Variable descriptor of TeensLab dataset.

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September 18, 2024

This project describes the variables found in the Teenslab dataset (Vasco et al., 2024). This dataset contains 5,890 observations of students aged 10 to 23 from different educational stages (primary, secondary school, sixth form, and vocational training). It covers 33 different schools in Spain. The variables are grouped by topics. In bold we emphasize the name of the variable in the dataset.

The study was approved by the Ethical Committee of Universidad Loyola Andalucía (No. 20190318, 20200709 and 20230301) Furthermore, for 10-year-olds, it was also approved by the Bioethics Commission of the University of Barcelona (No. IRB00003099).

1 Sample variables

A total of 5,890 individuals were collected. The sample variables include a unique identifier for each individual (***usuario_id***) and a designation for the network with which the individual is affiliated based on her current academic year (***net_id***). In addition, the variable ***yeardone*** denotes the year during which the experiment took place, ranging from 2021 to 2023. The variable ***privacy*** specifies when the subject has accepted the data protection before starting the experiment and it allows us to record the answers of the subject. However, among those who did start the experiment, 10.34% of them did not complete the questionnaire (***dropout***).

In addition, another important issue in our study is that it has evolved over time, according to some of the results we observed. In other words, tasks have been included, withdrawn, or transformed over the period. However, most of the main variables remain the same and are comparable across the whole sample. Therefore, we have to take into account that for some specific tasks we only have a small subset of observations. Table A.1 shows the changes in the experiment and the data available for each study identifier in each school (***study***).

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2 School variables

Available information is available for each center where data is collected. The unique identifier for each high school is ***school***. Although most of the high schools are public (65.89%), there are semi-public ones as well (***schooltype***: 1 = Public, 2 = Semi-public). The sample was collected in two regions of Spain, 65.53% in 5 different provinces of Andalusia (11 different towns in total) and the remaining 34.47% in 8 different locations in Barcelona. Table 1 shows that information corresponds to the variables ***schoolprov*** (Province of the school) and ***schooltown*** (Location of the school), respectively. Note that only one province belongs to the region of Catalonia (***schoolprov***=6), the rest are under the region of Andalusia.

Table 1: Distribution of observations by province and high school location

	School province						
Town where the school is	1	2	3	4	5	6	**Total**
1	904	0	0	0	0	0	**904**
2	169	0	0	0	0	0	**169**
3	237	0	0	0	0	0	**237**
4	0	404	0	0	0	0	**404**
5	0	89	0	0	0	0	**89**
6	0	619	0	0	0	0	**619**
7	0	419	0	0	0	0	**419**
8	0	0	167	0	0	0	**167**
9	0	0	0	238	0	0	**238**
10	0	0	0	0	463	0	**463**
11	151	0	0	0	0	0	**151**
12	0	0	0	0	0	1,079	**1,079**
13	0	0	0	0	0	52	**52**
14	0	0	0	0	0	399	**399**
15	0	0	0	0	0	149	**149**
16	0	0	0	0	0	157	**157**
17	0	0	0	0	0	54	**54**
18	0	0	0	0	0	44	**44**
19	0	0	0	0	0	96	**96**
Total	**1,461**	**1,531**	**167**	**238**	**463**	**2,030**	**5,890**

In addition, for each student, the ***stage***, the year or ***grade*** (see Table 2), and also the ***group*** in which they are in are specified. In total, we get 255 classes in the whole sample. The size of each group can also be obtained with the variable ***class_ size***.

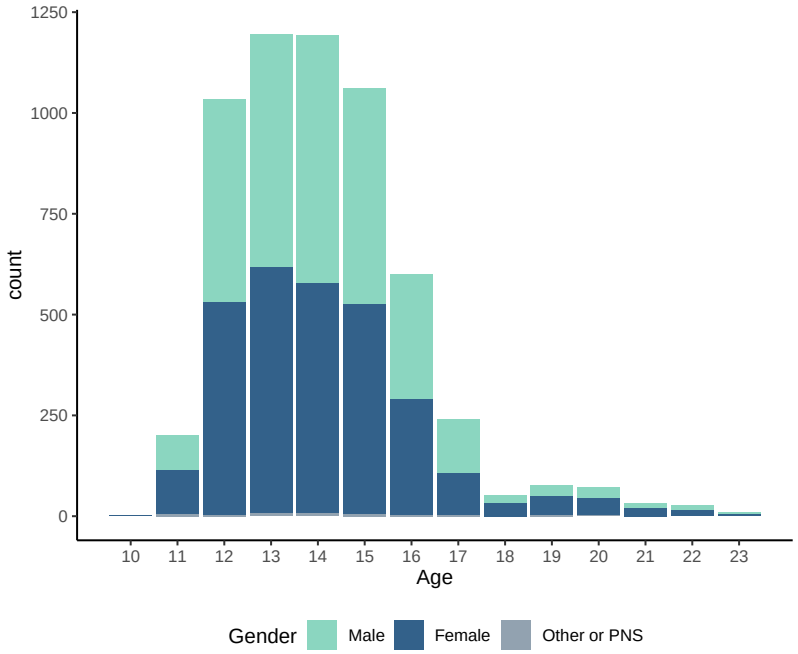
Table 2: Distribution of observations by stage and grade

	Year/Grade						
Stage	1	2	3	4	5	6	**Total**
Elementary school	0	0	0	0	210	298	**508**
High school	1,373	1,464	1,208	958	0	0	**5,003**
Sixth form	112	0	0	0	0	0	**112**
Vocational training	166	101	0	0	0	0	**267**
Total	**1,651**	**1,565**	**1,208**	**958**	**210**	**298**	**5,890**

3 Sociodemographic and related variables of individuals

Regarding individual-level attributes, the gender of the participants is coded with the variables ***gender*** and ***female*** (0 = Male, 1 = Female). Actually, 49.68% of the sample is female and 49.68% male, the remaining part is unknown, (***gender*** = 99).[1] Their ***age*** is given in years, we compute the missing ages, according to the mode of the class to which the student belongs. Figure 1 shows the distribution of age by gender.

Figure 1: Sample distribution by age and gender



Family. Information concerning their family is also included. Having siblings, as a dichotomous variable, and how many of them they have been reported, ***siblings*** and ***nsiblings***, respectively.[2] For those who report siblings, we also ask about their position among their siblings with ***ranksib***. The immigrant origin is also collected with the variable ***migrant***. They can report that they or their parents were not born in Spain. Indeed our sample shows 16.90% of cases with an immigrant origin. The variable ***migrant_firstgen*** takes 1 if the individual was born in a country different from Spain, and 0 in the case of Spain. For the second generation, the variable ***migrant_secondgen*** takes 1 if one of the subject's parents was born somewhere different from Spain, and 0 if both were born in Spain.

We also cover information on household income. Table 3 shows the distribution of participants by self-reported income. Participants ranked their family's wealth on a 10-step scale, where step 1 represented the poorest families in Spain and step 10 the wealthiest. To adapt it to the age of our sample, we asked it in a relative way: *Imagine a stairway with ten(five) steps, where on step 1 are the poorest families in Spain, and on step 10 (5) are the richest ones. On which step of the stairway would you place your family?* First, we use a 10-step version (***stairs10***) and then a 5-step version (***stairs5***).

[1] Either because they did not want to answer or they selected another category.

[2] Note that recent surveys also include variables to distinguish between number of sisters and brothers (***nsister nbrother***)

Table 3: Self-reported income distribution (10 steps)

Income level	**n**	**Percent (%)**
1st	27	0.85%
2nd	20	0.63%
3rd	82	2.59%
4th	245	7.74%
5th	909	28.72%
6th	785	24.80%
7th	688	21.74%
8th	246	7.77%
9th	52	1.64%
10th	111	3.51%
Total	3,165	100%

Grade Point Average. To learn about their academic results, we asked them in which subjects they have received an A ***nmark10_ text*** and a B ***nmark8_ text*** among these three subjects: English, literature, and mathematics. We also included the option 'other'. Considering only the first three subjects, the ***GPA*** variable, is calculated, which indicates the total number of A and B grades. The values of this variable can be found in Table 4.

Table 4: GPA score

		Num. A			
		0	1	2	3
Num. B	0	0	2	5	9
	1	1	4	8	x
	2	3	7	x	x
	3	6	x	x	x

In addition, two-thirds of the studies included the question of whether they had repeated a year. The variable ***repeater*** is equal to 1 if they have repeated any year, 0 if they have not, or 99 if they do not want to answer. Moreover, some questionnaires also included a question on optional subjects, the answers are collected in the ***optional*** variable.

Mood. We included three items from the Kidscreen questionnaire about their mood regarding school and social relationships (Aymerich et al., 2005; Ravens-Sieberer et al., 2005).

Q1 Over the last week, have you been doing well at high school? (***moodgeneral***)

Q2 Over the last week, have you had fun with your friends? (***moodfun***)

Possible answer for both variables are: 0 = Never, 1 = Almost never, 2 = Sometimes, 3 = Almost always, 4 = Always.

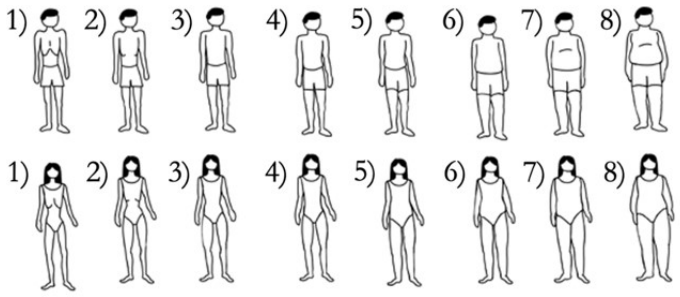
Q3 Over the last week, have you felt lonely? (***moodalone***)

Its possible answers are: 0 = Always, 1 = Almost always, 2 = Sometimes, 3 = Almost never , 4 = Never.

The variable ***happy*** is a total score (0-12) from these three variables.

Physical attributes. The ***height*** and ***weight*** variables include self-reported information in centimeters and kilograms respectively[3]. Given the lack of answers to these questions, we include a task that requires self-appearance by the Stunkard figure scale (Stunkard et al., 1986). Based on these figures (see Figure 2), the variable ***obesity*** takes values from 1 to 8.

Figure 2: Figures presented for self-perception



Expectations. We asked about their future expectations regarding going to university, traveling, and living in another country (on a scale from 0 to 100), as well as the profession they would like to become (from an eligible list).

Q1 On a scale from 0 to 100, please give a score on whether you would like to go to university in the future. (***uniwant***)

Q2 On a scale from 0 to 100, please give a score on whether you would like to do a round-the-world trip in the future. (***world***)

Q3 On a scale from 0 to 100, please give a score on whether you would like to live in another country in the future. (***abroad***)

Q4 Among all the professions we suggest, which one would you like to become your future job? (***willwork***)

For questions **Q1**, **Q2** and **Q3**, two randomized procedures are used, in the case of using a slider, the variable ***wish_slider*** takes value 1, while if the subjects have to enter the exact number directly, it takes value 0.

Self-assessed math abilities (SAMA). We asked about their own perceptions and preferences about mathematical calculations (Adamecz-Völgyi et al., 2023). Two types of questions: "How good are you ..." and "How much do you like ...":

Q1 How good do you feel you are at solving numerical and monetary problems? (***good1***)

Q2 How good do you feel you are at solving mathematical problems with mental arithmetic? (***good2***)

Q3 How good do you feel you are at multiplying and dividing? (***good3***)

Possible answer for these variables are: 0 = Very bad, 1 = Bad, 2 = Normal, 3 = Good, 4 = Very good.

[3]The option to not answer personal questions and continue forward was available.

Q1 How much do you like solving numerical and monetary problems? (***like1***)

Q2 How much do you like solving mathematical problems with mental arithmetic? (***like2***)

Q3 How much do you like multiplying and dividing? (***like3***)

Possible answer for these variables are: 0 = Not al all, 1 = A little, 2 = Neither too much nor too little, 3 = Pretty much, 4 = A lot.

Both blocks of questions appear randomly but the three questions in each one appear in a fixed way. We control with the variable ***goodbeforelike*** if the self-perception block appears before the preferences block.

4 Time preferences

In order to elicit temporal preferences we use *the truck task*, a tool introduced by Alfonso et al. (2023). This task preserves the essence of Coller and Williams (1999) with a visual format which has been shown to give better results in terms of consistency in a young population. Students are asked to make 6 decisions within a fixed order, choosing between two options. In option A, the money is always delivered in one day, while in option B it is delivered in eight days. Both options start from the same initial payoff, but only option B increases.

For each decision, one variable is assigned starting with *money* and the number of the decision: ***money1***, ..., ***money6***; (0 = Option A, 1 = Option B). Table 5 shows the percentage of responses for each option, with respect to the subjects who do answer that task.

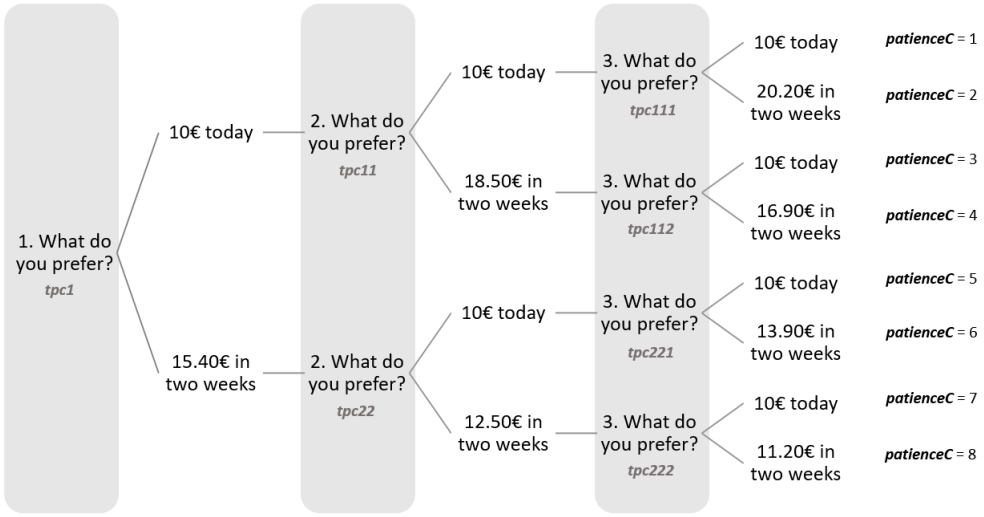
Table 5: Percentage of responses for each decision

	A	B	n
money1	83.63%	16.37%	5,691
money2	57.80%	42.20%	5,690
money3	46.93%	53.07%	5,687
money4	39.34%	60.66%	5,687
money5	36.67%	63.33%	5,686
money6	29.20%	70.80%	5,684

From these results, the variable ***patienceN*** is constructed as the total number of options B chosen by the individual divided by six to normalize it with values between 0 and 1. Furthermore, a variable called ***cns_td*** is also included to indicate which individuals show consistent behavior. We consider that an individual shows consistent behavior in time preference elicitation when, once she has chosen option B (receive in eight days instead of tomorrow), she does not choose option A in the following decisions. In other words, if they are consistent, they do not switch back.

In addition, we include an additional task on time preferences in a conditional setting that does not include figures. We use a version of a *staircase* procedure by Falk et al. (2023). They are informed that they will have to make three decisions (one per screen) on how they want to receive a hypothetical amount of money. Figure 3 shows the different options according to the previous answers of the subjects. The variable ***patienceC*** contains the level of patience measured with the task with values from 1 to 8.

Figure 3: Decision tree in conditional time preference task



Note: The staircase procedure worked in the same way as Falk et al. (2023). First, the leftmost decision node starts with the question of whether one would prefer to receive 10 euros today or 15.40 euros in 2 weeks. In case of choosing to receive it today, in the second question, the payment in 2 weeks was adjusted upwards to 18.5 euros. Alternatively, if 2 weeks is chosen, the payment is adjusted downwards to 12.5 euros. The procedure is repeated twice and follows the same logic. The name below each decision node is the name of the variable that records the response.

5 Risk preferences

Similar to eliciting preferences for time discount, we use a visual task to measure risk aversion based on Holt and Laury (2002). According to the results reported by Vasco and De Francisco (2023), this task (*The Gumball Machine*) is best suited in contexts with non-standard subjects. In this shorter version, students have to make 6 decisions in a fixed order. Each decision has two options presented with gumball machines presenting different payoffs and different probabilities. Option A is the safer alternative and option B is the riskier one.

For each decision, a variable is associated with the name prob followed by the number of the decision: ***prob1***,...,***prob6***; (0 = Option A, 1 = Option B). Table 6 shows the proportion of responses.

Table 6: Percentage of responses for each decision

	A	B	n
prob1	89.42%	10.58%	5,597
prob2	80.89%	19.11%	5,595
prob3	45.42%	54.58%	5,594
prob4	18.20%	81.80%	5,593
prob5	10.03%	89.97%	5,591
prob6	5.24%	94.76%	5,590

The level of risk-seeking is calculated by simply adding up all the decisions that option B has been chosen and dividing by six (***riskyN***). In order to differentiate individuals who show consistent behavior, the variable ***cns_risk*** identifies those subjects who do not exhibit any inconsistent behavior according to Vasco and De Francisco (2023).

In addition, to test whether the order of the tasks influences the answers, an alternative version

was run in 12 schools, where the risk task is presented before the time task. About 30.53% of the responses are with this version which is identified with the binary variable ***hlbeforetd***, it takes value 0 when the time task comes first and 1 when the risk task comes first. We also modified the order in which payoffs are presented in the gumball machine pictures with a new distribution in 19.58% of the sample. The binary variable ***newdesignhl*** takes a value of 1 when this new design is used and 0 otherwise

6 Social preferences

For testing inequality aversion in teenagers, we used two experimental designs. The variable ***sp_version*** refers to the version used, almost 85.26% of the sample has version 1 while the remaining 14.74% of the sample has version 2. The first one was based on Fehr et al. (2008). We built three decisions where subjects must decide between altruistic and individualistic choices. These decisions were presented in the same order for one part of the sample (56.57%), and it was randomized for another part of the subjects (43.43%) (***sp_randomized***).

This first experimental design included:

Q1 What do you prefer?
A) 10€ for you and 10€ for the other person; B) 10€ for you and 0€ for the other person (***sp1_v1***)

Q2 What do you prefer?
A) 10€ for you and 10€ for the other person; B) 10€ for you and 20€ for the other person (***sp2_v1***)

Q3 What do you prefer?
A) 10€ for you and 10€ for the other person; B) 20€ for you and 0€ for the other person (***sp3_v1***)

The second experimental design was based on Corgnet et al. (2015) and Brañas-Garza et al. (2022). It was a version extended of the first one, where subjects must decide between two choices in six questions. These decisions were always presented in the same order, and it included:

Q1 What do you prefer?:
A) 1€ for you and 1€ for the other person; B) 0.8€ for you and 1.6€ for the other person (***sp1_v2***)

Q2 What do you prefer?
A) 1€ for you and 1€ for the other person; B) 1.2€ for you and 0.4€ for the other person (***sp2_v2***)

Q3 What do you prefer?
A) 1€ for you and 1€ for the other person; B) 1€ for you and 1.8€ for the other person (***sp3_v2***)

Q4 What do you prefer?
A) 1€ for you and 1€ for the other person; B) 1€ for you and 0.6€ for the other person (***sp4_v2***)

Q5 What do you prefer?
A) 1€ for you and 1€ for the other person; B) 1.6€ for you and 0.4€ for the other person (***sp5_v2***)

Q6 What do you prefer?
A) 1€ for you and 1€ for the other person; B) 1.1€ for you and 1.9€ for the other person (***sp6_ v2***)

The answers are included in binary variables where they take the value 0 if they choose A and 1 in the case of B. Table 7 shows the proportion of responses.

Table 7: Percentage of responses for each decision

	A	B	n
sp1_ v1	86.84%	13.16%	4,477
sp2_ v1	65.04%	34.96%	4,499
sp3_ v1	63.25%	36.75%	4,498
sp1_ v2	85.56%	14.44%	859
sp2_ v2	73.75%	26.25%	857
sp3_ v2	74.91%	25.09%	857
sp4_ v2	81.10%	18.90%	857
sp5_ v2	70.83%	29.17%	857
sp6_ v2	70.36%	29.64%	857

Note: The ending name of the variable refers to the version used: version 1 (v1) and version 2 (v2).

7 Probabilistic knowledge

We test their probability knowledge with an adaptation of Estepa et al. (2021) based on the approach of Delavande and Kohler (2009). The task involves specifying a value from 0 to 100 the probability of an event actually occurring.[4] We include the following questions:

Q1 Imagine I have a basket with 5 apples: 1 green and 4 red. If I ask you to pick one of the apples without looking at the inside of the basket, how likely (from 0 to 100) do you think you will pick the green apple? (***delavande_ apple20***)

Q2 Imagine I have a basket with 10 apples: 1 green and 9 red. If I ask you to pick one of the apples without looking at the inside of the basket, how likely (from 0 to 100) do you think you will pick the green apple? (***delavande_ apple10***)

Q3 How likely (from 0 to 100) do you think you will eat rice in the next week (including today)? (***delavande_ riceweek***)

Q4 How likely (from 0 to 100) do you think you will eat rice in the next month (including today)? (***delavande_ ricemonth***)

Q5 How likely (from 0 to 100) do you think you are not going to attend school during the entire next month (including today)? (***delavande_ sch0***)

Q6 How likely (from 0 to 100) do you think you are going to take a shower at least once in the next month (including today)? (***delavande_ bath100***)

Q7 How likely (from 0 to 100) it is that you will go to university? (***delavande_ uni***)

Q8 How likely (from 0 to 100) do you think you will continue your education next year? (***delavande_ study***)[5]

[4] Values outside this range are denoted by 999
[5] Only included in the latest versions

We check the consistency of their responses to three extents. First, let Q1 be greater than Q2, then let Q3 be less than or equal to Q4 and finally let Q5 be less than Q6. Therefore, ***delavande_ total*** takes values from 0 to 3. Table 8 displays the main statistics of the related variables.

Table 8: Summary statistics of Delavande variables

	Obs	Mean	Std. Dev.	Min	Max
delavande_ apple20	5446	29.548	46.078	0	999
delavande_ apple10	5445	20.37	44.706	0	999
delavande_ riceweek	5434	59.732	51.675	0	999
delavande ricemoth	5434	80.407	64.308	0	999
delavande_ sch0	5424	19.467	51.14	0	999
delavande_ bath100	5424	84.024	82.137	0	999
delavande_ uni	5417	65.837	46.719	0	999
delavande_ study	2720	88.014	30.899	0	999
delavande_ slider	2746	0.502	0.5	0	1
delavande_ total	5424	2.361	0.762	0	3

For about 46% of the sample, we also tested these questions with two treatments: numerical values and sliders. In the first one subjects must answer by typing the number they thought, while in the second one, they must move a slider to the value they wanted to answer (***delavande_ slider***=1).

8 Abilities

We included two tasks to measure skills: the Cognitive Reflection Test (CRT) and some mathematical-financial questions (FinAb). Subjects always answered both tasks in the same order: First, they responded to the CRT and then to the FinAb. Both tasks were included in that fixed order, although the questions in each task were displayed randomized.

On the one hand, in the same vein as Thomson and Oppenheimer (2016), we include three adapted CRT questions:

Q1 Emily's father has three daughters. The first two are named April and May. What is the third daughter's name?

- Intuitive answer: June, Correct answer: Emily
- Reflective variable ***crt1***: 0 = Other , 1 = Emilia

Q2 In a library, the number of books doubles every month. If the library takes 48 months to fill, how long will it take to fill it halfway?

- Intuitive answer: 24, Correct answer: 47
- Reflexive variable ***crt2***: 0 = Other, 1 = 47

Q3 If you are running a race and you pass the person in second place, what place are you in?

- Intuitive answer: 1, Correct answer: 2
- Reflexive variable ***crt3***: 0 = Other, 1 = 2

On the other hand, FinAb includes basic operations and interest rates:[6]

Q1 If there are 5 people holding a winning lottery ticket and the price to be distributed is 2 million euros, how much money will each person receive?

- Correct answer: 400,000
- ***fin1***: 0 = Incorrect, 1 = Correct

Q2 Imagine you have 100 euros in a savings account. The account is earning interest at an annual rate of 10%. How much will you have in the account after two years?

- Correct answer: 121
- ***fin2***: 0 = Incorrect, 1 = Correct

Q3 Imagine you have 100 euros in a savings account and the annual interest rate you earn on your savings is 2%. If you keep the money in the account for 5 years, how much money will you have at the end of 5 years?

Multiple choice answer: A) Less than 102 €, B) Exactly 102 €, C) More than 102 €, D) I don't know (99).

- Correct answer: C) More than 102 €
- ***fin3***: 0 = Incorrect, 1 = Correct

The total number of correct answers per task is collected in the normalized variable ***crtN*** and ***finN***, respectively, taking values from 0 to 1.

Table 9: Distribution of total correct answers per ability task.

	CRT	FinAb
0	14.36%	31.07%
1	32.44%	41.00%
2	46.38%	24.56%
3	6.81%	3.36%
	100.00%	100.00%

9 Strategic thinking

Developing a game to assess strategic thinking posed significant challenges from the outset. This aspect of the research demanded a persistent cycle of trial and error, gradually refining the mechanisms to yield more consistent results with each new design. To evaluate strategic thinking, three different tasks with different approaches were developed. First, with dominant strategies, the Uno cards game was created. Secondly, considering Cournot-Nash equilibria, we worked with Piggy Banks. Finally, a coordination game with the task of colored buttons was adopted. Each new task replaced the previous one, so participants only performed one of them during their session. Indeed, around 50% of the sample used the Uno cards game, 15% the Piggy Banks and 35% the button game.

[6]Those who refused to answer or did not know the answer could enter 99

- Dominant strategies: The card game contains four questions differentiated by color and increasing in difficulty as subjects progress, so the questions are fixed and supported by pictures of the cards. Subjects had to select the card with the highest payoff maximization based on what the opponent was going to play. The games were named after the color of the deck of cards used. Thus, a different color was used for each game with the intention of visually demonstrating to the subjects that the games were different and their rules changed. The statements for each game can be found below:

  Q1 *Blue*: To pick a card from 1 to 5, where 5 is the Nash equilibria. (***st_ cards1***)

  Q2 *Yellow*: To pick a card from 1 to 5, where 4 is now the Nash equilibria. (***st_ cards2***)

  Q3 *Red*: To pick a card from 1 to 5, where either 1 or 2 are both the Nash equilibria. (***st_ cards3***)

  Q4 To pick a card from 1 to 5, where this card now means the same that the opponent has chosen in *Red*. (***st_ cards4***)

- Cournot-Nash games: A gif of a piggy bank was displayed where coins were accumulated every second from 0 to a maximum of 15. The task included two scenarios (0 and 15) but their order was randomly assigned. In each scenario, participants were first asked to click when they wanted to stop adding coins to the piggy bank. Next, they were asked about their beliefs about the actions of their partner.

  Q1 Number of seconds the subject took to press when it was his turn to play first (i.e. before the opponent). (***st_ piggy_ 0_ sec***)

  Q2 Belief about what the rival could have done in the previous game: if he hit the piggy bank, before, after or at the same time as he did. (***st_ piggy_ belief0***)

  Q3 Number of seconds the subject took to press when it was his turn to play second (i.e. after the opponent). (***st_ piggy_ 15_ sec***)

  Q4 Belief about what the rival could have done in the previous game: if she hit the piggy bank, before, after or at the same time as she did. (***st_ piggy_ belief15***)

- Coordination games: The Buttons task consisted of two coordination games. In each game, participants were presented with two buttons: one for a payoff-dominated scenario (PayD or yellow) and one for a risk-dominated scenario (RiskD or white). After each game, participants answered two different closed-list questions about why did they choose that button. The order of presentation of the buttons was first fixed and then randomized.

  Q1 *Yellow*: Button that the subject pressed in the Payoff dominant game (Yellow -dominant equilibria- or Red).(***st_ buttons_ game1***)

  Q2 Argument that they chose to justify their choice of action in *Yellow* (because they earned more, they earned less, they liked the color or because they chose randomly) (***st_ buttons_ argument1***)

  Q3 *White*: Button that the subject pressed in the Risk dominant game (White -dominant equilibria- or Blue). (***st_ buttons_ game2***)

Q4 Argument that they chose to justify their choice of action in *White* (because it was more risky, less risky, they liked the color or because they chose randomly) (***st_ buttons_ argument2***)

10 Honesty

In order to measure honesty, we used two tasks with visual support. In the first one, we showed two images to identify the differences. On the next screen, we show different answer alternatives with different hypothetical payments: we indicate that if they report 0 differences they will get 0€, 1 difference 1€, 2 differences 2€, and so on until 6 differences 6€ ***honest_ pictures***. The correct answer is only 1 difference. Therefore, ***honesty*** variable takes the value 1 if the individual has been honest, 0 otherwise.

In the following experiments, we use another task that is based on numbers and colors. In the same way, on the first screen, a number and a color are shown. On the next screen, answer alternatives are displayed with possible combinations of numbers and colors together with an associated hypothetical payment (***honest_ numbers***). There is always an alternative which is another number different from the previous ones and another color – this is the correct answer. Therefore, ***honesty*** variable also takes the value 1 if the individual has been honest, 0 otherwise. Moreover, in this version, we also differentiate four treatments where the correct answer is incentivized with a higher payout. The treatments are randomized and balanced in the sample (around 25% of the sample per treatment). The ***treatment_ numbers*** variable captures the treatment of this task. The options shown for each treatment are:

Treatment 1: A red one and you win 30€. Two in blue and you win 15€. Three in red and you win 25€. Four in green and you win 35€. Five in green and you win 5€. Six in blue and you win 20€. Another one and you win 0€.

Treatment 2: A red one and you win 15€. Two in blue and you win 30€. Three in red and you win 20€. Four in green and you win 5€. Five in green and you win 35€. Six in blue and you win 25€. Another one and you win 0€.

Treatment 3: A red one and you win 30€. Two in blue and you win 15€. Three in red and you win 25€. Four in green and you win 35€. Five in green and you win 5€. Six in blue and you win 20€. Another one and you win 10€.

Treatment 4: A red one and you win 15€. Two in blue and you win 30€. Three in red and you win 20€. Four in green and you win 5€. Five in green and you win 35€. Six in blue and you win 25€. Another one and you win 10€.

11 Creativity

In order to measure creativity we used Guilford's Alternative Uses Task (AUT) (Guilford, 1967). We designed a task with two versions. In the original version, we asked the students for all the alternative uses they could imagine using a brick, allowing their responses in free-text format. Whereas in the second version, we changed the object to a rope and we added a screen where several uses could be selected from a list, these uses were randomly ordered. We focus on a component defined by Dippo and Kudrowitz (2013) as the number of uses mentioned by a learner for the object in Guilford (1956) alternative uses task. The sum of these uses provides the fluency score of the student (***creativityf***).

Screen 1: "*In the following screen, you will find an object. We ask you to* ***list*** *in your response* ***ALL the uses*** *that come to your mind with it.* ***Separate*** *each use you mention with a semicolon* ***(;)****.*

This ***IS AN EXAMPLE*** *of the question we are going to ask you. Imagine we ask you:* ***List all the alternative uses you can think of with a paperclip****. Your answers could be: make a hook; make a bracelet; make a fishing hook.*"

Screen 2: "***You can take 5 minutes*** *for the following question.*"

Screen 3: "*Write down all the alternative uses you can imagine for a brick. Remember to separate each idea you write with a semicolon (;)".*

Note: The third screen of the task in the second version only changed in the text from "brick" to "rope".

In the rope task, we had two randomized paths. On the first path the order of the screens was: example, time, task and multiple-choice screen, while the order of the second path was: example, multiple-choice, time and task screen. For the example screen of the second path the instruction was modified removing the phrase "Separate each use you mention with a semicolon (;)."

Screen 4: Multiple choice screen:
"*Select all the options that you consider as a use for a rope.*
I can use the rope to: measure the earth; jump rope; make a bracelet; build a bridge; move the moon; make a rescue in a fire; write; take a picture; act as a ladder; "

Note: This screen only appears in the second version of the task ("rope"). This screen does not always appear in the last place, it is randomized with the third screen.

The original answers are contained in the variable ***brick*** and ***rope*** respectively. In addition, for the second version, ***ropeuse*** includes the uses that are selected from the selection list and the variable ***rope_ order*** takes value 1 when the uses are presented second and 2, when they are presented first.

12 Other variables

- We control the dominant hand of each student, ***left_ hand*** is a binary variable, where 1 is left-handed (8.89%) and 0 is right-handed (91.11%).

- The ***device*** variable refers to how students complete the experiment.

- Questions about the Covid-19 situation:

Q1 Do you believe that the situation caused by Covid-19 has negatively affected your educational and learning performance? (***covid1***)

Q2 When in 2020 you had to follow classes online, which device did you use most frequently? (***covid2***)

Q3 The device marked above, were you the only one using it? (***covid3***)

Q4 How did you manage to connect to online classes with your device during 2020? (***covid4***)

- Perception of time in future actions at three levels:

Q1 This weekend - *I will go / I am going to go / I am going* - to the cinema (***ftr1***)

Q2 This summer - *I will go / I am going to go / I am going* - on holiday (***ftr2***)

Q3 In 15 years - *I get / I will get / I am going to get* - a job (***ftr3***)

Nonetheless, this version was run in only 2 schools. There is a reduced version with only the first and last questions included in the last 10 schools (***ftr_short*** = 1).

- Questions about climate change.

In the first screen of this task we informed them about climate change: *You may have noticed that climate change has recently received some attention in the media. Climate change refers to the idea that the global average temperature has increased over the past 150 years and that it may increase further in the future.*

In the following screens, we present the questions which need to be answered on a scale from "*not at all*" to "*very much*" using a slider control, except for **Q4** where the number is input directly and the last three questions which are true or false:

Q1 Personally, how much does climate change affect you? (***clima1***)

Q2 How much do you think climate change affects...

- your city? (***clima2***)
- the world? (***clima3***)
- your country? (***clima4***)
- your continent? (***clima5***)

Q3 How much do you think climate change will affect ...

- your generation? (***clima6***)
- you personally? (***clima7***)
- your grandchildren's generation? (***clima8***)
- your children's generation? (***clima9***)

Q4 How likely do you believe we are able to stop climate change? Please give a value between 0

and 100 (100: sure we can; 0: sure we can't). (***clima10***)

Q4 Please indicate whether the following statements are true or false:

- Climate change is mainly caused by natural phenomena (such as shifts in solar radiation and volcanic eruptions). (***clima11***)

- Climate change will cause the weather conditions to change in the same way all over the world. (***clima12***)

- Consumption of food, clothing and technology is associated with CO2 emissions that contribute to climate change. (***clima13***)

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Appendix A

Box A1 - Initial screen of the experiment

Welcome!

Before we begin, we want to thank you for your participation and inform you that all your responses will be kept confidential. This is a research project conducted by the Loyola Behavioral Lab, funded by the Andalusian Agency for International Development Cooperation, the Regional Government of Andalusia, and the Ministry of Science and Innovation.

As you will see, the instructions are very simple. It is very important that you pay close attention and fully understand the instructions.

If you require additional information, you can contact the research staff at Loyola University Andalusia involved in the project: Pablo Brañas Garza, Professor of Behavioral Economics, 957 22 21 00, pablob@uloyola.es. All personal data obtained in this study is confidential and will be processed in accordance with the Organic Law on Personal Data Protection and Guarantee of Digital Rights 3/2018.

CLICK ON THE CHECKBOX TO ACCEPT AND GO TO THE FOLLOWING SCREEN

[x] I consent to the processing of my data obtained in this study in accordance with the Spanish Organic Law on Personal Data Protection and Guarantee of Digital Rights 3/2018.

Appendix B

Table A.1: Changes in tasks by section

Study	**Num. obs.**	**Socio-demographic**	**Time preferences**	**Risk preferences**	**Social preferences**	**Probabilistic beliefs**	**Abilities**	**Strategical thinking**	**Honesty**	**Creativity**	**Others**
337	60	gender, age, gpa, optional, mood, weight and height	truck task	GBM	version 1 of 3Q	-	CRT and finance	Cards	Pictures	Brick	left, nutrition
391 400 411	642	gender, age, siblings, ranksib, gpa, optional, mood, weight and height	truck task	GBM	version 1 of 3Q	Delavande	CRT and finance	Cards	Pictures	Brick	left, nutrition
441	124	gender, age, siblings, ranksib, gpa, optional, mood, weight and height	truck task	GBM	version 1 of 3Q	Delavande	CRT and finance	Cards	Pictures	Brick	left, nutrition, money perception
460 469 470 471 472 475 476 477 478 479 480 483 484 485 486 608 609 610 611 612 615 616 618 620 621	2720	gender, age, siblings, nsiblings, ranksib, migrant, stairs10, gpa, optional, mood, weight and height, obesity	truck task	GBM	version 1 of 3Q	Delavande	CRT and finance	Cards	Pictures	Brick	left, nutrition, money perception
1112 1113 1114 1115	170	gender, age, siblings, nsiblings, ranksib, migrant, stairs10, gpa, optional, repeater, mood, weight and height, obesity, expectations	truck task	GBM	version 2 of 6Q	Delavande (slider randomly)	CRT and finance	Piggy bank	Number and color	Brick	left, nutrition, money perception (randomly), covid-19
1321 1322 1323 1324 1623 1624 1625 1626	958	gender, age, siblings, nsiblings, ranksib, migrant, stairs10, gpa, optional, repeater, mood, weight and height, obesity, expectations, good at and likes	truck task (after risk) and conditional	GBM (before time)	version 2 of 6Q	Delavande (slider randomly)	CRT and finance	Piggy bank	Number and color	Brick	left, nutrition, money perception (randomly), covid-19, ftr

Study	Num. obs.	Socio-demographic	Time preferences	Risk preferences	Social preferences	Probabilistic beliefs	Abilities	Strategical thinking	Honesty	Creativity	Others
3139 3140	170	gender, age, siblings, nsister and nbrother, ranksib, migrant, stairs10, gpa, optional, repeater, mood, obesity, expectations, good at and likes (randomly)	truck task and conditional	GBM (new design)	version 1 of 3Q (randomly)	Delavande (slider randomly)	CRT and finance	Buttons	-	Rope	left, covid-19, ftr (short version), climate change
2094 2181 2245 2246 2247 2248 2249 2250 2296 2297 2298 2299 2300 2373 2374 2375 2376 2377 2432 2433 2434 2435 2436 2437 2465 2466 2467	1097	gender, age, siblings, nsister and nbrother, ranksib, migrant, stairs5, gpa, optional, repeater, mood, good at and likes (randomly)	truck task (after risk) and conditional	GBM (before time)	version 1 of 3Q (randomly)	Delavande (slider randomly)	CRT and finance	Buttons	-	Brick	-
2513 2514 2553	80	gender, age, siblings, nsister and nbrother, ranksib, migrant, stairs5, gpa, optional, repeater, mood, good at and likes (randomly)	truck task (after risk) and conditional	GBM (before time and new design)	version 1 of 3Q (randomly)	Delavande (slider randomly)	CRT and finance	Buttons	-	Brick	climate change
2614 2615 2634 2635 2645 2673 2674 2675 2740	423	gender, age, siblings, nsister and nbrother, ranksib, migrant, stairs5, gpa, optional, repeater, mood, good at and likes (randomly)	truck task and conditional	GBM (new design)	version 1 of 3Q (randomly)	Delavande (slider randomly)	CRT and finance	Buttons	-	Brick	climate change, ftr (short version)
2870 3001 3002 3003 3004 3005 3099 3100 3435 3436	656	gender, age, siblings, nsister and nbrother, ranksib, migrant, stairs5, gpa, optional, repeater, mood, good at and likes (randomly)	truck task and conditional	GBM (new design)	version 1 of 3Q (randomly)	Delavande (slider randomly)	CRT and finance	Buttons	-	Rope	climate change, ftr (short version)