

# Changes in Beliefs about Meritocracy and Preferences for Market Justice in the Chilean School Context

Pre-registration (english version)

1- What is the hypothesis that will be investigated?

*Provide a brief description of the relevant theory and formulate the hypothesis as precisely as possible.*

Economic inequality refers to the unequal distribution of wealth, income, and other economic resources and opportunities within a society. Various ways of justifying economic inequality exist among individuals and groups, where perceptions about meritocracy might play an important role (Castillo et al. 2024). One way to study economic inequality involves research on preferences for market justice, understood as beliefs regarding how fair it is for individuals with higher incomes to gain better access to social services such as healthcare, education, and pensions (Lane 1986; Lindh and McCall 2023). However, most studies on market justice have focused on adult populations, leaving limited knowledge of factors associated with these preferences at earlier ages, as well as how they are formed (Castillo et al. 2024). Using data from the two-wave panel survey “Educación y Meritocracia” (N=900, 2023–2024), conducted among basic and secondary education students in Chile, this study delves into changes in and the influence of perceptions and preferences about meritocracy in the school and broader society on market justice. Since meritocracy is conceived as a system in which rewards are distributed based on individual effort and talent (Young 1958), the central hypothesis posits that those who perceive greater meritocracy and prefer meritocracy both in school and in society will tend to exhibit higher preferences for market justice.

Following the conceptual and measurement framework proposed by Castillo et al. (2023) (see Figure 1), we operationalize meritocracy around three key distinctions. First, we differentiate between perceptions and preferences: while perceptions address how individuals observe meritocratic principles in society (i.e., what is), preferences concern normative judgments about how meritocracy should ideally function (i.e., what should be) (Janmaat 2013). Second, we distinguish between meritocratic and non-meritocratic elements: although personal contacts and family wealth (Reynolds and Xian 2014; Sandel 2020) might seem incompatible with the

valuation of effort and talent, they need not wholly contradict the acknowledgment of these factors in achieving success (Young 1958). Third, we examine two levels at which meritocratic principles operate: at the school level, meritocracy relates to whether students believe intelligence and effort predict academic achievement (e.g., good grades) (Resh 2010), whereas at the societal level, it addresses how meritocratic principles are both perceived and desired more broadly.

Thus, the following hypotheses are proposed:

- H1: Students with a higher perception of social meritocracy will show a greater preference for market justice.
- H2: Students with a higher preference of social meritocracy will show a greater preference for market justice.
- H3: Students with a higher perception of social non-meritocratic aspects will show lower preference for market justice.
- H4: Students with a higher preference of social non-meritocratic aspects will show a greater preference for market justice.
- H5: Students with a higher perception of school meritocracy will show a greater preference for market justice.

Finally, research has shown that younger children tend to display a preference for equality, while older children begin to accept inequality if it is justified by merit (Almås et al. 2010; Baumard, Mascaro, and Chevallier 2012). Therefore, differences in preferences for market justice are expected according to school level (primary vs. secondary) as well as over time (2023–2024). Hence, two additional hypotheses are set forth:

- H6: As students advance through successive grade levels (within effect) and belong to later cohorts (between effect), their preferences for market-based justice will increase.
- H7: The association between perceptions of meritocracy and preferences for market-based justice will strengthen as students progress in their schooling (within effect).

2- How will the crucial variables be operationalized?

*State exactly how the variables specified in the hypothesis will be measured.*

**Preferences for market justice:** Our dependent variable is market justice. This construct is measured through three items that assess the extent to which respondents justify whether access to social services (health, pensions, and education) should be conditioned by income. The items are the following:

- Health: “Is it good that those who can pay more have better access to healthcare?”
- Education: “Is it good that those who can pay more have better education?”
- Pensions: “Is it good that in Chile, people with higher incomes can have better pensions than people with lower incomes?”

In all cases, respondents indicate their preferences using a four-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (4). Additionally, we include a summary indicator of “preferences for market justice,” measured by an average index of these items, with values ranging from 1 to 4, where higher values represent stronger preferences for market justice.

Concerning meritocracy, there are two variants:

#### *Societal level*

**Scale of perceptions and preferences about social meritocracy:** The variables included in the measurement model for perceptions and preferences of both meritocratic and non-meritocratic elements are operationalized based on the items proposed by Castillo et al. (2023). Perception of meritocracy is measured through two items that gauge the level of agreement regarding whether effort and ability are rewarded in Chile, while non-meritocratic perceptions are measured with two items that assess the extent to which success is seen as stemming from personal connections and family wealth. Preference for meritocracy is measured by two items that evaluate the degree of agreement that those who work harder or have more talent should be more rewarded. Preference for non-meritocratic factors is assessed by two indicators that measure the degree of agreement with the idea that it is acceptable for those with better connections or wealthy parents to achieve greater success. Each item was answered on a four-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (4).

#### *School level*

**Perception of school meritocracy:** This variable captures the perceived importance of effort and intelligence for obtaining good grades. The items are: (a) “In this school, those who work hard get good grades,” (b) “In this school, those who are intelligent get good grades,” and (c) “In this school, students get the grades they deserve.” Response categories range from 1 to 4, where 1 indicates strongly disagree and 4 strongly agree.

3- What is the source of the data included in the analyses?

*Specify the source of the obtained data. Also provide information about the context of the data source and clarify whether the data has been previously published. In case of simulated data, provide information on how the data was generated.*

The dataset to be used comes from the panel survey “Educación y Meritocracia” (EDUMER), conducted in Chile during 2023 and 2024. This study evaluated sixth-grade and first-year high school students from nine schools in the Metropolitan Region. The total sample of complete responses is 902 students. Link to the repository and documentation [here](#).

4- How will this data be obtained?

*Specify how the data will be requested or accessed. Clarify whether the data were already available and whether the dataset has been previously explored or analyzed.*

The data from the first (2023) and second (2024) waves of the panel study “Educación y Meritocracia” (EDUMER) are already available.

No prior analyses have been conducted, apart from descriptive analyses and tests to evaluate the applied experiment.

5- Are there any exclusion criteria for the data?

*Specify whether there were any criteria for the exclusions of certain datasets, observations or time points*

Cases with incomplete responses (missing data and/or NA) will be excluded from the sample. Additionally, using the R statistical package `responsePatterns`, it is possible to detect repetitive response patterns, which contributes to higher-quality research data (Gottfried et al. 2022). For example, cases where only the “1” option is chosen or patterns such as “1-2-3-4-1-2-3-4” are followed will be excluded.

6- What are the planned statistical analyses?

*Specify the statistical model that will be used to analyze the data and describe the data pre-processing steps. Be as specific as possible and avoid ambiguity.*

Prior to data analysis, the variables of interest will be recoded, and missing cases and atypical or problematic response patterns will be removed.

First, a univariate descriptive analysis will be carried out. Next, bivariate (correlational) analyses will be performed. Finally, longitudinal multilevel regression models will be applied, with individuals as the unit of clustering.

7- What are the criteria for confirming and disconfirming the hypotheses?

*Specify exactly how the hypothesis will be evaluated. Give specific criteria relevant to the used analytical model and framework (e.g., alpha-values, Bayes Factor, RMSEA).*

Statistically significant effects at an alpha level of 0.05 ( $p < 0.05$ ).

8- Have the analyses been validated on a subset of the data? If yes, please specify and provide the relevant files.

*Indicate whether the proposed data-analyses have previously been validated on a subset of the data or a simulated dataset. If so, provide the data files and data syntax.*

No analyses have been validated so far.

9- What is known about the data that could be relevant for the tested hypotheses?

*Please describe any prior knowledge that you have about the data set (e.g., the known mean of a variable) that is relevant for your research question.*

Basic descriptive statistics of the variables (mean, mode, and frequencies) are known.

10- Please provide a brief timeline for the different steps in the preregistration.

Provide the (foreseen) dates for the different steps in this preregistration form.

- 15 February: First draft

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