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WHAT IS GOOD FOR THE GOOSE IS GOOD FOR THE GANDER? HOW GENDER-SPECIFIC CONCEPTUAL FRAMES AFFECT FINANCIAL PARTICIPATION AND DECISION-MAKING

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What is Good for the Goose is Good for the Gander?

How gender-specific conceptual frames affect financial participation and decision-making

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Abstract

We conduct a field experiment with elementary school children to go to the roots of the gender gap in financial participation and decision-making. We compare the effects of two treatments designed to boost the attention span of participants in a basic financial task by aiming to elicit their time preferences. We find that the use of gender-specific conceptual frames (competitiveness vs. cooperation) in the description of the task: a) raises girls' interest and thus increases their number of coherent answers; b) makes the transmission of information on the utility of savings more effective in boosting the coherence of girls' answers; c) decreases girls' level of impatience. This evidence supports our underlying hypothesis that the use of more gender-specific conceptual frames in presenting financial information to women may play a role in narrowing the gender gap in financial market participation and decision-making.

JEL Classification: D03, C93, I2, D9.

Keywords: Field Experiment; Financial Inclusion; Gender Gap; Framing.

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1. Introduction

The gender gap in financial participation and decision-making has been extensively documented in the economics, psychology and sociology literature. For instance, it has been demonstrated that women are rarely primary decision-makers when it comes to savings and investment decisions. Fonseca et al. (2012) find that, when talking about making long-term spending and saving plans, 26.2% of women versus 33.8% of men declare that they are the primary decision-makers in their households. Similarly, when talking about tracking investments and insurance coverage, these percentages are 32.8% versus 49.2%. A number of studies highlight some potential determinants of this phenomenon (see Lusardi and Mitchell 2014 for an exhaustive overview). First of all, women are, on average, more risk-averse than men (Kahneman and Tversky 1979; Eckel and Grossman 2002, 2008; Niederle and Vesterlund 2007; Croson and Gneezy 2009; Dohmen et al. 2011), and portfolio choices are risky by definition. Second, women are on average less financially literate as well as less confident in their own capabilities than men. Evidence that women have lower scores on financial literacy tests than men is found in Lusardi and Mitchell (2008), Guiso et al. (2008), Fornero and Monticone (2011), van Roij et al. (2011) and Bucher-Koenen et al. (2017), whereas evidence of a gender gap in measured and self-assessed financial literacy is found in Barber and Odean (2001), Eckel and Grossman (2002), Van Roij et al. (2007), Arano et al. (2010), and Mahdavi and Horton (2014).[1] Third, social roles, cultural norms and/or specialization processes inside the family may prevent women from engaging in financial activities (Fonseca et al. 2012; Bucher-Koenen et al. 2017). Finally, Boggio et al. (2018) point out how the language of investor communication, by privileging masculine linguistic domains, may generate in women feelings of unfamiliarity towards this type of specialized

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[1]See Lusardi and Mitchell (2014) for a detailed review about how the patterns of financial literacy are affected by age, sex, education and ability, income and work status, race and ethnicity, and family background.

discourse (see Gotti 2003, 2011, for a definition of specialized discourse and an analysis of the features of technical as opposed to common language).

This article investigates an additional potential determinant of the gender gap in financial participation and decision-making. We start from the premises that the limited attention paid to a given (economic or non-economic) task is a consequence of two different mechanisms: a lack of interest in the task *per se* and a difficulty in foreseeing the utility of its outcome. In the context of the present study, this suggests that women participate in the financial markets less than men because, on one hand, they are less interested in thinking about how to invest their money, and, on the other, they do not fully foresee the benefits they can derive from their investments (Banerjee and Mullainathan 2008). We thus elaborate on the insights of Becker and Mulligan (1997) and Zhao et al. (2007). Becker and Mulligan (1997) state that inducing people to think about the utility that derives from future consumption encourages them to become more patient. Zhao et al. (2007), instead demonstrate that mentally simulating the future outcome leads to consistent time preferences. Moving from these studies, we investigate whether inducing people to think more carefully about the utility deriving from the outcome of a certain task may spark their interest in it, make them focus more on its completion, and improve the consistency of their answers.

Between December 2015 and January 2016, we run a field experiment aimed at eliciting participants' time preferences and propensity to save. The experiment targets a sample of third and fourth graders (aged 8 and 9) from five different elementary schools in the metropolitan area of Turin, Italy. Why do we target young children? The main reason is that they have been much less exposed than adults to socio-cultural conditioning factors potentially determining the gender gap in financial participation.[2] To be more specific, the

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[2] See Lusardi et al. (2010) for evidence of a gender gap in financial literacy among young adults (i.e., college graduates), and Lusardi et al. (2014) for evidence of a gender gap among individuals over the age of

choice of age group was dictated by our ambition to go to the roots of the gender gap by minimizing all the potential determinants deriving from socialization, the process by which human infants begin to acquire the skills necessary to perform as functioning members of society (Billingham 2007; Burusic et al. 2012). Inasmuch as socialization is the process through which human beings learn and come to understand the norms and expectations that serve as organizing devices in society, it is also a mean of constructing (stereo)typical social roles with specific capabilities and dispositions, including economic and financial ones.

We use a frame analysis approach to reinforce the theory that during the process of socialization human beings learn to give meaning to reality according to a set of conceptual frames (Goffman 1974). These conceptual frames are not intentional and originate in daily routines and customs without an awareness that they are such, and that they could have been different (Verloo and Lombardo 2007). In other words, they are what Gadamer (1960) defines "prejudices", that is socially constructed cultural filters through which human beings become aware of, understand and interpret reality. Thus it is through conceptual frames that we perceive certain activities, tasks and responsibilities as male or female (see Niederle and Vesterlund 2007 for a discussion of the factors that lead parents, teachers and peers to encourage gender-typed activities in children). Moreover, since language is of fundamental importance in children becoming competent members of society, conceptual frames are produced and reproduced through discursive practices (Fairclough 1992).

In the experiment, we study the (combined) effects of two different treatments designed to boost the attention span of participants and henceforth referred to as the "Framing Treatment" and the "Workshop Treatment". The first treatment (the Framing Treatment) is based

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50. In this respect, the fact that our experiment targets Italian pupils is particularly interesting: the 2015 PISA financial literacy assessment (OECD 2017) shows that, out of a sample of 10 OECD countries, Italy is the only one in which boys perform better than girls already at the age of 15.

on economic, psychological and linguistic studies that rely on "framing theory" (e.g. Goffman 1974; Tversky and Kahneman 1981; Tannen 1993; Lakoff 1996; Fillmore and Baker 2009) and is characterized by its intuitiveness and gender-specificity. The treatment exerts leverage on an instinctive reaction in that it arouses the interest of participants by suggesting some possible uses for the prizes (colorful balloons) that they may win by completing a certain task (see Chang and Burns 2005 for a discussion of children's motivation in relation to attention skills). More specifically, we exploit the well-documented (stereo)typical conceptual dichotomy of competitive men and cooperative women (Akerlof and Kranton 2000; Niederle and Vesterlund 2007; Eckert 2013; Buser et al. 2014). Evolutionary psychologists and experimental economists have both demonstrated that, from an early age, boys spend more time at competitive games than girls, whereas girls often select games that have no clear end point or no winner (Niederle and Vesterlund 2007; Buser et al. 2014; Niederle 2014). This means that these two opposite conceptual frames, i.e. competitive men vs. cooperative women, come into play in the process of socialization at an early stage. In line with this hypothesis, we ask the children to complete a standard task aimed at eliciting their time preferences (see Bettinger and Slonim 2007; Andersen et al. 2008; Castillo et al. 2011; Sutter et al. 2013; Alan and Ertac 2018). The task instructions are not difficult to understand – third and fourth graders already have enough cognitive abilities to comprehend them – but the task requires them to concentrate long enough to provide answers that are consistent (i.e., non-contradictory). To possibly impact on the children's attentiveness in completing it, we present the task according to three alternative conceptual frames. The first focuses on competitiveness and physical abilities, thus emphasizing (stereo)typical masculine characteristics. The second focuses on cooperation and empathy, thus emphasizing (stereo)typical feminine characteristics. The third is neutral, and uses no gender-specific connotation.

The second treatment (the Workshop Treatment) consists in exposing participants to a one-hour workshop on the utility of saving. The workshop attracts the children's attention through a set of recreational and educational activities aimed at inducing them to think about the benefits of saving more carefully.

Overall, we find that the use of gender-specific conceptual frames: a) raises girls' interest and thus increases their number of consistent answers; b) makes the workshop on the utility of saving more effective in boosting the consistency of the answers, once again in particular for girls; c) decreases girls' level of impatience. Hence, we conclude that the use of a more gender-specific conceptual frame – one women can identify more with – in presenting financial information may play a role in narrowing the gender gap in financial market participation and decision-making.

The remaining part of the article is structured as follows. In Section 2, we present our experimental design. In Section 3, we show the descriptive statistics of our sample. In Section 4, we present our empirical strategy. We illustrate and interpret the results in Section 5, and conclude in Section 6.

2. Experimental Design

The experiment involves 251 children from grade 3 and grade 4 (aged 8 and 9) belonging to 12 different classes from 5 different elementary schools located in the metropolitan area of Turin (Italy).[3] The choice of the schools and of the classes is not random. Each year, the *Museo del Risparmio* ("Museum of Saving") *di Torino* – the institution we collaborated with in the design of the experiment – invites 3rd and 4th grade teachers to visit the museum

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[3]The city of Turin is divided into 8 districts ("Circoscrizioni", in Italian). Four of the five schools in the sample are located in districts 3, 7, 8, and 9. The fifth school is located in Moncalieri, a city south of Turin. See Costa et al. (2017) for a detailed description of the socio-economic conditions in the metropolitan area of Turin. See Section 3 for more information on the distribution of population characteristics in our sample. See Appendix A1b for more information on the schools and the classes.

with their students. Teachers receive similar invitations from other sources and must thus choose where to bring their pupils. Our sample consists of *all* the classes who visited the museum in the 2015-2016 academic year. We discuss the representativeness of the sample in Section 3.

As mentioned in the introduction, during the experiment, the children are exposed to two treatments: the Framing Treatment, which they repeat twice, and the Workshop Treatment. In the former, the children are asked to perform a standard task aimed at eliciting their time preferences. More precisely, they are asked to complete the Multiple Price List (MPL) task shown in Figure 1.[4]

	Option A	**Option B**	**ANSWER**
	You receive ... tomorrow	You receive ... in 1 month	Do you prefer A or B?
Row 1	10 balloons	11 balloons	
Row 2	10 balloons	12 balloons	
Row 3	10 balloons	13 balloons	
Row 4	10 balloons	14 balloons	
Row 5	10 balloons	15 balloons	
Row 6	10 balloons	16 balloons	
Row 7	10 balloons	17 balloons	
Row 8	10 balloons	18 balloons	
Row 9	10 balloons	19 balloons	
Row 10	10 balloons	20 balloons	

Figure 1: The MPL task.

In particular, in our experiment the children are introduced to the MPL task through the following three alternative conceptual frames (see Appendix A1a for the original Italian

[4]As an incentive, once the children have completed the task, we extract a row number and assign each child the prize corresponding to his/her choice at the appropriate deadline (i.e., the following day in the case of Option A; a month later in the case of Option B). Analogous MPL tasks (and related incentive schemes) are used, among others, in Bettinger and Slonim 2007, Andersen et al. 2008, Castillo et al. 2011, Sutter et al. 2013 and Alan and Ertac 2018.

texts).[5]

1 - Masculine frame (emphasis on competitiveness and physical abilities).

Up for grabs, a lot of colorful balloons you can use to challenge your friends in exciting games and races. For example, have you ever run a balloon race? You have to be agile, fast and clever. The winner is the first to get to the finish line - but you can only use your nose to move the balloon.

2 - Feminine frame (emphasis on cooperation and empathy).

Up for grabs, a lot of colorful balloons to share with your friends and play fun games with them. For example, have you ever done the back-to-back balloon dance? You have to be willing to share and collaborate. You and your partner have to dance while holding two balloons in between your backs, without letting the balloons fall or using your hands to help you.

3 - Neutral frame.

Up for grabs, a lot of colorful balloons to play fun games with.

The second treatment (the Workshop Treatment) consists in attending a one-hour workshop on the utility of saving specifically designed for elementary school children by the *Museo del Risparmio di Torino*. In the workshop, the children are asked to think about the utility deriving from something they really like and would love to buy (e.g., a toy). To make this mental exercise effective, we give them sufficient time to think about what they really would like, and ask them to draw the desired object on a piece of paper. Next, they are invited, with the help of some examples, to ponder the fact that to be able to buy it, they will need money. We suggest a few ways they can raise the amount they need – for

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[5]Edwards et al. (2001) highlight that, despite the fact that children's preferences depend upon inclinations and change over time, and are influenced by many factors (parents, teachers and media advertising, among others), girls like games that include rhythm and singing more than boys do, while boys like competitive games the most. See also Maccoby (1999) for a detailed psychological analysis about boys and girls having different styles of play that are not attractive to each other. See Niederle and Vesterlund (2007), Van den Assem et al. (2011) and Molina et al. (2013) for experimental evidence on gender differences in cooperation and competition.

instance, by asking their parents and/or grandparents for it, or by doing some chores for them in exchange for pocket money. However, as they seldom immediately get the money they need, they must usually save for a period of time. The children are thus required to go through the creation of a small saving plan. They are hypothetically assigned a weekly allowance of €5 or €10 and asked to determine how long they must save to be able to buy their object of desire.[6]

All participants in the experiment go through two repetitions of the Framing Treatment and one repetition of the Workshop Treatment, although in a different order. To clarify this point, let $M1$, $F1$, $N1$, $M0$, $F0$, and $N0$ denote the six subgroups in which we partition the pool of participants. The letter $\{M, F, N\}$ identifies the frame to which the children are exposed in the Framing Treatment (Masculine, Feminine, Neutral).[7] The number $\{1, 0\}$ indicates whether the subgroup belongs to the treatment or the control group with respect to the Workshop Treatment, that is whether participants attend the workshop before (1 - treated) or after (0 - control) the second repetition of the Framing Treatment.[8] Figure 2 illustrates the structure of the experiment. It also shows the number of boys and girls in each group. For instance, group $M1$ consists of 65 children, of which 39 are boys and 26 girls.

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[6]See Coda-Moscarola and Migheli (2017) for further details on the workshop.

[7]The frame remains the same in both repetitions of the Framing Treatment.

[8]The subgroups consist of children belonging to different classes from different schools. See Tables 2, 3, and 4 in Section 3 for the relevant summary statistics. See Appendix A1b for more details about the composition of the six subgroups.
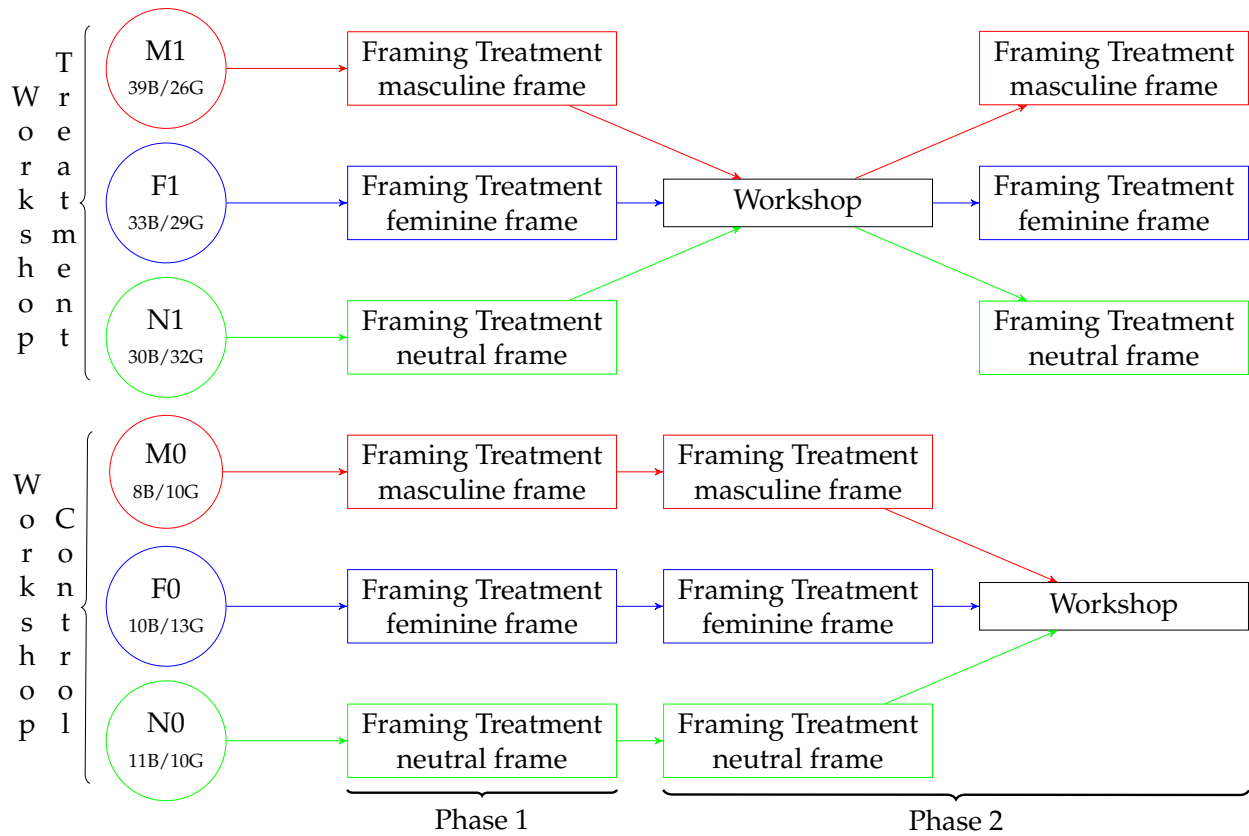
Figure 2: Structure of the experiment.

Summing up across the groups, we thus see that about 75% of the subjects belongs to the treatment group of the Workshop Treatment (groups *M*1, *F*1, and *N*1, 189 children out of 251), whereas the remaining 25% (groups *M*0, *F*0, and *N*0, 62 children) constitutes the control group. Summing up across the frames, we obtain the number of boys and girls exposed to the masculine frame (groups *M*1 and *M*0), feminine frame (*F*1 and *F*0), or neutral frame (groups *N*1 and *N*0) in the Framing Treatment. Table 1 gives these figures and shows that the sample is well-balanced also with regard to this dimension.

[TABLE 1 APPROXIMATELY HERE]

As for the timing and location of the experiment, the first repetition of the Framing Treatment (Phase 1 in Figure 2) took place between the 1st and 3rd of December 2015 on the

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premises of the schools. Attendance at the workshop and second repetition of the Framing Treatment (Phase 2 in Figure 2) took place (on the same day) on the premises of the *Museo del Risparmio di Torino* between the 9th and 21st of January 2016.

3. Descriptive Statistics

As mentioned above, 251 children took part in the experiment. Since each child repeated the Framing Treatment twice, our balanced sample thus consists of 502 observations. Table 2 gives the descriptive statistics of the sample.[9]

The sample is gender-balanced (52% are boys and 48% are girls) with about 18% of participants being non-Italian citizens. The parents' level of education is in line with that of the general population (OECD, 2014) with about 20% of parents having completed only mandatory education (up to the age of 16) and 33% holding a university degree. As for familiarity with managing money, about 20% of the children regularly receive some pocket money from their parents, whereas 58% declare some savings.

[TABLE 2 APPROXIMATELY HERE]

Table 3 compares the summary statistics conditional on the three conceptual frames used in the Framing Treatment (i.e., groups $M1 + M0$ vs. $F1 + F0$ vs. $N1 + N0$). Each subgroup presents a balanced gender composition and the table highlights only small differences in the participants' socio-economic characteristics.[10]

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[9]We retrieved the information that appears in the table from a basic socio-demographic questionnaire that we distributed to the children's parents about a month before the experiment started. The number of observations for some of these variables is less than 251 because of missing answers.

[10]These differences are mostly related to the children's grades in Math and to having their own savings.

[TABLE 3 APPROXIMATELY HERE]

Instead, Table 4 focuses on the comparison between the treatment group (subgroups *F*1, *M*1 and *N*1) and the control groups (*F*0, *M*0 and *N*0) with respect to the Workshop Treatment. Here, too, the differences are minimal.[11]

[TABLE 4 APPROXIMATELY HERE]

3.1 The Dependent Variables

Our main variable of interest is the level of coherence in participants' answers to the two repetitions of the MPL task (see Figure 1). We encode individual answers in a string of 10 characters, e.g., AAAAAAAAAA, AAABBBBBBB, or ABBBAABBBB. We consider individual answers consistent when we observe one switching point between As and Bs at most, and the respondent never switches from B to A. Thus, the first two strings are examples of consistent choices, while the third one is not. More precisely, the choices are consistent when the child 1) always selects A, 2) always selects B, or 3) initially selects A and then switches to B once and for all. Patterns 1 and 2 reveal, respectively, that the child always prefers either the immediate or the delayed payment, whatever the actual interest rate. Instead, pattern 3 reveals that the child prefers immediate payment when the interest rate is relatively low and delayed payment when it is sufficiently high.[12]

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[11]The two samples differ slightly in terms of educational level of the parents, and percentage of children receiving pocket money and having some savings.

[12]Andersen et al. (2006) rationalize inconsistent answers that display multiple switching points by allowing for the possibility that respondents are indifferent among some of the choices and thus randomize within that set. Alan and Ertac (2018) report that some of the subjects who provided inconsistent answers declared not to have properly understood the task. As mentioned before, in our experiment teachers unanimously confirmed that the children have adequate cognitive abilities to understand the task. We thus interpret inconsistent answers as a sign that the respondent did not pay attention during the introduction/explanation of the task or had no interest in completing it.

Table 5 shows the percentage of consistent answers in the sample. In the first repetition of the Framing Treatment, this is about 44% among boys and 42% among girls. In the second repetition, it increases to 64% among boys and 58% among girls. The difference between the two repetitions is statistically significant, whereas the difference between the performance of boys and girls is not.

[TABLE 5 APPROXIMATELY HERE]

Inconsistency (and consistency) in the children's answers is quite persistent across the two repetitions of the Framing Treatment (see Table 6). About 31% of the children provide inconsistent answers in both repetitions, whereas 34% give consistent answers in both. Improvement, i.e., the shift from inconsistent to consistent answers, involves 27% of the children, while only 8% of them shifts from consistent to inconsistent answers.

[TABLE 6 APPROXIMATELY HERE]

4. Empirical Strategy

We are interested in the (combined) effects of the Framing Treatment and the Workshop Treatment on the level of consistency in the children's answers. To elicit the framing effect, we exploit the heterogeneity in the participants' answers across the three different conceptual frames, masculine, feminine, and neutral. To elicit the effect of the workshop, we exploit the variation that individual answers display over time. We use a difference-in-

difference approach and thus run the following regression:

$$Y_{i,t} = \beta_0 + \beta_1 Time + \beta_2 W_{Treat} + \beta_3 \left(Time * W_{Treat}\right) + \beta_{4S} \left(Time * W_{Treat} * S\right) +$$

$$+ \beta_5 Mas_{frame} + \beta_6 Fem_{frame} + \beta_7 \left(Mas_{frame} * B\right) + \beta_8 \left(Fem_{frame} * G\right) + \qquad (1)$$

$$+ X_{i,t}\gamma + e_i + u_{i,t}$$

where $Y_{i,t}$ is a binary variable taking value 1 if the answers of child i in repetition $t \in \{1,2\}$ of the Framing Treatment are consistent and value 0 otherwise. As for the independent variables, $Time$ and W_{Treat} identify, respectively, the time in which the task is performed ($Time = 0$ for the first repetition of the Framing Treatment, $Time = 1$ for the second repetition) and the group to which the individual belongs in terms of the Workshop Treatment ($W_{Treat} = 1$ for the treated group, i.e., those who attended the workshop *before* the second repetition of the Framing Treatment; and $W_{Treat} = 0$ for the control group, i.e., those who attended the workshop only *after* the second repetition of the Framing Treatment). Thus, if the estimated coefficient β_3 attached to the interaction term is positive and statistically significant, we can infer that attending the workshop improves the consistency of the children's answers. We then investigate how this relationship depends on gender through the coefficients β_{4S} where $S \in \{B, G\}$ denotes if the participant is a boy ($S = B$) or a girl ($S = G$).

Moving to the effects of the Framing Treatment, the dummies Mas_{frame} and Fem_{frame} identify the (masculine or feminine) frame to which the child was exposed. If the estimated coefficients β_5 and β_6 are positive and significant, it means that the use of gender-specific frames improves the consistency of the children's answers with respect to the neutral frame (omitted category). Also in this case, we interact the effects of the different frames with the actual gender of the child (coefficients β_7 and β_8). Finally, $X_{i,t}$ is a set of explanatory variables that includes information about the child's gender, level of education of his/her

parents, whether the child receives pocket money or has some savings, and his/her grade in Math.[13] In order to control for the school fixed effect, the set of regressors also includes dummies for the school.

We model the error term to separately account for two individual-specific components. The first is a random effect that accounts for all the unobserved individual characteristics that can influence the consistency of the answers. These characteristics are assumed to be time-invariant and uncorrelated with the other regressors. The second component varies over time and we cluster it at the class level in order to account for the presence of common factors that may affect the children within each single class. We thus implement a generalized least squares Logit (GLS RE Logit). As a robustness check, we then replicate the analysis with a generalized least squares Probit (GLS RE Probit).

We also run a second set of regressions aimed at exploring the determinants of the children's level of impatience. For these estimates, we focus on the subgroup of children that provided consistent answers in both repetitions of the Framing Treatment. We measure impatience as the number of A answers they provided (i.e., preferring 10 balloons tomorrow rather than $10 + x$ in a month). We thus replicate the regression specified by equation (1) using as the dependent variable $A_{i,t}$, the number of A answers which child i provided in repetition $t \in \{1, 2\}$ of the Framing Treatment.

5. Results

Table 7 presents the estimation results. In each column, we use a different set of explanatory variables and report the marginal effects for the Logit specification.

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[13]A part from their gender - they were all women -, we did not collect information about the teachers as they did not play any role in the explanation and implementation of the experiment.

The results show that the Workshop Treatment has a positive effect on the consistency of the children's answers. After the children have attended the workshop the probability of their providing a consistent set of answers rises by about 20% (see the variable *Workshop Treated X Time* in models i and ii). Model iii shows that this effect is stronger and more significant for girls (*Workshop Treated X Time X Girl*).

As for the Framing Treatment, conceptual framing is effective in increasing the degree of consistency of individual answers only when it is gender-specific and only for females (see the coefficients of the variables *Masculine frame*, *Feminine Frame*, *Masculine Frame X Boy*, *Feminine Frame X Girl*). In particular, girls exposed to the feminine frame increase their probability of providing consistent answers by about 17%; while boys exposed to the masculine frame do not behave differently with respect to those exposed to the neutral frame.

Most importantly, the two treatments interact. If we replicate our analysis interacting the Framing Treatment with the Workshop Treatment, we see that the low appeal of the masculine frame on girls (variable *WTMG* in column iv in Table 7) and of the feminine frame on boys (*WTFB*) leads to effects that are not statistically significant. In contrast, a gender-specific frame boosts the positive effect of attending the workshop for girls (38%) but not for boys (variables *WTFG* and *WTMB*). The neutral frame leads to a significant effect of the treatment on both boys and girls (*WTNB* and *WTNG*), although the effect on girls is smaller than that triggered by the feminine frame (21% vs. 38%).[14]

As for the other potential determinants of the level of consistency, we observe that receiving pocket money increases the probability of providing consistent answers by about

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[14]Probit estimates confirm the sign, size and significance of all these results (see Table 9).

11%. Indeed, pocket money can be considered an educational tool that parents employ to teach their children how to manage money, a sort of learning-by-doing experience.[15] Unexpectedly, the Math grade is negatively correlated with the consistency of the answers, as it reduces the probability of a consistent answer by about 6%. This may depend on the fact that in Italian elementary schools the Math curriculum focuses more on arithmetic than logic. Finally, parents' educational level plays a key role: having a mother who received only mandatory education instead of a university degree reduces the probability of providing consistent answers by about 17%. Having a father with a high school diploma rather than a university degree has a similar negative effect.

To complement the above results, we then explore the effect of our treatments on the children's level of impatience (see Table 8). However, to run such a test we need to select the subsample of children providing consistent answers in both repetitions of the Framing Treatment, only about 38% of the sample. The small sample size does not allow us to derive strong conclusions. In general, we find that the gender-specific frames (both the masculine and the feminine) slightly reduce the level of impatience of the children when considered in isolation. However, the feminine frame is particularly effective in decreasing the level of impatience of girls (the coefficient for the *Feminine frame X Girls* is about -3.5). None of the other regressors significantly reduces the impatience level of the children.

[TABLE 8 APPROXIMATELY HERE]

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[15]See Sansone et al. (2019) for evidence about the positive relation between receiving pocket money in childhood and financial confidence in adulthood.

6. Conclusion

We contribute to the literature on financial market participation and decision-making by providing field evidence on the effect of gender-specific conceptual frames on individuals' behavior. We hypothesize that the low engagement of women in economic and financial tasks may originate from their lack of interest in these issues, and from difficulties in foreseeing the utility of outcomes. Thaler and Sunstein (2009) demonstrate that the way of presenting the potential utility of a task can serve as a "nudge" that alters people's behavior in the desired way, without precluding any option or changing significantly the economic incentives embedded in the choice. In line with this view, we conjecture that a more gender-specific approach in framing financial tasks could boost the attention and interest of women. To test the above hypotheses, we run a field experiment. The experiment targets elementary school children in an attempt to go to the roots of the gender gap in financial market participation and decision-making. We give the children a simple basic financial task aimed at measuring their intertemporal discount rate. In the experiment, we propose two treatments to boost the attention of the children: a) one which is short, gender-specific and leverages on the children's instinctive reactions; and b) another which is longer, gender-neutral and educational. We measure the effects of these two treatments on both the consistency of the children's answers and their level of impatience. We find that gender-specific frames are effective in increasing the number of consistent answers among girls only. Attending the workshop has a comparable effect on both girls and boys but, upon closer inspection, the gender-specific framing boosts the positive effect of the workshop only on girls. As for the impact on the level of impatience, a feminine frame moderately decreases girls' level of impatience. Our findings support the idea that a more gender-specific frame, one thet women can identify more with, may play a role in narrowing the gender gap in financial market participation and decision-making.

Tables

Table 1: Framing Treatment by Gender.

	Boys	% wrt total boys	% wrt total	Girls	% wrt total girls	% wrt total	total by frame	% wrt total
Masculine frame	47	36%	19%	36	30%	14%	83	33%
Feminine frame	43	33%	17%	42	35%	17%	85	34%
Neutral frame	41	31%	16%	42	35%	17%	83	33%
Total	131	100%	52%	120	100%	48%	251	100%

Notes: Each line reports the number of boys (first column) and girls (second column) exposed to the three contextual frames (masculine, feminine, and neutral), together with the relevant percentage values.

Table 2: Descriptive Statistics of the Sample.

	All			Boys			Girls		
	Obs	Mean	St. Dev.	Obs	Mean	St. Dev.	Obs	Mean	St. Dev.
Girls	251	0.48	0.50	131	0.00	0.00	120	1.00	0.00
Foreign citizen	251	0.18	0.38	131	0.17	0.38	120	0.18	0.39
Mother mandatory school	231	0.22	0.41	121	0.21	0.41	110	0.22	0.41
Mother high school diploma	231	0.38	0.49	121	0.36	0.48	110	0.39	0.49
Mother university degree	231	0.34	0.47	121	0.34	0.48	110	0.34	0.47
Father mandatory school	223	0.18	0.39	116	0.18	0.39	107	0.19	0.39
Father high school diploma	223	0.43	0.50	116	0.44	0.50	107	0.42	0.50
Father university degree	223	0.32	0.47	116	0.30	0.46	107	0.34	0.47
Math grade	237	8.48	1.04	125	8.42	1.11	112	8.56	0.95
Pocket money	251	0.20	0.40	131	0.22	0.42	120	0.18	0.39
Own savings	251	0.58	0.49	131	0.61	0.49	120	0.55	0.50

Notes: Foreign citizenship and Math grades are reported by teachers. Receiving pocket money and having some savings are reported by the children. All other variables are reported by the children's parents through a written questionnaire.

Table 3: Comparison among Groups Exposed to the 3 Frames in the Framing Treatment.

	Masculine frame (M)			Feminine frame (F)			Neutral frame (N)			Ho:Diff=0 (P-values)		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	M-F	F-N	M-N
Girls	83	0.43	0.50	85	0.49	0.50	83	0.51	0.50	0.44	0.88	0.35
Foreign citizen	83	0.17	0.38	85	0.13	0.34	83	0.23	0.42	0.48	0.09	0.33
Mother mandatory school	79	0.25	0.44	80	0.19	0.39	72	0.21	0.41	0.32	0.75	0.52
Mother high school diploma	79	0.29	0.46	80	0.42	0.50	72	0.42	0.50	0.08	0.92	0.11
Mother university degree	79	0.35	0.48	80	0.35	0.48	72	0.31	0.46	0.95	0.56	0.53
Father mandatory school	76	0.18	0.39	79	0.19	0.39	68	0.18	0.38	0.93	0.84	0.90
Father high school diploma	76	0.45	0.50	79	0.38	0.49	68	0.47	0.50	0.40	0.27	0.78
Father university degree	76	0.33	0.47	79	0.34	0.48	68	0.28	0.45	0.87	0.42	0.52
Math grade	83	8.64	1.11	71	8.25	1.09	83	8.53	0.87	0.03	0.08	0.49
Pocket money	83	0.25	0.44	85	0.16	0.37	83	0.19	0.40	0.16	0.64	0.35
Own savings	83	0.65	0.48	85	0.60	0.49	83	0.49	0.50	0.50	0.17	0.04

Notes: The last three columns report the t-test on means with unequal variances between the masculine and feminine frames, the feminine and neutral, and the masculine and neutral, respectively.

Table 4: Comparison among Treated and Control Groups wrt the Workshop Treatment.

	Treated			Control			Ho:Diff=0
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	P-values
Girls	189	0.46	0.50	62	0.53	0.50	0.33
Foreign citizen	189	0.19	0.39	62	0.13	0.34	0.24
Mother mandatory school	172	0.21	0.41	59	0.24	0.43	0.66
Mother high school diploma	172	0.35	0.48	59	0.44	0.50	0.25
Mother university degree	172	0.38	0.49	59	0.22	0.42	0.02
Father mandatory school	166	0.15	0.36	57	0.28	0.45	0.05
Father high school diploma	166	0.48	0.50	57	0.30	0.46	0.02
Father university degree	166	0.31	0.47	57	0.33	0.48	0.78
Math grade	179	8.41	1.05	58	8.72	0.97	0.04
Pocket money	189	0.16	0.37	62	0.32	0.47	0.02
Own savings	189	0.54	0.50	62	0.69	0.46	0.03

Notes: The last column reports the t-test on means with unequal variances between those who attended the workshop before the second repetition of the MPL task (the treated group, 189 individuals) and those who instead attended the workshop only after the second repetition of the MPL task (the control group, 62 individuals).

Table 5: Consistency in Individual Answers by Gender and Time.

Consistent answers	Boys (131)			Girls (120)			Ho: Diff=0
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	p-values
First repetition	57	0.435	0.043	50	0.417	0.045	0.769
Second repetition	84	0.641	0.042	69	0.575	0.045	0.285
Ho: diff=0 (p-values)		0.001			0.014		

Notes: The two columns reports the number of boys (first column, total 131) and girls (second column, total 120) who provided consistent answers in the first and second repetition of the Framing Treatment.

Table 6: Persistence in Consistency/Inconsistency by Gender and Time.

	All	Males	Females
$Y_{i,1} = 1$ and $Y_{i,2} = 1$	34%	35%	33%
$Y_{i,1} = 0$ and $Y_{i,2} = 0$	31%	27%	35%
$Y_{i,1} = 0$ and $Y_{i,2} = 1$	27%	30%	24%
$Y_{i,1} = 1$ and $Y_{i,2} = 0$	8%	8%	8%

Notes: $Y_{i,t} = 1$ indicates that in the tth repetition of the Framing Treatment ($t \in 1, 2$) individual i provided a consistent answer. $Y_{i,t} = 0$ indicates that he/she instead provided an inconsistent answer.

Table 7: RE Logit on Consistency of Individual Answers (Margins)

	i	ii	iii	iv
Time	0.0264	0.0261	0.0261	0.0210
	(0.0919)	(0.0910)	(0.0911)	(0.0738)
Workshop treated	-0.4124***	-0.4120***	-0.4169***	-0.3392***
	(0.0788)	(0.0803)	(0.0806)	(0.0653)
Workshop treated X Time	0.2061*	0.2050*		
	(0.1112)	(0.1105)		
Workshop treated X Time X Boy			0.1708	
			(0.1252)	
Workshop treated X Time X Girl			0.2474**	
			(0.1179)	
Masculine frame	-0.0526	-0.0720	-0.0711	
	(0.0733)	(0.0873)	(0.0895)	
Feminine frame	-0.0081	-0.0774	-0.0764	
	(0.0672)	(0.0912)	(0.0909)	
Masculine frame X Boy		0.0316	0.0325	
		(0.0991)	(0.0986)	
Feminine frame X Girl		0.1747**	0.1793**	
		(0.0883)	(0.0830)	
Workshop treated X Time X Masc. Frame X Boy (WTMB)				0.1329
				(0.1295)
Workshop treated X Time X Masc. Frame X Girl (WTMG)				0.0323
				(0.0767)
Workshop treated X Time X Fem. Frame X Boy (WTFB)				0.1066
				(0.1287)
Workshop treated X Time X Fem. Frame X Girl (WTFG)				0.3812***
				(0.1010)
Workshop treated X Time X Neut. Frame X Boy (WTNB)				0.1804**
				(0.0773)
Workshop treated X Time X Neut. Frame X Girl (WTNG)				0.2105*
				(0.1109)
Girls	-0.0270	-0.0705	-0.1014	-0.0396
	(0.0494)	(0.0773)	(0.0805)	(0.0521)
Foreign citizen	-0.0590	-0.0486	-0.0503	-0.0453
	(0.1116)	(0.1088)	(0.1100)	(0.0902)
Math grade	-0.0634**	-0.0669***	-0.0679***	-0.0517***
	(0.0258)	(0.0258)	(0.0255)	(0.0173)
Mother mandatory school	-0.1756*	-0.1654*	-0.1656*	-0.1271*
	(0.0957)	(0.0962)	(0.0956)	(0.0691)
Mother high school diploma	-0.0643	-0.0557	-0.0554	-0.0448
	(0.1053)	(0.1051)	(0.1057)	(0.0829)
Father mandatory school	-0.2105	-0.2016	-0.2049	-0.1699
	(0.1400)	(0.1323)	(0.1341)	(0.1136)
Father high school diploma	-0.1625***	-0.1636***	-0.1648***	-0.1318***
	(0.0477)	(0.0437)	(0.0446)	(0.0403)
Pocket money	0.1134*	0.1141*	0.1127*	0.0951*
	(0.0635)	(0.0621)	(0.0608)	(0.0515)
Own savings	0.0277	0.0262	0.0264	0.0235
	(0.0940)	(0.0898)	(0.0901)	(0.0739)
Schools dummies	yes	yes	yes	yes
Observations	420	420	420	420

Notes: Balanced panel. Error terms clustered at class level. Standard errors in parentheses. Significance levels: p* 0.10, p** 0.05, p*** 0.01. Omitted variables: Neutral language, Mother university degree, Father university degree.

Table 8: GLS on Children's Revealed Impatience Rate

	i	ii	iii	iv
Time	-1.516	-1.516	-1.516	-1.516
	(0.986)	(0.993)	(0.996)	(0.996)
Workshop treated	-1.713**	-1.884**	-1.835**	-2.117**
	(0.847)	(0.856)	(0.906)	(0.916)
Workshop treated X Time	1.204	1.204		
	(1.227)	(1.236)		
Workshop treated X Time X Boy			1.698	
			(1.060)	
Workshop treated X Time X Girl			0.512	
			(1.814)	
Masculine frame	-1.620**	-2.383	-2.446	
	(0.653)	(1.458)	(1.504)	
Feminine frame	-1.502*	-0.0112	-0.0715	
	(0.827)	(0.887)	(0.940)	
Masculine frame X Boy		1.507	1.546	
		(2.008)	(2.090)	
Feminine frame X Girl		-3.550**	-3.482**	
		(1.687)	(1.586)	
Workshop treated X Time X Masc. frame X Boy (WTMB)				2.053*
				(1.175)
Workshop treated X Time X Masc. frame X Girl (WTMG)				0.595
				(2.718)
Workshop treated X Time X Fem. frame X Boy (WTFB)				1.986*
				(1.023)
Workshop treated X Time X Fem. frame X Girl (WTFG)				-2.183
				(2.157)
Workshop treated X Time X Neut. frame X Boy (WTNB)				1.022
				(1.295)
Workshop treated X Time X Neut. frame X Girl (WTMG)				3.532***
				(1.341)
Girls	-1.369	0.0465	0.408	-1.159
	(0.907)	(1.103)	(1.178)	(0.977)
Foreign citizen	1.865	1.210	1.233	0.939
	(1.324)	(1.572)	(1.530)	(1.366)
Math grade	0.157	0.176	0.190	0.106
	(0.355)	(0.263)	(0.267)	(0.299)
Mother mandatory school	-0.163	-0.205	-0.169	0.100
	(1.818)	(1.840)	(1.825)	(1.759)
Mother high school diploma	1.989*	1.741	1.722	2.334***
	(1.051)	(1.113)	(1.122)	(0.889)
Father mandatory school	-0.136	-0.556	-0.451	-0.934
	(1.727)	(1.780)	(1.814)	(1.663)
Father high school diploma	1.043	1.664	1.709	1.377
	(1.037)	(1.232)	(1.243)	(1.058)
Pocket money	0.300	-0.0411	0.0144	0.168
	(0.544)	(0.713)	(0.663)	(0.532)
Own savings	0.693	0.765	0.772	0.611
	(1.499)	(1.528)	(1.526)	(1.450)
Constant	6.940*	6.879**	6.569**	6.974**
	(4.053)	(3.044)	(3.028)	(3.301)
R-squared	0.247	0.276	0.281	0.285
Schools dummies	yes	yes	yes	yes
Observations	158	158	158	158

Notes: Balanced panel. Error terms clustered at class level. Standard errors in parentheses. Significance levels: p* 0.10, p** 0.05, p*** 0.01. Omitted variables: Neutral language, Mother university degree, Father university degree.

24

Appendix

A1. Miscellaneous

A1a. Introductory Statements in Italian

1 - Masculine frame

In palio tanti palloncini per sfidare chi volete voi in giochi e gare avvincenti. Volete un esempio? Avete mai fatto la corsa dei palloncini? Dovete essere agili, veloci e astuti. Vince chi arriva primo al traguardo spingendo il palloncino solo con il naso.

2 - Feminine frame

In palio tanti palloncini da condividere con chi volete per fare insieme giochi divertenti. Volete un esempio? Avete mai fatto il ballo del palloncino? Dovete essere bravi a collaborare. Si gioca a coppie e, tenendo tra le vostre schiene due palloncini, dovete ballare senza farli cadere e senza mai aiutarvi con le mani.

3 - Neutral frame

In palio tanti palloncini per fare giochi divertenti.

A1b. Composition of the Subgroups

The subgroups of the participants in the experiment (see also Figure 2) are assembled as follows. The name indicates the school, the number refers to the school year, and the letter to the class. The number in brackets refers to the number of children in the class.

- $M1 = \{$*Palmieri* 3A (23), *Palmieri* 3D (21), *Collodi* 4A (21)$\}$

- $F1 = \{$*Marconi* 3B (21), *Palmieri* 3B (22), *Pertini* 3C (19)$\}$

- $N1 = \{$*Collodi* 3B (22), *Marco Polo* 3A (21), *Palmieri* 3C (19)$\}$

- $M0 = \{$*Marco Polo* 4A (18)$\}$

- $F0 = \{$*Marconi* 3A (23)$\}$

- $N0 = \{$*Palmieri* 3E (21)$\}$

Palmieri elementary school is located in district 3 of the city of Turin, *Marconi* elementary school is located in district 7, *Collodi* elementary school is located in district 8, *Pertini* elementary school is located in district 9, and *Marco Polo* elementary school is located in the city of Moncalieri, a city immediately south of Turin (see footnote 3). In terms of average income, the areas where these schools are located provide a reasonable mix; *Palmieri* is in an affluent neighborhood, *Marco Polo* is in a working-class neighborhood, while *Marconi*, *Collodi* and *Pertini* are in middle-class neighborhoods.

A2. Additional Tables

Table 9: RE Probit on Consistency of Individual Answers (Margins)

	i	ii	iii	iv
Time	0.0298	0.0292	0.0295	0.0241
	(0.0927)	(0.0918)	(0.0920)	(0.0754)
Workshop treated	-0.4057***	-0.4063***	-0.4107***	-0.3373***
	(0.0779)	(0.0793)	(0.0795)	(0.0638)
Workshop treated X Time	0.1998*	0.1994*		
	(0.1115)	(0.1108)		
Workshop treated X Time X Boy			0.1660	
			(0.1248)	
Workshop treated X Time X Girl			0.2403**	
			(0.1183)	
Masculine frame	-0.0511	-0.0689	-0.0678	
	(0.0727)	(0.0861)	(0.0878)	
Feminine frame	-0.0067	-0.0757	-0.0745	
	(0.0675)	(0.0910)	(0.0908)	
Masculine frame X Boy		0.0283	0.0291	
		(0.0969)	(0.0965)	
Feminine frame X Girl		0.1750**	0.1795**	
		(0.0858)	(0.0806)	
Workshop treated X Time X Masc. frame X Boy (WTMB)				0.1289
				(0.1290)
Workshop treated X Time X Masc. frame X Girl (WTMG)				0.0269
				(0.0779)
Workshop treated X Time X Fem. frame X Boy (WTFB)				0.1048
				(0.1295)
Workshop treated X Time X Fem. frame X Girl (WTFG)				0.3764***
				(0.1002)
Workshop treated X Time X Neut. frame X Boy (WTNB)				0.1804**
				(0.0789)
Workshop treated X Time X Neut. frame X Girl (WTMG)				0.2072*
				(0.1118)
Girls	-0.0254	-0.0700	-0.0995	-0.0375
	(0.0485)	(0.0757)	(0.0787)	(0.0514)
Foreign citizen	-0.0581	-0.0476	-0.0493	-0.0453
	(0.1100)	(0.1076)	(0.1090)	(0.0898)
Math grade	-0.0627**	-0.0661***	-0.0670***	-0.0515***
	(0.0250)	(0.0250)	(0.0248)	(0.0172)
Mother mandatory school	-0.1719*	-0.1618*	-0.1621*	-0.1253*
	(0.0951)	(0.0957)	(0.0952)	(0.0693)
Mother high school diploma	-0.0627	-0.0542	-0.0540	-0.0439
	(0.1044)	(0.1043)	(0.1048)	(0.0828)
Father mandatory school	-0.2102	-0.2026	-0.2054	-0.1723
	(0.1395)	(0.1323)	(0.1336)	(0.1145)
Father high school diploma	-0.1607***	-0.1620***	-0.1628***	-0.1326***
	(0.0469)	(0.0430)	(0.0437)	(0.0404)
Pocket money	0.1122*	0.1127*	0.1113*	0.0952*
	(0.0632)	(0.0618)	(0.0605)	(0.0516)
Own savings	0.0276	0.0257	0.0257	0.0235
	(0.0929)	(0.0889)	(0.0892)	(0.0741)
Schools dummies	yes	yes	yes	yes
Observations	420	420	420	420

Notes: Balanced panel. Error terms clustered at class level. Standard errors in parentheses. Significance levels: p* 0.10, p** 0.05, p*** 0.01. Omitted variables: Neutral language, Mother university degree, Father university degree.

References

[1] Akerlof, G., & Kranton, R. (2000). Economics and identity. *The Quarterly Journal of Economics*, *115*(3), 715-753.

[2] Alan, S., & Ertac, S. (2018). Fostering patience in the classroom: Results from randomized educational intervention. *Journal of Political Economy*, *126*(5), 1865-1911.

[3] Andersen, S., Harrison, G. W., Lau, M. I., & Rutström, E. E. (2006). Elicitation using multiple price list formats. *Experimental Economics*, *9*(4), 383-405.

[4] Andersen, S., Harrison, G. W., Lau, M. I., & Rutström, E. E. (2008). Eliciting risk and time preferences. *Econometrica*, *76*(3), 583-618.

[5] Arano K., & Terry R. (2010). Gender-based risk aversion and retirement asset allocation. *Economic Inquiry*, *48*(1), 147-155.

[6] Banerjee A., & Mullainathan S. (2008). Limited attention and income distribution. *The American Economic Review*, *98*(2), 489-493.

[7] Barber B. M., & Odean T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics*, *116*(1), 261-292.

[8] Becker, G. S., & Mulligan, C. B. (1997). The endogenous determination of time preference. *The Quarterly Journal of Economics*, *112*(3), 729-758.

[9] Bettinger, E., & Slonim, R. (2007). Patience among children. *Journal of Public Economics*, *91*(1), 343-363.

[10] Billingham, M. (2007). Sociological perspectives. In Stretch, B., & Whitehouse, M. (Eds.). *Health and Social Care*, Book 1. Oxford: Heinemann.

[11] Boggio, C., Fornero, E., Prast, H., & Sanders, J. (2018). Seven ways to knit your portfolio: Is the language of investor communication gender neutral? In Garzone, G., Catenaccio, P., Grego, K. & Doerr, R. (Eds.). *Specialised and Professional Discourse Across Media and Genres*. Milano: Ledizioni. 137-160.

[12] Bucher-Koenen, T., Lusardi, A., Alessie, R., & Van Rooij, M. (2017). How financially literate are women? An overview and new insights. *The Journal of Consumer Affairs*, *51*(2), 255-283.

[13] Burusic, J., Babarovic, T., & Serie, M. (2012). Differences in elementary school achievement between girls and boys: Does the teacher gender play a role? *European Journal of Psychology of Education*, *27*(4), 523-538.

[14] Buser, T., Niederle, M., & Oosterbeek, H. (2014). Gender, competitiveness and career choices. *Quarterly Journal of Economics*, *129*(3), 1409-1447.

[15] Castillo, M., Ferraro, P. J., Jordan, J. L., & Petrie, R. (2011). The today and tomorrow of kids: Time preferences and educational outcomes of children. *Journal of Public Economics*, *95*(11), 1377-1385.

[16] Chang, F., & Burns, B. (2005). Attention in preschoolers: Associations with effortful control and motivation. *Child Development*, *76*(1), 247-263.

[17] Coda Moscarola, F., & Migheli, M. (2017). Gender differences in financial education: Evidence from primary school. *De Economist*, *165*(3), 321-347.

[18] Costa, G., Stroscia, M., Zengarini, N., & Demaria, M. (2017). *40 anni di salute a Torino. Spunti per leggere i bisogni e i risultati delle politiche*. Milano: Inferenze.

[19] Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, *47*(2), 448-74.

[20] Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., & Wagner, G. G. (2011). Individual risk attitudes: Measurement, determinants, and behavioural consequences. *Journal of the European Economic Association*, *9*(3), 522-550.

[21] Eckel, C., & Grossman, P. (2002). *Differences in the Economic Decisions of Men and Women: Experimental Evidence*. Amsterdam: Elsevier.

[22] Eckel, C., & Grossman, P. (2008). Men, women and risk aversion: Experimental evidence. In Plott, C., & Smith, V. (Eds.). *Handbook of Experimental Economics Results*, Vol. 1. Amsterdam: North-Holland.

[23] Eckert, P., & McConnell-Ginet, S. (2013). *Language and Gender.* Cambridge: Cambridge University Press.

[24] Edwards, C. P., Knoche, L., & Kumru, A. (2001). Play patterns and gender. In Worrell, J. (Ed.). *Encyclopedia of Women and Gender*. San Diego (CA): Academic Press.

[25] Fairclough, N. (1992). *Discourse and Social Change*. Cambridge: Polity Press.

[26] Fillmore, C. J., & Baker, C. (2009). A frames approach to semantic analysis. In Heine, B., & Narrog, H. (Eds.). *The Oxford Handbook of Linguistic Analysis*. Oxford: Oxford University Press.

[27] Fonseca, R., Mullen, K. J., Zamarro, G., & Zissimopoulos, J. (2012). What explains the gender gap in financial literacy? The role of household decision making. *The Journal of Consumer Affairs*, *46*(1), 90-106.

[28] Fornero, E., & Monticone, C. (2011). Financial literacy and pension plan participation in Italy. *Journal of Pension Economics and Finance*, *10*(4), 547-564.

[29] Gadamer, H. (1975). *Truth and Method*. New York: Continuum. Trans. of *Wahrheit und Methode*, 1960.

[30] Goffman, E. (1974). *Frame Analysis: An Essay on the Organization of Experience.* Boston (MA): Northeastern University Press.

[31] Gotti, M. (2003). *Specialized Discourse: Linguistic Features and Changing Conventions.* Bern: Peter Lang.

[32] Gotti, M. (2011). *Investigating Specialized Discourse*. Bern: Peter Lang.

[33] Guiso, L., Monte, F., Sapienza, P., & Zingales, L. (2008). Culture, gender and math. *Science*, *320*(5880), 1164-1165.

[34] Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, *47*(2), 263-291.

[35] Lakoff, G. (1987). *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind.* Chicago (IL): University of Chicago Press.

[36] Lusardi, A., & Mitchell, O. S. (2008). Planning and financial literacy: How do women fare? *American Economic Review*, *98*(2), 413-17.

[37] Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, *52*(1), 5-44.

[38] Lusardi, A., Mitchell, O. S., & Curto, V. (2010). Financial literacy among the young. *The Journal of Consumer Affairs*, *44*(2), 358-380.

[39] Lusardi, A., Mitchell O. S., & Curto, V. (2014). Financial literacy and financial sophistication in the older population. *Journal of Pension Economics and Finance*, *13*(4), 347-366.

[40] Maccoby, E. (1999). *The Two Sexes: Growing Up Apart, Coming Together*. Cambridge (MA): Harvard University Press.

[41] Mahdavi, M., & Horton, N. (2014). Financial literacy among educated women: Room for improvement. *The Journal of Consumer Affairs*, *48*(2), 403-417.

[42] Molina, J. A., Gimnez-Nadal, J. I., Cuesta, J. A., Garcia-Lazaro, C., & Moreno, Y. (2013). Gender differences in cooperation: Experimental evidence on high school students. *PLoS One*, *8*(12), e83700.

[43] Niederle, M. (2014). Gender. In Kagel, J., & Roth, A. E. (Eds.). *The Handbook of Experimental Economics*, Vol. II. Princeton (NJ): Princeton University Press.

[44] Niederle, M., & Vesterlund, L. (2007). Do women shy away from competition? Do men compete too much? *The Quarterly Journal of Economics*, *122*(3), 1067-1101.

[45] OECD (2014). *Education at a Glance 2014: OECD Indicators*. OECD Publishing.

[46] OECD (2017), *PISA 2015 Results (Volume IV): Students Financial Literacy*, PISA, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264270282-en.

[47] Sansone, D., Rossi, M., & Fornero, E. (2019). "Four bright coins shining at me": Financial education in childhood, financial confidence in adulthood. *The Journal of Consumer Affairs*, forthcoming.

[48] Sutter, M., Kocher, M. G., Ruetzler, D., & Trautmann, S. T. (2013). Impatience and uncertainty: Experimental decisions predict adolescents field behavior. *American Economic Review*, *103*(1), 510-531.

[49] Tannen, D. (1993). *Framing in Discourse*. Oxford: Oxford University Press.

[50] Thaler, R. H., & Sunstein, C. R. (2009). *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New Haven (CT): Yale University Press.

[51] Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, *211*(4481), 453-458.

[52] Van den Assem, M. J., van Dolder, D., & Thaler, R. H. (2011). Split or steal? Cooperative behavior when the stakes are large. *Management Science*, *58*(1), 2-20.

[53] Van Rooij, M., Kool, C., & Prast. H. (2007). Risk-return preferences in the pension domain: Are people able to choose? *Journal of Public Economics*, *91*(3-4), 701-722.

[54] Van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, *101*(2), 449-472.

[55] Verloo, M. M. T., & Lombardo, E. (2007). Contested gender equality and policy variety in Europe: Introducing a critical frame analysis approach. In Verloo, M. M. T. (Ed.). *Multiple Meanings of Gender Equality: A Critical frame Analysis of Gender Policies in Europe*. Budapest: CEU Press.

[56] Zhao, M., Hoeffler, S., & Zauberman, G. (2007). Mental simulation and preference consistency over time: The role of process - versus outcome - focused thoughts. *Journal of Marketing Research*, *44*(3), 379-388.

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