations view market-based access to welfare and whether these views are associated with their meritocratic beliefs.

1.2 Meritocratic perceptions and market justice

The original definition of merit is a combination of effort and talent [5], and a meritocracy is a distributive system where merit is the main criterion for allocating valuable goods and rewards. From a sociological perspective, meritocracy has been used in research on social mobility to characterize societies with low mobility that threaten the meritocratic ideal [48]. More recently, sociology and social psychology research has attended to subjective aspects related to the support for meritocratic principles in different societies, such as beliefs in meritocracy [49–51].

Meritocratic beliefs can cover two types of subjective processes: preferences and perceptions [49]. While meritocratic preferences refer to a justification of distribution based on merit criteria (effort and talent), the perception of meritocracy refers to how individuals view and understand the concept of meritocracy in their society [12,52]. The perception can vary greatly depending on individual experiences, as well as social, economic, and cultural background. Some people may see meritocracy as a fair and just system that allows anyone to succeed based on their abilities and hard work. In contrast, others may view it as a myth or a cover for existing power dynamics and inequality, serving to maintain and even reinforce inequality [51,53]. Some studies have analyzed how those with greater privileges believe more in meritocracy [13], how greater economic inequality increases meritocratic beliefs [51], and how larger inequality decreases it [54].

A larger justification of meritocratic distribution has been related to less support for redistributive compensation systems [55], as individual achievement would be seen as rewarded and social policies as less necessary. [56] found that in the US the highly educated accept inequality significantly more than the less educated because they perceive inequality as

justifiable owing to differences in productivity (i.e., merit). [57] found that in unequal societies, the highly educated accept inequality more than the low educated. Conversely, individuals tend to support redistribution when they believe that the disadvantaged lack the opportunities to succeed [58].

Schools contribute to institutionalizing and reproducing inequality by promoting values, norms, practices, and languages familiar to higher-class families because the dominant group's culture shapes educational institutions [1]. Middle- and upper-class students are better equipped to face academic challenges and are more familiar with academic expectations [59]. Such familiarity represents cultural capital in educational contexts because higher-status students come to school ready to meet these expectations and reap the benefits [60,61]. Conversely, lower-status children lacking cultural capital must catch up while experiencing inequitable comparisons [62]. Additionally, academic achievement is treated as the outcome of dispositional factors (e.g., pupils' efforts and talents or lack of them) rather than the result of differential access to critical resources. Due to the meritocratic frame schools encourage, both low- and high-status individuals tend to believe that success or failure is not due to the family background but rather to differences in efforts and talents [63]. In this sense, we believe that the perception of meritocracy can influence students' judgments about market justice preferences, leading to our first hypothesis:

H_{1a} : Students who perceive greater meritocracy in society will exhibit stronger preferences for market justice.

The perception of meritocracy has been mostly studied with general questions about reward allocation based on effort and talent (usually intelligence). Nevertheless, when looking at the school population it is possible to further consider the perception of meritocracy referred specifically to the school context. For instance, [64] find that perception of justice in grades has a positive effect on liberal democratic orientation, and trust in people and formal institutions [65]. Attending to this evidence, we differentiate in this study between meritocratic perception in society at large, and meritocratic perception at school, proposing the next hypothesis:

H_{1b} : Students who perceive greater meritocracy in their schools will exhibit stronger preferences for market justice.

1.3 The socialization of market justice: families and schools

Attending to the socialization within the family, the classic work of Kohn showed that middle-class parents value the expression of internal states and emotions, such as self-control, curiosity, happiness, and consideration, while working-class parents promote deference, obedience, and conformity to authority [66,67]. Although parents from all social backgrounds encourage individualism in their children, this shared norm translates into different forms in high and

low social classes [67]. [68] claimed that the values families impart to their children interact with social mobility. On the one hand, children from privileged families are socialized to adopt a clear conception of individualism that highlights their internal states, independence, and idiosyncrasies. In contrast, children from disadvantaged families are socialized to support a more balanced view of individualism that considers personal characteristics as resources to overcome collective impediments on the path to upward mobility [69]. In the same line, [70] found that adolescents from low-socioeconomic-status families are likelier to have an egalitarian fairness view and consider an equal distribution as fair in a situation with unequal merits. Taking this into account, we believe that there will be differences in the socialization of values according to socioeconomic differences in families that could influence market justice preferences, which leads us to the following hypothesis:

H_2 : Students from higher social status families will exhibit stronger preferences for market justice.

Recent empirical research has demonstrated that the institutional design of schools, coupled with the meritocratic ideology it fosters, significantly influences children’s and adolescents’ views on inequality and deservingness. For example, [71] study revealed that higher-status adolescents in Sweden tend to perpetuate social class stereotypes while describing the vocational and academic tracks. Academic track students are depicted as wealthy, intelligent, ambitious, and diligent, while vocational track students are characterized as poor, unambitious, unintelligent, and lackadaisical. These stereotypes help individuals maintain a sense of superiority over others and legitimize the prevailing social hierarchies and economic disparities [72]. In this line, and besides status, we also expect that schools that exhibit average better performance scores in standardized large-scale assessments would also show larger market justice preferences. The correspondent hypotheses are:

H_3 : Students from higher social status schools will show stronger preferences for market justice.

H_4 : Students from schools with higher average performance on standardized achievement tests will show stronger preferences for market justice.

The last set of hypotheses deals with the moderation effects. We propose that the link between meritocracy and market justice could be stronger for those of high status and attending schools with larger achievement scores. In this regard, the effects of status and merit would not be independent, as it would be expected that those who succeed in terms of educational rewards and career paths - usually those of higher status - perceive more meritocracy, which would reflect on larger market justice preferences. In similar terms, schools of better performance would promote meritocratic perception, strengthening market justice preferences:

H_5 : The family’s social status will moderate the relationship between perceptions of meritocracy and preferences for market justice.

H_6 : The school’s status will moderate the relationship between perceptions of meritocracy and preferences for market justice.

H_7 : The school’s performance on standardized achievement tests will moderate the relationship between perceptions of meritocracy and preferences for market justice.

Figure 1 depicts a summary of the research hypothesis described before. Market justice preferences are our main concept under study (vis-a-vis dependent variable), which refers to the justification of better access to health, education, and pensions based on payment capacities (as we detail further in the methods section). The explanatory concepts (independent variables) are at two levels: student (individual) variables and school (context) variables. The moderation hypotheses are represented through arrows pointing to the arrow between meritocratic perception and market justice preferences, which will be estimated through interaction effects.

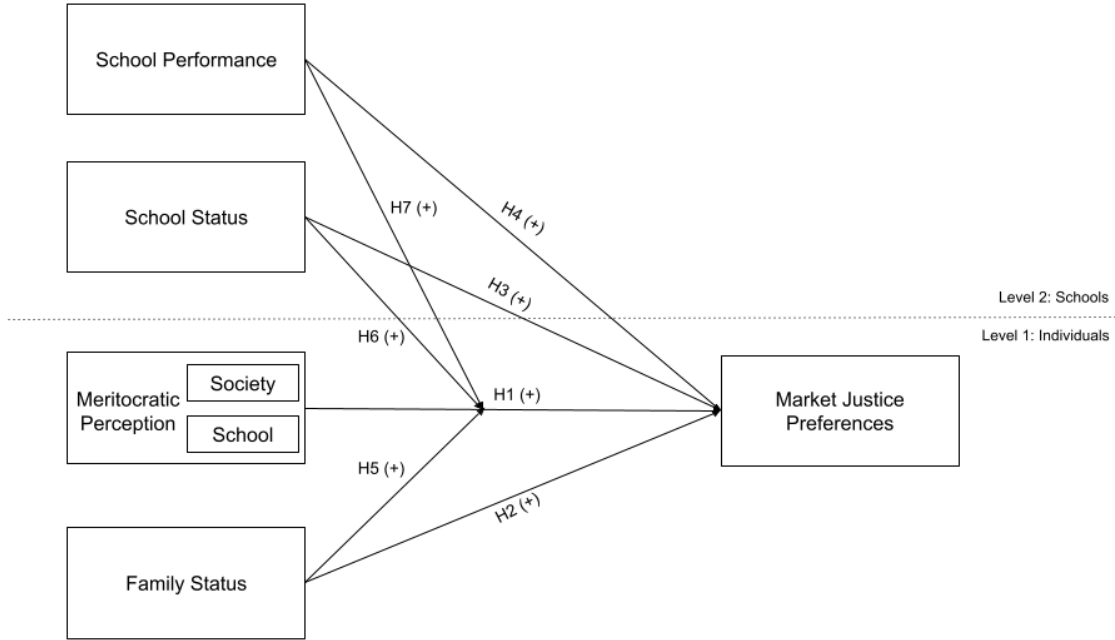


Figure 1: Summary of hypotheses

2 Data, Variables and Methods

2.1 Data

The First Study of Civic Education in Chile, conducted by the Agency for Quality Education of the Ministry of Education in 2017, is the primary data source. This database comprises a civic

knowledge test score and a series of items that measure different aspects of citizenship. The target population includes 8th-grade students in 242 schools nationwide. Initially, the database contains 8,589 student observations. To ensure higher data quality and considering the survey’s unit of analysis, we removed 171 student cases that exhibited repetitive and careless response patterns [73]. Additionally, we utilized data from the System for Measuring the Quality of Education (SIMCE) conducted by the Ministry of Education in 2017, which provides school-level information such as administrative dependence, socioeconomic classification, and results obtained in standardized mathematics and language tests. After processing the variables and removing missing cases, the final database for this study includes a two-level stratified sample composed of 5,047 students (level 1) nested within 231 schools (level 2).

2.2 Variables

Individual level

Market Justice Preferences: The dependent variables in this study are market justice preferences. This construct is measured through three variables that address the degree of justification regarding whether access to social services in pensions, education, and health should be conditional on income. The Justification of inequality in health is measured by the following item: “Is it fair in Chile that people with higher incomes can access better healthcare than those with lower incomes?” The same question is asked for education and pensions. In all cases, respondents indicate their preferences on a Likert scale ranging from “completely disagree” (1) to “completely agree” (4). Additionally, we include a summarized indicator of “market justice preferences”, measured by an average index across these items ($= 0.86$), with values ranging from 1 to 4, where higher values represent stronger preferences for market justice (see Table 1). We analyzed these items independently and by the average index.

Table 1: Dependent variables

Label	Stats / Values	Freqs (% of Valid)	Valid
It is just that in Chile people with higher incomes can have better pensions than people with low incomes	1. Strongly disagree	1837 (30.6%)	6012 (95.9%)
	2. Disagree	1945 (32.4%)	
	3. Agree	1622 (27.0%)	
	4. Strongly agree	608 (10.1%)	
It is just that in Chile people who can pay have a better education for their children	1. Strongly disagree	1766 (29.7%)	5952 (94.9%)
	2. Disagree	1732 (29.1%)	
	3. Agree	1704 (28.6%)	
	4. Strongly agree	750 (12.6%)	

Label	Stats / Values	Freqs (% of Valid)	Valid
It is just that in Chile people with higher incomes can access better health services than people with low incomes	1. Strongly disagree	2254 (38.0%)	5933 (94.6%)
	2. Disagree	1685 (28.4%)	
	3. Agree	1401 (23.6%)	
	4. Strongly agree	593 (10.0%)	
Market Justice Preferences	Mean (sd) : 2.2 (0.9)	13 distinct values	6077 (96.9%)
	min < med < max:		
	1 < 2 < 4		
	IQR (CV) : 1.7 (0.4)		

Perception of Meritocracy: The main independent variable refers to the perception of meritocracy, operationalized through five items addressing the perception of rewards based on talent and intelligence at both the school and societal levels. At the school level, students respond to whether “Intelligence is important for getting good grades” and “Effort is important for getting good grades”. At the societal level, students respond to the following questions: “In Chile, people are rewarded for their effort”, “In Chile, people get what they deserve” and “In Chile, people are rewarded for their intelligence and skills”. Each item was answered on a four-point Likert scale ranging from “completely disagree” (1) to “completely agree” (4).

Family Socioeconomic Status: The socioeconomic status of students’ families is measured using two indicators. First, the highest educational level attained by the parents, with categories: “8th grade or less,” “Secondary education,” “Technical higher education,” “University or postgraduate,” and “No response.” The inclusion of the “No response” category is due to its high frequency in the data; omitting it could obscure relevant associations. Second, the number of books in the household is used, categorized as “Less than 25” and “More than 25.”

Table 2 shows the individual level variables used, their response categories and their frequencies.

Table 2: Individual level variables

Label	Stats / Values	Freqs (% of Valid)	Valid
Intelligence is important to get good grades	1. Strongly disagree	367 (6.1%)	6017 (95.9%)
	2. Disagree	920 (15.3%)	
	3. Agree	2970 (49.4%)	
	4. Strongly agree	1760 (29.3%)	

Label	Stats / Values	Freqs (% of Valid)	Valid
Effort is important to get good grades	1. Strongly disagree 2. Disagree 3. Agree 4. Strongly agree	109 (1.8%) 88 (1.5%) 1427 (23.7%) 4406 (73.1%)	6030 (96.1%)
In Chile, people are rewarded for their intelligence and skill	1. Strongly disagree 2. Disagree 3. Agree 4. Strongly agree	517 (9.0%) 1568 (27.3%) 2673 (46.6%) 983 (17.1%)	5741 (91.5%)
In Chile, people are rewarded for their efforts	1. Strongly disagree 2. Disagree 3. Agree 4. Strongly agree	512 (8.7%) 1733 (29.4%) 2607 (44.2%) 1050 (17.8%)	5902 (94.1%)
In Chile, people get what they deserve	1. Strongly disagree 2. Disagree 3. Agree 4. Strongly agree	604 (10.5%) 1911 (33.1%) 2388 (41.4%) 871 (15.1%)	5774 (92.1%)
Parental educational level	1. 8th grade or less 2. Secondary Education 3. Higher tec. education 4. University or Postgraduat 5. Missing	559 (8.9%) 1698 (27.1%) 960 (15.3%) 1080 (17.2%) 1975 (31.5%)	6272 (100.0%)
Number of books at home	1. Les than 25 2. More than 25	3920 (63.2%) 2281 (36.8%)	6201 (98.9%)

Contextual level

This study focuses on two school-level characteristics: socioeconomic status and academic performance. Socioeconomic status is assessed using the Ministry of Education’s classification, measured as an ordinal item with five categories ranging from “low” (1) to “high” (5). Academic performance is measured using the school’s results in the SIMCE (System of Measurement of Educational Quality) standardized tests, administered yearly at different educational levels in language and mathematics. These results are categorized as “low,” “medium,” and “high.” The contextual level items used, response categories, and their frequencies are detailed in Table 3.

Table 3: School context variables

Label	Stats / Values	Freqs (% of Valid)	Valid
Socioeconomic level of school	1. Low	49 (21.1%)	232 (100.0%)
	2. Medium low	92 (39.7%)	
	3. Medium	43 (18.5%)	
	4. Medium high	29 (12.5%)	
	5. High	19 (8.2%)	
SIMCE score achievement by school	1. Low	108 (46.6%)	232 (100.0%)
	2. Medium	69 (29.7%)	
	3. High	55 (23.7%)	

Controls

A series of control variables are included. At the individual level, an index of access to technology is constructed based on the number of computers, tablets, and cell phones in the household, as well as internet connectivity. At the contextual level, we use the administrative dependence of schools, classified as “Public,” “Subsidized Private,” or “Private,” and the proportion of parents with university or postgraduate education at each school.

2.3 Methods

Given the hierarchical structure of the data, with students nested within schools, model estimation is performed within a multilevel framework. These models are appropriate for capturing both individual and contextual effects in a single analysis, allowing for the estimation of fixed effects between groups and random effects that vary from one group to another [74,75]. Cumulative link mixed models were employed for the ordinal dependent variables, while linear mixed-effects models were applied for the average market justice preference index.

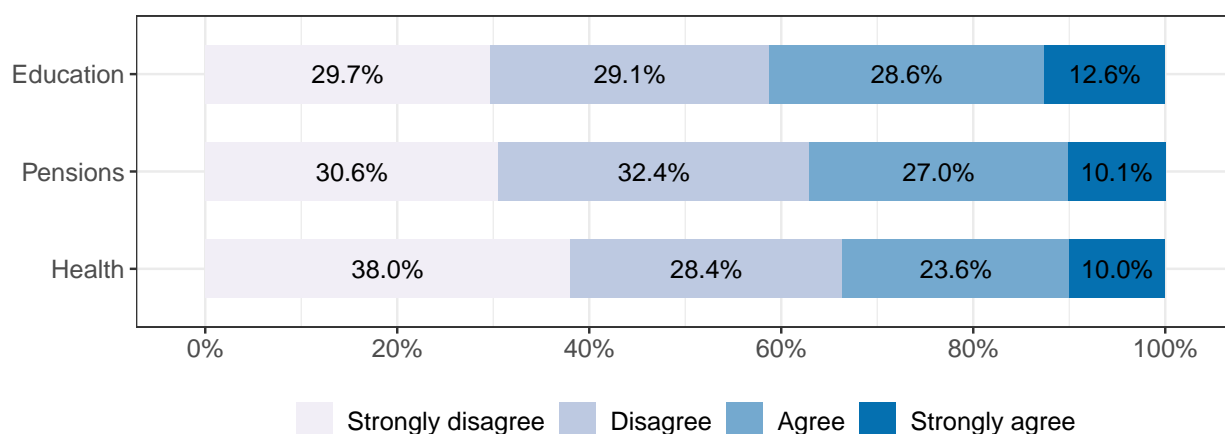
The hypotheses of this research were pre-registered in the Open Science Framework platform of the Center for Open Science (OSF), and access to the document is available at this [link](#). The statistical analysis for this research was conducted using the *lme4* package in R version 4.1.3.

3 Results

3.1 Descriptive statistics

Figure 2 illustrates the distribution of responses to the three items on market justice preferences (healthcare, pensions, and education), indicating that most respondents tend to disagree or strongly disagree with the idea that it is just for people with higher incomes to have access to

better services in these areas. The strongest opposition is observed in the healthcare sector, as the majority of respondents (66.4%) are against the idea that higher-income individuals should have access to better healthcare services. Similarly, regarding the concept of justice related to access to better pensions based on income, the level of disagreement reaches 63.0%. This decreases significantly in the field of education, as the percentage of respondents who disagree or strongly disagree with those with higher incomes having access to better education decreases to 58.8%. Only a small proportion agree that access to healthcare should be conditional on income (23.6%), and a minority strongly agree (10%), as is the case with pensions. However, this increases in the case of education, being the area where there is a significant proportion of respondents who agree or strongly agree with access based on market justice (41.2%).

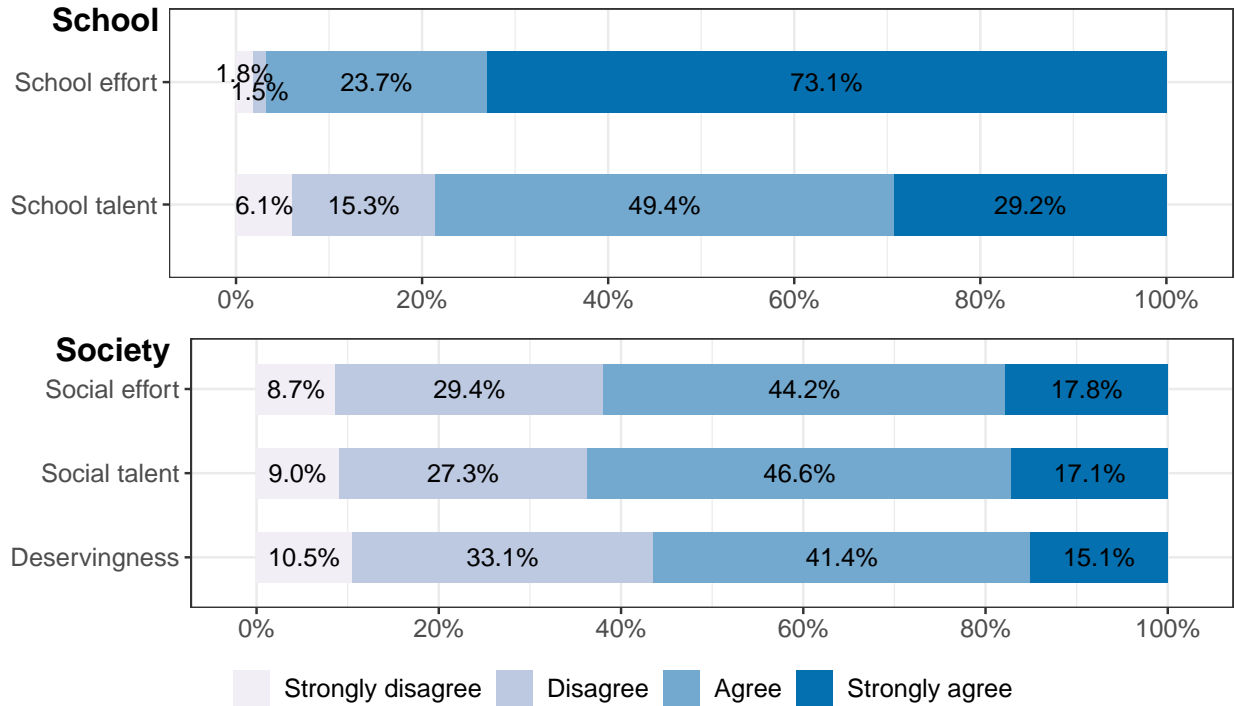


Source: own elaboration based on First Study of Civic Education 2017

Figure 2: Market justice preferences in health, pensions and education

Regarding the perception of meritocracy, Figure 3 displays the frequency distribution of five items related to the dimensions of school and society. At the school level, there is a strong belief that both effort and talent are important for achieving good grades, with especially high agreement for effort. Specifically, while 78.6% agree or strongly agree on the importance of talent for obtaining good grades, this proportion rises to 96.8% for effort, indicating that respondents value effort more than talent in this context.

At the societal level, Figure 3 shows that a majority of respondents agree or strongly agree that individuals are rewarded for their talents (63.7%) and efforts (62%). Nevertheless, a notable proportion perceives that both effort and talent are not adequately rewarded in society, with 38.1% and 36.3% respectively. The perception of whether people get what they deserve in society is more divided; while a slim majority (56.5% combining agree and strongly agree) agrees, a significant minority (43.6%) disagrees, indicating that this is the most



Source: own elaboration based on First Study of Civic Education 2017

Figure 3: Social and school meritocracy

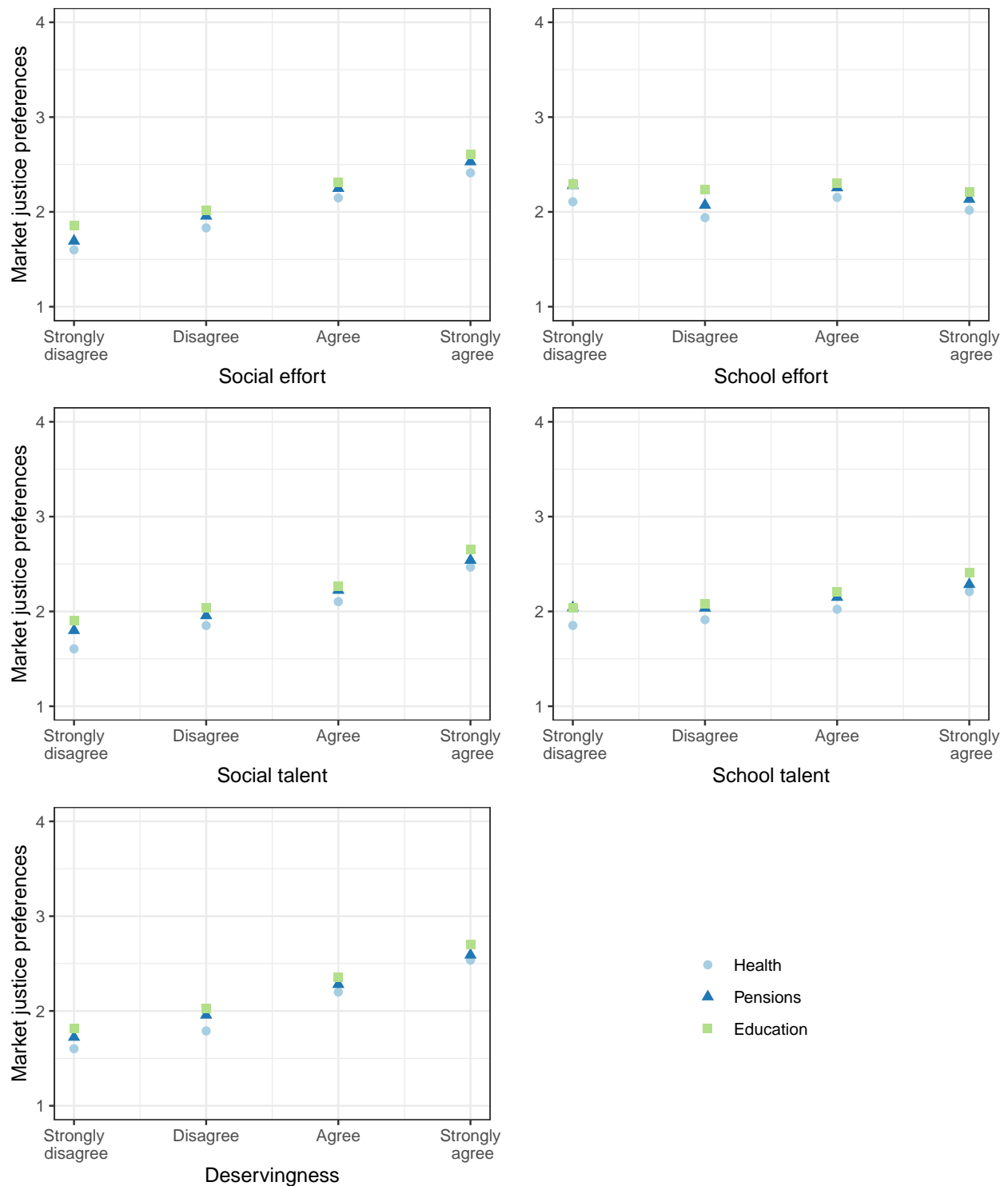
contentious item among respondents. There is general agreement that people are rewarded for talent and effort in society, but the consensus is weaker compared to school meritocracy.

Figure 4 shows a series of graphs depicting the association between the variables of market justice preferences - in education, health, and pensions - and the variables of meritocratic perception at school (effort and talent) and in society (effort, talent, and deservingness) (see conceptual diagram in Figure 1). In general we observe a positive association between meritocracy and market justice preferences for the societal questions, but this is not as straightforward for the school items, particularly for the one referred to effort.

3.2 Multivariate analysis

This section presents the results of the multilevel models. We begin by showing the results of the cumulative link mixed models in Table 4 for the ordinal dependent variables of justice in health, pensions, and education separately in order to compare the effect of the predictors. Then, we present the results of the linear mixed-effects models for the average index of preference for market justice in Table 6¹.

¹The table shows the effects of individual and contextual-level independent variables related to our hypotheses; however, the models also incorporate the control variables for each of the three dependent variables separately and for the average index (complete models are available in the Supplementary Material).



Source: own elaboration based on First Study of Civic Education 2017

Figure 4: Market justice preferences in education, health and pensions by social and school meritocracy

For the health item, the intraclass correlation (ICC) obtained for the null model (not shown) indicates that 5% of the total variance of this item is associated with specific characteristics of the schools, while it is 3% for the pensions item and 4% for the education item [ICC based on 75]. For the average index of market justice preferences, the ICC reaches 4%, indicating that overall, only a small percentage of the total variance in students' market justice preferences is associated with school characteristics, thus limiting the possibility of finding effects at this second level of analysis.

Model 1 in Table 4 for the three dependent variables of justice in differential access to health, pensions, and education demonstrates a similar trend regarding the effect of the perception of meritocracy on these items, with all effects being statistically significant ($p < 0.05$). Regarding the variables of social meritocracy, the three variables—talent ($\beta = 0.16$), effort ($\beta = 0.11$), and deservingness ($\beta = 0.51$)—show that as these increase, the justification for differentiated access to pensions, education, and health also increases. In the context of school meritocracy, the effects are mixed: as perceived school talent increases, the justification for differentiated access to these services increases ($\beta = 0.23$); conversely, as perceived school effort increases, the justification decreases ($\beta = -0.26$), holding all other variables constant.

Additionally, Model 1 examines family status through parents' educational level and the number of books at home. For health, pensions, and education, a negative but statistically non-significant association with parents' education is observed. However, having more than 25 books at home shows a negative and statistically significant effect on market justice in health and pensions ($\beta = -0.13$; $p < 0.001$), suggesting less justification for differentiated access compared to those with fewer books.

Model 2 in Table 4 incorporates school-level variables. The results show that high socioeconomic level schools show greater preferences for market justice in health, pensions, and education compared to low socioeconomic level schools, with statistically significant results ($\beta = 0.71$; $p < 0.05$). Moreover, and contrary to our hypothesis, schools with higher academic performance show negative and statistically significant effects across the three items ($\beta = -0.56$; $p < 0.001$).

Table 6 presents the results of linear mixed-effects models for the market justice preference index. Model 1 shows that higher perceived societal meritocracy, through effort ($\beta = 0.08$), talent ($\beta = 0.07$), and deservingness ($\beta = 0.2$), is positively and significantly associated with market justice preferences ($p < 0.001$). School meritocracy perceptions yield mixed effects: perceived talent increases market justice preference ($\beta = 0.1$), while perceived effort decreases it ($\beta = -0.12$), both statistically significant ($p < 0.001$). Model 2 includes family status, finding no statistically significant effects from parents' education or the number of books at home. Regarding school characteristics, Models 3 and 4 introduce socioeconomic level and academic performance. The results of Model 3 suggest a statistically significant relationship

Table 4: Cumulative link multilevel models of differential acces justificacion of health, pensions, and education

	Health		Pensions		Education	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
School talent	0.23*** (0.03)	0.22*** (0.03)	0.17*** (0.03)	0.16*** (0.03)	0.25*** (0.03)	0.25*** (0.03)
School effort	-0.26*** (0.04)	-0.26*** (0.04)	-0.26*** (0.04)	-0.25*** (0.04)	-0.23*** (0.04)	-0.23*** (0.04)
Social talent	0.16*** (0.05)	0.16*** (0.05)	0.12** (0.04)	0.13** (0.04)	0.14** (0.04)	0.15*** (0.04)
Social effort	0.11* (0.05)	0.11* (0.05)	0.27*** (0.05)	0.27*** (0.05)	0.15** (0.05)	0.15** (0.05)
Deservingness	0.52*** (0.05)	0.51*** (0.05)	0.38*** (0.05)	0.37*** (0.05)	0.44*** (0.05)	0.43*** (0.05)
Parental education (Ref.= Non-university)						
University or posgraduate	0.05 (0.08)	0.08 (0.08)	0.14 (0.08)	0.12 (0.08)	0.09 (0.08)	0.07 (0.08)
Missing	0.10 (0.06)	0.11 (0.06)	0.12* (0.06)	0.11 (0.06)	0.13* (0.06)	0.12* (0.06)
More than 25 books (Ref.= Less than 25)	-0.16** (0.06)	-0.13* (0.06)	-0.13* (0.06)	-0.13* (0.06)	-0.07 (0.06)	-0.07 (0.06)
Socioeconomic level (Ref.= Low)						
SES Medium		0.08 (0.10)		0.02 (0.10)		0.08 (0.10)
SES High		0.71* (0.28)		0.72** (0.26)		0.93*** (0.28)
Achievement score (Ref.= Low)						
Simce Medium		-0.29*** (0.08)		-0.19* (0.08)		-0.16* (0.08)
Simce High		-0.56*** (0.10)		-0.53*** (0.09)		-0.46*** (0.10)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
BIC	12747.58	12761.47	13103.81	13112.87	13329.33	13352.18
Num.obs	5144	5144	5177	5177	5159	5159
Num. groups: Schools	231	231	232	232	231	231
Var: Schools (Intercept)	0.11	0.05	0.09	0.04	0.10	0.05

Note: Cells contain regression coefficients with standard errors in parentheses. Control variables are included. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.

Table 5

Table 6: Linear mixed-effects models for meritocracy perception and market justice preferences

	Model 1	Model 2	Model 3	Model 4
Constant	1.31*** (0.09)	1.30*** (0.10)	1.36*** (0.10)	1.39*** (0.10)
School talent	0.11*** (0.01)	0.11*** (0.01)	0.10*** (0.01)	0.10*** (0.01)
School effort	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)
Social talent	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Social effort	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Deservingness	0.20*** (0.02)	0.20*** (0.02)	0.20*** (0.02)	0.20*** (0.02)
Parental education (Ref.= Non-university)				
University or posgraduate		0.05 (0.03)	0.05 (0.04)	0.05 (0.04)
Missing		0.06* (0.03)	0.06* (0.03)	0.06* (0.03)
More than 25 books (Ref.= Less than 25)		-0.05 (0.03)	-0.05 (0.03)	-0.04 (0.03)
Socioeconomic level (Ref.= Low)				
SES Medium			-0.01 (0.05)	0.01 (0.05)
SES High			0.31* (0.14)	0.37** (0.13)
Achievement score (Ref.= Low)				
Simce Medium				-0.11** (0.04)
Simce High				-0.26*** (0.04)
Controls	Yes	Yes	Yes	Yes
Deviance	12368.01	12359.40	12344.10	12310.90
Deviance Test (p)	0.00	0.00	0.00	0.00
BIC	12517.46	12550.41	12595.11	12589.48
Num.obs	5047	5047	5047	5047
Num. groups: Schools	231	231	231	231
Var: Schools (Intercept)	0.02	0.02	0.02	0.01
Var: Residual	0.66	0.66	0.67	0.66

Note: Cells contain regression coefficients with standard errors in parentheses. Control variables are included. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.

Table 7

Table 8: Interactions effects

Variable	Market Justice Preferences				
	School talent	School effort	Social talent	Social effort	Deservingness
University or Postgraduate	-0.034	-0.012	-0.073.	-0.079*	-0.118**
More than 25 books	-0.015	-0.046	-0.029	-0.081**	-0.035
School SES high	0.004	0.001	-0.057.	-0.063*	-0.08**
Simce Medium	0.001	0.032	-0.037	-0.041	-0.082*
Simce High	-0.016	0.008	-0.043	-0.063.	-0.087*

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Source: own elaboration based on First Study of Civic Education 2017.

between school socioeconomic levels and market justice preferences, specifically those schools with high socioeconomic levels ($\beta = 0.37$; $p < 0.01$) compared to low socioeconomic levels. However, Model 4 indicates that schools with medium ($\beta = -0.11$; $p < 0.01$) and high ($\beta = -0.26$; $p < 0.001$) academic performance present lower market justice preferences compared to low-performing schools, with these effects being statistically significant when controlling for other variables.

Table 8 displays the interaction terms related to our hypotheses. The results suggest that students' family background moderates the relationship between their meritocratic perceptions and their justification of market allocation in social services. Specifically, the relationship between social effort and market justice preferences is less positive for students whose parents have university or postgraduate education ($\beta = -0.079$; $p < 0.05$). Lower-status students (measured by parental education) prefer more market justice when they strongly adhere to meritocratic perceptions of deservingness ($\beta = -0.118$; $p < 0.01$). A similar moderating effect is seen with family cultural capital: the relationship between effort and market justice preferences is less positive for students with more than 25 books at home ($\beta = -0.081$; $p < 0.01$).

At the school level, we observe that school status and students' meritocratic beliefs moderate their preferences for market justice. High-status schools show less preference for market justice when their students, on average, have a greater perception of meritocracy, as measured by effort, deservingness, and talent. Conversely, low-achieving schools prefer more market justice when their students have stronger meritocratic beliefs. Figure 5 illustrates this moderating effect of school achievement on the relationship between deservingness and market justice. No moderating effects were observed at the school level for students' meritocratic beliefs regarding effort or talent in achieving good grades.

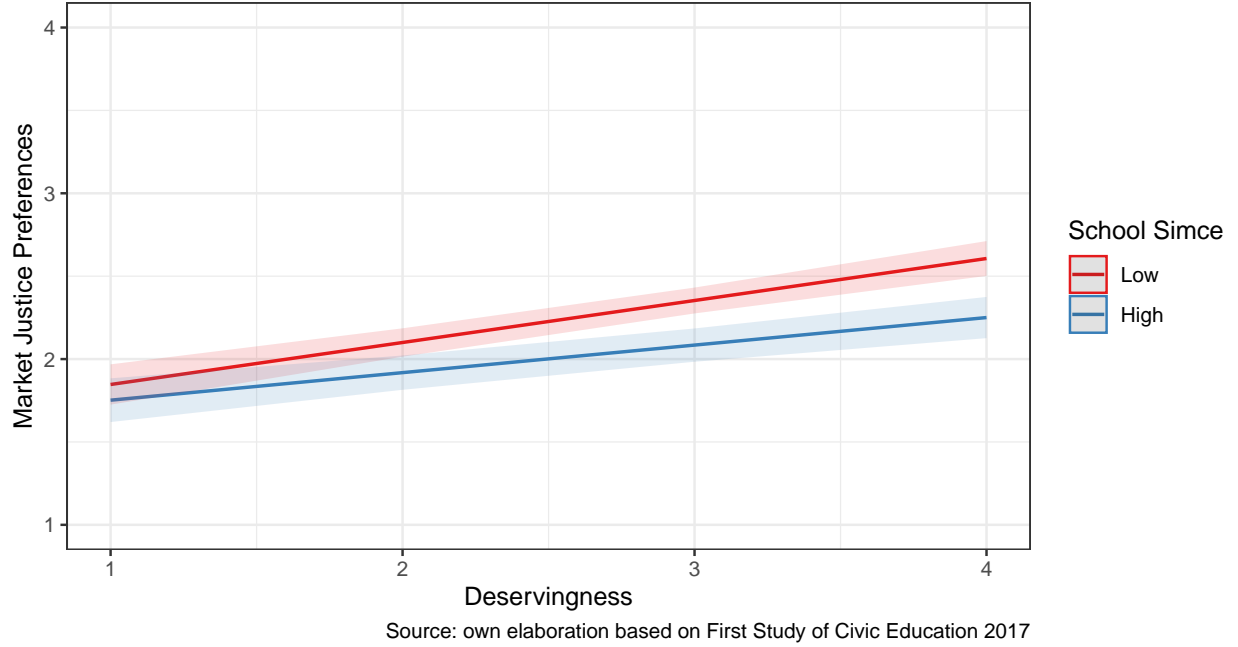


Figure 5: Interaction between deservingness and justification of inequality by school SIMCE achievement

4 Discussion

The previous analyses aimed to explore the relationship between perceptions of meritocracy and preferences for market justice among students in Chilean society. Several models estimated how students' beliefs about the rewards for talent and effort in both societal and school contexts influence their attitudes toward access to social services like health, education, and pensions based on pay capacity. Additionally, the models examined the impact of students' socioeconomic status and school achievement on these preferences, assessing whether perceptions of meritocracy moderate these effects. The findings offer insights into the complex interplay between meritocratic beliefs, socioeconomic factors, and attitudes toward market justice criteria.

Hypothesis H_{1a} posited that students who perceive greater meritocracy in society would show stronger preferences for market justice. The results support this hypothesis, indicating a positive relationship between the perception that talent and effort are rewarded in society and the preferences for market justice in access to services such as health, education, and pensions. This finding aligns with previous research suggesting that individuals who believe in a meritocratic system are more likely to justify social inequalities [3,4]. It is noteworthy that among the items measuring meritocratic perception, consistently the one about deservingness shows a larger effect when compared to the ones about talent and effort. Although the three items correlate, there is something distinctive about deservingness that probably encompasses other aspects beyond meritocracy, an aspect to which we will come back in the conclusions.

Moving now to hypothesis H_{1b} , this is simply a variation of 1a, replacing the perception of meritocracy at society by the one at school. In this case we have only two items of meritocratic perception - unfortunately deservingness was not measured at school level - and the direction of the effects is not as straightforward as in the case of societal meritocracy in H_{1a} : positive for talent, but negative for effort. Still, one of the limitation for the comparison between perception of meritocracy and society is the difference of the items' phrasing. Whereas for society the item refers to the extent to which efforts are rewarded, at school is about the importance of effort, whereby something that is important does not necessarily mean that it is enough to be rewarded. Furthermore, the school-effort item is the one with the lowest variation among all meritocratic items (more than 95% agree or strongly agree), and with the lowest effect size.

Hypothesis H_2 and hypothesis H_3 propose that socioeconomic status could influence students' preferences, but the results show different patterns. On the one hand, H_2 proposed that students from higher socioeconomic status families would show stronger preferences for market justice, which is not supported by the results. Although students from families with higher educational levels and more economic resources tend to prefer less market justice, this relationship is not statistically significant. This might be due to the influence of other contextual and cultural factors that modulate attitudes toward market justice [66,67,70]. Notably, socioeconomic status measured by parental educational level and the number of books at home do not explain variations in market justice preferences, suggesting that other variables, such as market justice preferences of parents, could play an essential role in the attitudinal socialization process. On the other hand, Hypothesis H_3 held that students from schools with higher socioeconomic status would show stronger preferences for market justice. The results confirm this hypothesis since students from high-status schools tend to prefer more market justice, compared to low-status schools. This finding, in line with the existing literature [71,72], does allow us to affirm the hypothesis about the role of the school environment, particularly socioeconomic segregation, in influencing attitudes towards market justice and the acceptance of inequalities. A possible explanation is the role of the context at the school level, which could have a more relevant role than the family socioeconomic status, since the highly stratified nature of the Chilean education system reinforces socioeconomic divisions and socializes students into different normative frameworks.

Hypothesis H_4 held that students from schools with higher school achievement would show stronger preferences for market justice, following the argument that such schools could foster meritocratic attitudes by showing a larger promotion of talent and effort in order to get better results. Nevertheless, the results show quite the opposite: schools with better academic results (as measured by a national standardized test) show in average less preferences for market justice. This finding is one of the most strongest and consistent throughout the models and it is relevant given the centrality of school performance in educational institutions.

One possible explanation of this link is that students in high-achieving schools may be more exposed to discussions and a deeper understanding of inequality and social justice, leading to a critical perspective toward the weight of market mechanisms in the access to social services.

Hypotheses H_5 and H_6 proposed that socioeconomic status would moderate the effect of meritocratic perceptions on market justice preferences. Hypothesis H_5 refers to family socioeconomic status, whereby the results show a negative interaction with two of the three perceptual variables at the societal level. This means that the positive impact of the perception of social meritocracy on market justice preferences had a lower effect on students with parents with higher education and also on those with more books at home. Something similar occurs with hypothesis H_6 , where now school-level status moderates the effect of meritocracy variables, which in multilevel framework is referred as to cross-level interaction. The negative interaction in this context means that in schools of low socioeconomic levels, the positive effect of the social meritocracy variables on market justice preferences is stronger. These relations indicate that, although those who perceive society as meritocratic have greater preferences towards market justice, this influence is lower among those with a higher socioeconomic level. This finding highlights the complex interaction between socioeconomic status, school context, meritocratic beliefs, and preferences toward market justice. The moderating role of meritocratic perceptions suggests that students' views on social justice are shaped by their socioeconomic background and beliefs about how society rewards effort and talent. This underlines the importance of addressing structural inequalities and individual beliefs in educational and social policies.

Hypothesis $H7$ posited that the academic performance of schools could moderate the effect of meritocratic perceptions on preferences for market justice. This hypothesis is based on the argument that the level of academic performance in schools entails a differentiated promotion of meritocratic perceptions to achieve better results, which would, in turn, reinforce or diminish preferences for market justice. The results of the interactions between levels suggest that, indeed, in higher-performing schools, the effect of meritocratic perceptions on the justification of service provision based on market principles is weaker compared to lower-performing schools. Similarly to the effect of academic performance in $H4$, a possible explanation for this moderation is that students in high-performing schools may be more exposed to knowledge about the effects of inequality and social justice. This exposure translates into an enlightening effect of education on inequality, which can mitigate the impact of meritocracy on market justice preferences.

5 Conclusion

Our research aimed to examine the relationship between the perception of meritocracy and the justification of market justice preferences among eighth-grade students in Chile. From

our knowledge this is the first study addressing market justice preferences at school level, finding that students exhibit large preferences for market justice (about one third agree or strongly agree with them), a share that is quite larger when compared with evidence in adult population. Perception of meritocracy is also high, particularly when it comes to the reward of effort, with an striking eighty six percent of agreement. Regarding these descriptive indicators, a first message coming from this study is that there is something particular in school-age when it comes to perceptions and preferences about inequality. This can relate to development aspects [77] but it could be something specific to the Chilean case, which requires further comparative as well as longitudinal research in the area. In any case, teaching about the origins and characteristics of social inequality is not part of the Chilean school curriculum, calling for a more dedicated consideration of these topics in areas such as citizenship education as well as in history and social science education.

The core of this paper was the association between meritocratic perceptions and preferences for market justice. In general, we find that those who perceive that effort and talent/intelligence are rewarded, are more willing to agree with that richer individuals can have better health, education, and pensions. This is not the first time that meritocratic perceptions (and also beliefs) have been related with the legitimization of social inequalities [51,63], but the consideration of school level population as well as market justice preferences allows adding evidence regarding the role of meritocracy regarding inequality beliefs: legitimization of market criteria in social services seems to begin at school age, and what students think of meritocracy is linked to it. Although there are still several open questions, as for instance differences between meritocratic perceptions in school and in the society at large, this raises up the relevance of what is done (or not) in schools in order to challenge the meritocratic ideals.

The consideration of the school context opened some caveats in this research. We found contrary evidence for the association between status, school performance, and market justice preferences: high status and high achievement at the school level are associated with less market justice preferences. This is opposed to the rational-interest argument that suggests that those doing better - both economically and academically- would demand less redistribution [80] and therefore are expected to challenge market mechanisms. A possible explanation is that education contributes to forming a critical view of markets in redistribution, nevertheless, further research in this area is needed to assert the specific mechanisms that might be playing a role. All in all, from this study we know that school contexts are not trivial in this regard, calling for larger attention to school-age research on the formation of inequality preferences and beliefs.

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6 Supplementary material

6.1 Complete multilevel models

Table 9: Cumulative Link Multilevel Models for Justifying Differential Access to Health Care

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
Strongly Disagree Disagree	−0.55*** (0.04)	1.23*** (0.20)	1.20*** (0.20)	1.24*** (0.22)	1.05*** (0.23)	1.04*** (0.23)
Disagree Agree	0.68*** (0.04)	2.54*** (0.20)	2.52*** (0.20)	2.55*** (0.22)	2.37*** (0.24)	2.36*** (0.24)
Agree Strongly Agree	2.25*** (0.06)	4.20*** (0.21)	4.18*** (0.21)	4.22*** (0.23)	4.03*** (0.24)	4.02*** (0.24)
School talent		0.23*** (0.03)	0.23*** (0.03)	0.23*** (0.03)	0.22*** (0.03)	0.22*** (0.03)
School effort		−0.27*** (0.04)	−0.26*** (0.04)	−0.26*** (0.04)	−0.26*** (0.04)	−0.26*** (0.04)
Social talent		0.16*** (0.05)	0.16*** (0.05)	0.16*** (0.05)	0.16*** (0.05)	0.16*** (0.05)
Social effort		0.11* (0.05)	0.11* (0.05)	0.11* (0.05)	0.11* (0.05)	0.11* (0.05)
Deservingness		0.52*** (0.05)	0.52*** (0.05)	0.52*** (0.05)	0.51*** (0.05)	0.51*** (0.05)
Parental education (Ref.= Non-university)						
University or posgraduate			0.05 (0.08)	0.05 (0.08)	0.06 (0.08)	0.08 (0.08)
Missing			0.10 (0.06)	0.10 (0.06)	0.10 (0.06)	0.11 (0.06)
More than 25 books (Ref.= Less than 25)			−0.16** (0.06)	−0.16** (0.06)	−0.14* (0.06)	−0.13* (0.06)
Technology acces				0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
No internet connectivity (Ref.= Internet connectivity)				0.03 (0.06)	0.01 (0.07)	−0.00 (0.07)
Socioeconomic level (Ref.= Low)						
SES Medium					0.04 (0.10)	0.08 (0.10)
SES High					0.48** (0.16)	0.71* (0.28)
Achievement score (Ref.= Low)						
Since Medium					−0.31*** (0.08)	−0.29*** (0.08)
Since High					−0.61*** (0.09)	−0.56*** (0.10)
Prop. university level at school						−0.34 (0.36)
School dependence (Ref.= Public)						
Subsidized Private						−0.05 (0.08)
Private						−0.14 (0.27)
Log Likelihood	−6581.84	−6314.90	−6309.98	−6309.70	−6287.72	−6286.73
AIC	13171.69	12647.80	12643.95	12649.39	12613.44	12617.47
BIC	13197.87	12706.71	12722.50	12747.58	12737.80	12761.47
Num.obs	5144	5144	5144	5144	5144	5144
Num. groups: Schools	231	231	231	231	231	231
Var: Schools (Intercept)	0.17	0.11	0.11	0.11	0.05	0.05

Note: Cells contain regression coefficients with standard errors in parentheses. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.

Table 10

Table 11: Cumulative Link Multilevel Models for Justifying Differential Access to Pensions

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
Strongly Disagree Disagree	−0.89*** (0.04)	0.69*** (0.20)	0.71*** (0.20)	0.85*** (0.22)	0.67** (0.23)	0.67** (0.23)
Disagree Agree	0.52*** (0.04)	2.18*** (0.20)	2.21*** (0.20)	2.35*** (0.22)	2.17*** (0.23)	2.17*** (0.23)
Agree Strongly Agree	2.25*** (0.05)	4.01*** (0.21)	4.03*** (0.21)	4.18*** (0.22)	4.00*** (0.24)	4.00*** (0.24)
School talent		0.17*** (0.03)	0.17*** (0.03)	0.17*** (0.03)	0.16*** (0.03)	0.16*** (0.03)
School effort		−0.25*** (0.04)	−0.25*** (0.04)	−0.26*** (0.04)	−0.25*** (0.04)	−0.25*** (0.04)
Social talent		0.13** (0.04)	0.12** (0.04)	0.12** (0.04)	0.13** (0.04)	0.13** (0.04)
Social effort		0.27*** (0.05)	0.27*** (0.05)	0.27*** (0.05)	0.27*** (0.05)	0.27*** (0.05)
Deservingness		0.38*** (0.05)	0.38*** (0.05)	0.38*** (0.05)	0.37*** (0.05)	0.37*** (0.05)
Parental education (Ref.= Non-university)						
University or posgraduate			0.16* (0.08)	0.14 (0.08)	0.12 (0.08)	0.12 (0.08)
Missing			0.13* (0.06)	0.12* (0.06)	0.11 (0.06)	0.11 (0.06)
More than 25 books (Ref.= Less than 25)			−0.12* (0.06)	−0.13* (0.06)	−0.13* (0.06)	−0.13* (0.06)
Technology acces				0.02* (0.01)	0.02 (0.01)	0.02 (0.01)
No internet connectivity (Ref.= Internet connectivity)				−0.01 (0.06)	−0.03 (0.06)	−0.03 (0.06)
Socioeconomic level (Ref.= Low)						
SES Medium					0.00 (0.10)	0.02 (0.10)
SES High					0.69*** (0.15)	0.72** (0.26)
Achievement score (Ref.= Low)						
Since Medium					−0.21** (0.07)	−0.19* (0.08)
Since High					−0.53*** (0.08)	−0.53*** (0.09)
Prop. university level at school						0.22 (0.34)
School dependence (Ref.= Public)						
Subsidized Private						−0.09 (0.07)
Private						−0.15 (0.25)
Log Likelihood	−6737.05	−6494.86	−6490.03	−6487.76	−6463.24	−6462.36
AIC	13482.11	13007.72	13004.05	13005.53	12964.49	12968.73
BIC	13508.31	13066.68	13082.68	13103.81	13088.98	13112.87
Num.obs	5177	5177	5177	5177	5177	5177
Num. groups: Schools	232	232	232	232	232	232
Var: Schools (Intercept)	0.11	0.09	0.09	0.09	0.04	0.04

Note: Cells contain regression coefficients with standard errors in parentheses. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.

Table 12

Table 13: Cumulative Link Multilevel Models for Justifying Differential Access to Education

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
Strongly Disagree Disagree	−0.93*** (0.04)	0.84*** (0.20)	0.87*** (0.20)	0.82*** (0.22)	0.75** (0.23)	0.75** (0.23)
Disagree Agree	0.34*** (0.04)	2.19*** (0.20)	2.23*** (0.20)	2.18*** (0.22)	2.11*** (0.23)	2.11*** (0.23)
Agree Strongly Agree	1.98*** (0.05)	3.93*** (0.20)	3.96*** (0.21)	3.92*** (0.22)	3.85*** (0.24)	3.85*** (0.24)
School talent		0.25*** (0.03)	0.25*** (0.03)	0.25*** (0.03)	0.25*** (0.03)	0.25*** (0.03)
School effort		−0.24*** (0.04)	−0.23*** (0.04)	−0.23*** (0.04)	−0.23*** (0.04)	−0.23*** (0.04)
Social talent		0.14** (0.04)	0.14** (0.04)	0.14** (0.04)	0.15*** (0.04)	0.15*** (0.04)
Social effort		0.15** (0.05)	0.15** (0.05)	0.15** (0.05)	0.15** (0.05)	0.15** (0.05)
Deservingness		0.44*** (0.05)	0.44*** (0.05)	0.44*** (0.05)	0.43*** (0.05)	0.43*** (0.05)
Parental education (Ref.= Non-university)						
University or posgraduate			0.09 (0.08)	0.09 (0.08)	0.06 (0.08)	0.07 (0.08)
Missing			0.13* (0.06)	0.13* (0.06)	0.12* (0.06)	0.12* (0.06)
More than 25 books (Ref.= Less than 25)			−0.07 (0.06)	−0.07 (0.06)	−0.07 (0.06)	−0.07 (0.06)
Technology acces				−0.00 (0.01)	−0.01 (0.01)	−0.01 (0.01)
No internet connectivity (Ref.= Internet connectivity)				−0.04 (0.06)	−0.04 (0.06)	−0.05 (0.06)
Socioeconomic level (Ref.= Low)						
SES Medium					0.08 (0.10)	0.08 (0.10)
SES High					0.75*** (0.16)	0.93*** (0.28)
Achievement score (Ref.= Low)						
Since Medium					−0.16* (0.08)	−0.16* (0.08)
Since High					−0.47*** (0.09)	−0.46*** (0.10)
Prop. university level at school						−0.17 (0.35)
School dependence (Ref.= Public)						
Subsidized Private						0.04 (0.08)
Private						−0.14 (0.27)
Log Likelihood	−6846.16	−6603.77	−6600.80	−6600.55	−6582.51	−6582.06
AIC	13700.33	13225.55	13225.60	13231.10	13203.03	13208.12
BIC	13726.52	13284.48	13304.18	13329.33	13327.45	13352.18
Num.obs	5159	5159	5159	5159	5159	5159
Num. groups: Schools	231	231	231	231	231	231
Var: Schools (Intercept)	0.13	0.10	0.10	0.10	0.05	0.05

Note: Cells contain regression coefficients with standard errors in parentheses. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.

Table 14

Table 15: Linear mixed-effects models for meritocracy perception and market justice preferences

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	2.17*** (0.02)	1.34*** (0.09)	1.33*** (0.09)	1.30*** (0.10)	1.38*** (0.10)	1.39*** (0.10)
School talent		0.11*** (0.01)	0.11*** (0.01)	0.11*** (0.01)	0.10*** (0.01)	0.10*** (0.01)
School effort		-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)
Social talent		0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Social effort		0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Deservingness		0.20*** (0.02)	0.20*** (0.02)	0.20*** (0.02)	0.20*** (0.02)	0.20*** (0.02)
Parental education (Ref.= Non-university)						
University or posgraduate			0.05 (0.03)	0.05 (0.03)	0.04 (0.04)	0.05 (0.04)
Missing			0.06* (0.03)	0.06* (0.03)	0.06* (0.03)	0.06* (0.03)
More than 25 books (Ref.= Less than 25)			-0.05 (0.03)	-0.05 (0.03)	-0.04 (0.03)	-0.04 (0.03)
Technology acces				0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
No internet connectivity (Ref.= Internet connectivity)				0.00 (0.03)	-0.01 (0.03)	-0.01 (0.03)
Socioeconomic level (Ref.= Low)						
SES Medium					0.01 (0.04)	0.01 (0.05)
SES High					0.29*** (0.07)	0.37*** (0.13)
Achievement score (Ref.= Low)						
Simce Medium					-0.12*** (0.04)	-0.11** (0.04)
Simce High					-0.27*** (0.04)	-0.26*** (0.04)
School dependence (Ref.= Public)						
Prop. university level at school						-0.05 (0.16)
Subsidized Private						-0.01 (0.04)
Private						-0.08 (0.13)
AIC	12967.40	12422.86	12436.31	12459.04	12437.84	12452.43
BIC	12986.98	12475.07	12508.10	12550.41	12555.32	12589.48
Log Likelihood	-6480.70	-6203.43	-6207.16	-6215.52	-6200.92	-6205.21
Num.obs	5047	5047	5047	5047	5047	5047
Num. groups: Schools	231	231	231	231	231	231
Var: Schools (Intercept)	0.03	0.02	0.02	0.02	0.01	0.01
Var: Residual	0.74	0.66	0.66	0.66	0.66	0.66

Note: Cells contain regression coefficients with standard errors in parentheses. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.

Table 16

Table 17: Linear mixed-effects models for meritocracy perception, parental education and market justice preferences

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	1.35*** (0.10)	1.31*** (0.10)	1.34*** (0.10)	1.37*** (0.12)	1.38*** (0.10)
School talent	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.11*** (0.02)
School effort	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.03)	-0.12*** (0.02)
Social talent	0.07*** (0.02)	0.08*** (0.02)	0.09*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Social effort	0.09*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Deservingness	0.20*** (0.02)	0.22*** (0.02)	0.20*** (0.02)	0.20*** (0.02)	0.20*** (0.02)
Parental education (Ref.= Non-university)					
University or posgraduate	0.26* (0.11)	0.35*** (0.10)	0.25* (0.11)	0.10 (0.23)	0.15 (0.12)
Missing	0.03 (0.09)	0.13 (0.09)	0.07 (0.09)	0.08 (0.16)	0.03 (0.10)
More than 25 books (Ref.= Less than 25)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)
SES High (Ref.= Low)	-0.06 (0.06)	-0.06 (0.05)	-0.06 (0.05)	-0.06 (0.05)	-0.06 (0.05)
Achievement score (Ref.= Low)					
Simce Medium	-0.11** (0.04)	-0.12*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)
Simce High	-0.24*** (0.05)	-0.24*** (0.04)	-0.24*** (0.04)	-0.24*** (0.04)	-0.24*** (0.04)
Parental education x Meritocracy					
University or posgraduate * Social effort	-0.08* (0.04)				
Missing * Social effort	0.01 (0.03)				
University or posgraduate * Deservingness		-0.12** (0.04)			
Missing * Deservingness		-0.02 (0.03)			
University or posgraduate * Social talent			-0.07 (0.04)		
Missing * Social talent			0.00 (0.03)		
University or posgraduate * School effort				-0.01 (0.06)	
Missing * School effort				-0.00 (0.04)	
University or posgraduate * School talent					-0.03 (0.04)
Missing * School talent					0.01 (0.03)
Controls	Yes	Yes	Yes	Yes	Yes
AIC	12472.82	12480.94	12486.54	12489.10	12489.36
BIC	12649.03	12657.15	12662.76	12665.31	12665.57
Log Likelihood	-6209.41	-6213.47	-6216.27	-6217.55	-6217.68
Num.obs	5047	5047	5047	5047	5047
Num. groups: Schools	231	231	231	231	231
Var: Schools (Intercept)	0.01	0.00	0.00	0.00	0.00
Var: Schools University or Postgraduate	0.00	0.01	0.02	0.02	0.02
Var: Schools Missing	0.00	0.02	0.02	0.02	0.02
Cov: Schools (Intercept) University or Postgraduate	0.00	0.00	0.00	0.00	0.00
Cov: Schools (Intercept) Missing	0.00	0.00	0.00	0.00	0.00
Cov: Schools University or Postgraduate, Missing	0.00	0.02	0.02	0.02	0.02
Var: Residual	0.66	0.67	0.67	0.67	0.67

Note: Cells contain regression coefficients with standard errors in parentheses. Control variables are included. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.

Table 19: Linear mixed-effects models for meritocracy perception, books at home and market justice preferences

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	1.29*** (0.10)	1.34*** (0.10)	1.34*** (0.10)	1.31*** (0.11)	1.35*** (0.10)
School talent	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.11*** (0.02)
School effort	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)	-0.10*** (0.02)	-0.12*** (0.02)
Social talent	0.07*** (0.02)	0.07*** (0.02)	0.09*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Social effort	0.11*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Deservingness	0.20*** (0.02)	0.21*** (0.02)	0.20*** (0.02)	0.20*** (0.02)	0.20*** (0.02)
Parental education (Ref.= Non-university)					
University or posgraduate	0.05 (0.04)	0.05 (0.04)	0.05 (0.04)	0.05 (0.04)	0.05 (0.04)
Missing	0.06* (0.03)	0.07* (0.03)	0.07* (0.03)	0.07* (0.03)	0.07* (0.03)
More than 25 books (Ref.= Less than 25)	0.17* (0.08)	0.05 (0.08)	0.03 (0.08)	0.12 (0.15)	-0.00 (0.09)
SES High (Ref.= Low)	-0.06 (0.05)	-0.06 (0.05)	-0.06 (0.05)	-0.06 (0.05)	-0.06 (0.05)
Achievement score (Ref.= Low)					
Simce Medium	-0.12*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)
Simce High	-0.24*** (0.04)	-0.24*** (0.04)	-0.24*** (0.04)	-0.24*** (0.04)	-0.24*** (0.04)
Books at home x Meritocracy					
More than 25 books * Social effort	-0.08** (0.03)				
More than 25 books * Deservingness		-0.04 (0.03)			
More than 25 books * Social talent			-0.03 (0.03)		
More than 25 books * School effort				-0.05 (0.04)	
More than 25 books * School talent					-0.01 (0.03)
Controls	Yes	Yes	Yes	Yes	Yes
AIC	12462.52	12469.09	12469.61	12468.65	12470.35
BIC	12612.63	12619.20	12619.72	12618.76	12620.46
Log Likelihood	-6208.26	-6211.54	-6211.81	-6211.32	-6212.18
Num.obs	5047	5047	5047	5047	5047
Num. groups: Schools	231	231	231	231	231
Var: Schools (Intercept)	0.00	0.00	0.00	0.00	0.00
Var: Schools More than 25 books	0.03	0.03	0.03	0.03	0.03
Cov: Schools (Intercept) More than 25 books	0.00	0.00	0.00	0.00	0.00
Var: Residual	0.67	0.67	0.67	0.67	0.67

Note: Cells contain regression coefficients with standard errors in parentheses. Control variables are included. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.

Table 20

Table 21: Linear mixed-effects models for meritocracy perception, school socioeconomic status and market justice preferences

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	1.32*** (0.10)	1.31*** (0.10)	1.32*** (0.10)	1.37*** (0.11)	1.38*** (0.10)
School talent	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.02)
School effort	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)	-0.12*** (0.02)
Social talent	0.07*** (0.02)	0.07*** (0.02)	0.09*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Social effort	0.10*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Deservingness	0.20*** (0.02)	0.22*** (0.02)	0.20*** (0.02)	0.20*** (0.02)	0.20*** (0.02)
Parental education (Ref.= Non-university)					
University or posgraduate	0.05 (0.04)	0.05 (0.04)	0.05 (0.04)	0.05 (0.04)	0.05 (0.04)
Missing	0.06* (0.03)	0.07* (0.03)	0.07* (0.03)	0.07* (0.03)	0.07* (0.03)
More than 25 books (Ref.= Less than 25)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)
SES High (Ref.= Low)	0.10 (0.10)	0.13 (0.09)	0.08 (0.10)	-0.07 (0.17)	-0.08 (0.10)
Achievement score (Ref.= Low)					
Since Medium	-0.11** (0.04)	-0.11** (0.04)	-0.11** (0.04)	-0.11** (0.04)	-0.11** (0.04)
Since High	-0.25*** (0.05)	-0.25*** (0.05)	-0.24*** (0.05)	-0.24*** (0.05)	-0.24*** (0.05)
School SES x Meritocracy					
SES High * Social effort	-0.06* (0.03)				
SES High * Deservingness		-0.08** (0.03)			
SES High * Social talent			-0.06 (0.03)		
SES High * School effort				0.00 (0.04)	
SES High * School talent					0.00 (0.03)
Controls	Yes	Yes	Yes	Yes	Yes
AIC	12461.41	12458.82	12462.31	12465.17	12465.95
BIC	12611.52	12608.93	12612.42	12615.28	12616.06
Log Likelihood	-6207.71	-6206.41	-6208.15	-6209.59	-6209.97
Num.obs	5047	5047	5047	5047	5047
Num. groups: Schools	231	231	231	231	231
Var: Schools (Intercept)	0.02	0.02	0.02	0.02	0.02
Var: Schools SES High	0.02	0.02	0.02	0.01	0.02
Cov: Schools (Intercept) SES High	-0.01	-0.01	-0.01	-0.01	-0.01
Var: Residual	0.66	0.66	0.66	0.66	0.66

Note: Cells contain regression coefficients with standard errors in parentheses. Control variables are included. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.

Table 22

Table 23: Linear mixed-effects models for meritocracy perception, school performance status and market justice preferences

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	1.28*** (0.11)	1.22*** (0.11)	1.30*** (0.11)	1.43*** (0.14)	1.37*** (0.11)
School talent	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.10*** (0.01)	0.11*** (0.03)
School effort	-0.11*** (0.02)	-0.11*** (0.02)	-0.11*** (0.02)	-0.13*** (0.03)	-0.12*** (0.02)
Social talent	0.07*** (0.02)	0.07*** (0.02)	0.10*** (0.03)	0.07*** (0.02)	0.07*** (0.02)
Social effort	0.12*** (0.03)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)	0.08*** (0.02)
Deservingness	0.20*** (0.02)	0.25*** (0.03)	0.20*** (0.02)	0.20*** (0.02)	0.20*** (0.02)
Parental education (Ref.= Non-university)					
University or posgraduate	0.05 (0.04)	0.05 (0.04)	0.05 (0.04)	0.05 (0.04)	0.05 (0.04)
Missing	0.06* (0.03)	0.07* (0.03)	0.06* (0.03)	0.07* (0.03)	0.07* (0.03)
More than 25 books (Ref.= Less than 25)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)
SES High (Ref.= Low)	-0.06 (0.06)	-0.06 (0.06)	-0.06 (0.06)	-0.05 (0.06)	-0.05 (0.06)
Achievement score (Ref.= Low)					
Simce Medium	-0.00 (0.10)	0.10 (0.10)	-0.01 (0.10)	-0.23 (0.17)	-0.12 (0.11)
Simce High	-0.07 (0.10)	-0.01 (0.10)	-0.12 (0.11)	-0.27 (0.19)	-0.19 (0.12)
School performance (SIMCE) x Meritocracy					
Simce Medium * Social effort	-0.04 (0.03)				
Simce High * Social effort	-0.06 (0.03)				
Simce Medium * Deservingness		-0.08* (0.03)			
Simce High * Deservingness		-0.09* (0.03)			
Simce Medium * Social talent			-0.04 (0.03)		
Simce High * Social talent			-0.04 (0.03)		
Simce Medium * School effort				0.03 (0.05)	
Simce High * School effort				0.01 (0.05)	
Simce Medium * School talent					0.00 (0.03)
Simce High * School talent					-0.02 (0.04)
Controls	Yes	Yes	Yes	Yes	Yes
AIC	12473.25	12468.62	12474.86	12474.76	12476.32
BIC	12649.46	12644.84	12651.08	12650.98	12652.54
Log Likelihood	-6209.62	-6207.31	-6210.43	-6210.38	-6211.16
Num.obs	5047	5047	5047	5047	5047
Num. groups: Schools	231	231	231	231	231
Var: Schools (Intercept)	0.01	0.01	0.01	0.01	0.01
Var: Schools Simce Medium	0.00	0.00	0.00	0.00	0.00
Var: Schools Simce High	0.07	0.07	0.07	0.07	0.07
Cov: Schools (Intercept) Simce Medium	-0.00	-0.00	-0.00	-0.00	-0.00
Cov: Schools (Intercept) Simce High	-0.03	-0.03	-0.03	-0.03	-0.03
Cov: Schools Simce Medium, Simce High	0.01	0.01	0.01	0.01	0.01
Var: Residual	0.66	0.66	0.66	0.66	0.66

Note: Cells contain regression coefficients with standard errors in parentheses. Control variables are included. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Source: own elaboration based on First Study of Civic Education 2017.