What is Good for the Goose is Good for the Gander? A Field Experiment on Gender, Language and Financial Market Participation[1]

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Abstract

The gender gap in financial participation and decision-making has been extensively documented in the economic and sociological literature. We conduct a field experiment with elementary school children to go to the roots of this gender gap. We compare the effects of two different treatments (the language treatment and the MdR treatment) designed to boost the attention span of the participants on a basic financial task aiming at eliciting their time preferences. We find that the use of gender-specific conceptual frames (competitiveness vs. cooperation) in the description of the task: 1) improves girls' understanding of it and is effective in increasing the number of coherent answers; 2) makes the MdR workshop on the utility of savings more effective in improving the consistency of the answers of girls; 3) increases the children's level of patience. This evidence supports the idea that a more gender-specific conceptual frame --one women can identify more with-- could play a role in narrowing the gender gap in financial market participation and decision-making.

Keywords: gender, language, intertemporal preferences, field experiment

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1. Introduction

The gender gap in financial participation and decision-making has been extensively documented in the economic and sociological literature. Women are rarely primary decision-makers when it comes to savings and investment decisions. As documented in a recent paper by Fonseca et al. (2012), when talking about making long-term spending and saving plans, 26.2% of women versus 33.8% of men declare to be 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 several potential determinants of this phenomenon. First, women are, on average, more risk averse than men (Kahneman & Tversky 1979, Barber and Odean 2001; Croson and Gneezy 2009; Dohmen et al. 2011), and portfolio choices are risky by definition. Second, they are on average less financially literate and less confident in their own capabilities. Recent 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. (2016) whereas evidence of a gender gap in measured and self-assessed financial literacy is found in Eckel and Grossman (2002), Van Roij et al. (2007) and Arano et al. (2010). Third, women are prevented from engaging in financial activities by social roles and cultural norms (Bucher-Koenen et al. 2016) or specialization processes inside the family (Fonseca et al. 2012). Finally, the study by Boggio et al. (2014) points out how the language of finance, by privileging masculine linguistic domains, may generate in women feelings of unfamiliarity towards this type of specialized discourse (Gotti 2003; 2011).

Our study intends to complement the abovementioned literature by providing insights on an additional potential determinant of the gender gap in financial participation and decision-making. Our starting point is that the limited attention paid to a given task (economic or non-economic) is a consequence of two different mechanisms; namely, a lack of interest in the task per se and a difficulty in foreseeing the utility of its outcome. In other words, women do not find it interesting to participate in the financial market because, on the one hand, they do not like to think about how to invest their resources (and, perhaps, also to deal with financial intermediaries), and, on the other hand, because they do not think sufficiently about the utility they can derive from their prospective gain in participating in the financial market (Banerjee & Mullainathan 2008).

Our reasoning follows Becker and Mulligan (1997) and Zhao et al. (2007). Becker and Mulligan (1997) find that inducing people to think about the utility that derives from future consumption encourages them to become more patient and, thus, save more. Zhao et al. (2007) demonstrate that mentally simulating the future outcome, changes the weight of different attributes of that outcome in favor of the most desiderability-related aspects. Taking these studies a step further, we investigate whether inducing people to think about the utility deriving from the outcome of a given task, may spark their interest in it. The task we choose to test our hypothesis aims at eliciting time preferences, i.e. the level of patience and the propensity to save[2]. This is a basic assignment that, however, reveals a key determinant of most economic decisions --the intertemporal preference rate-- and we conduct a field experiment centered on it.

In the field experiment we compare the effect of two different treatments designed to boost the attention span of the participants. The first one is informed by economic, sociological and linguistic studies that rely on "framing theory" (e.g. Goffman 1974, Tversky and Kahneman 1981, Tannen 1993, Lakoff 1996, Fillmore and Baker 2009, Degano 2015) and is marked out for its immediateness and gender-specificity. The second treatment, instead, is more generalizable and exhaustive as it consists in a one-hour workshop on the utility of savings. More specifically, in the first treatment we exploit the well-documented stereotypical conceptual dichotomy of competitive men and cooperative women (Niederle 2014, Buser et al. 2014, Eckert 2013; Ackerlof and Kranton 2000) and, in presenting the task to the participants, we suggest potential uses of its outcomes in a gender-specific way. Both evolutionary psychologists and experimental economists have demonstrated that, from a very early age, boys spend more time at competitive games than girls, whereas girls often select games that have no clear end point and no winner (Buser et al. 2014, Niederle 2014). In line with this, we describe the same task according to three different conceptual frames. One description uses lexical items recalling competitiveness and physical abilities, and thus focuses on (stereotypical) masculine "frames". The second description uses lexical items recalling cooperation and empathy, thus focusing on (stereotypical) feminine "frames" whereas the third description is as gender neutral as possible. In the second treatment, instead, we adopt a more standard approach to attract the attention of the participants and, with a

[2] An understanding of how people make intertemporal tradeoffs may inform a wide range of behaviors including underinvesting in one's own education, overconsuming unhealthy foods, underexercising, abusing alcohol or drugs, and undersaving for retirement. For an interesting review of the determinants of intertemporal preferences, see Urminsky and Zauberman (2014).

workshop designed as a set of recreational/educational activities, we try to induce participants to think about the utility of savings.[3]

We conduct the experiment on a sample of third and fourth graders from five different public elementary schools located in Torino, Italy. Why do we target young children? The main reason is that they have been much less exposed to socio-cultural conditioning factors potentially determining the gender gap than adults. To be more specific, the choice of age group was dictated by our ambition to go to the roots of the gender gap in financial participation by minimizing all the potential determinants deriving from socialization, the process by which human infants begin to acquire the skills necessary to perform as a functioning member of their society (Billingham 2007, Burusic et al. 2012). Socialization is the lifelong process of inheriting norms that provide an individual with the skills and habits necessary for belonging and participating in her own society. However, inasmuch as norms are standard expectations, i.e. customs, that serve as a kind of organizing device in society, they become also means for constructing (stereo)typical social categories with specific capabilities and dispositions, including economic and financial ones.

We present children with a game aimed at eliciting their time preferences that is similar to the game proposed in Andersen et al. (2008). The rules of the game are not difficult to understand --at that age children have already adequate cognitive abilities to deal with them-- but the game requires concentration for a sufficient time span in order to provide answers that are noncontradictory (i.e. consistent). We find that the use of gender-specific conceptual frames --competitiveness vs. cooperation-- in the description of the game: 1) improves girls' understanding of it and is effective in increasing the number of coherent answers; 2) makes the MdR workshop more effective in boosting consistency of the answers for girls; 3) increases the children's level of patience. This evidence supports the idea that a more gender-specific frame --one women can identify more with-- could play a role in narrowing the gender gap in financial market participation and decision-making.

The remaining part of the paper is structured as follows. In Section 2, we present the experimental design. In Section 3, we show the descriptive statistics. In Section 4, we present the empirical strategy that

[3] This treatment was designed by the *Museo del Risparmio* of Torino as part of their educational activities addressed to children and is, therefore, more traditional than the first treatment in conveying the message.

will guide us through the analysis of the data. We illustrate and interpret the results in Section 5, we discuss the issues surrounding the interpretation of our results in Section 6, and we conclude in Section 7.

2. Experimental Design

A sample of children from grade 3 and grade 4 (aged 7, 8 and 9) from five different elementary schools in Torino, Italy, participate in the experiment. The experiment tests: a) whether the lexical items (i.e. words) used to conceptually frame the game presented to the children are effective in increasing the time-consistency of the answers (the "language treatment"); b) whether a one-hour workshop on savings is effective in increasing the time-consistency of the answers (the "MdR treatment"). Whereas the MdR treatment forces children to reason about the opportunity of saving in an educational and thorough way, the language treatment exerts leverage on a more instinctive reaction. This is because it aims at arousing the interest of the children in the game by suggesting a fun use of the prize won (Chang & Burns 2005). In other words, we have two treatments –the language treatment and the MdR treatment– which reinforce each other, and we simultaneously test their validity.

We select the elementary schools among those participating in the project *Conta e Racconta* by the *Fondazione per la Scuola*, a Torino-based non-profit organization, in order to get the maximum socio-demographic and economic representativeness of the sample. The children were not informed about the aims of the study, and in presenting our experiment we rigorously followed the same procedure in all the classes involved in the experiment. We structure our test in four different stages. In the first stage we hand out a basic socio-demographic questionnaire to the parents and ask them to fill it out at home. In the second stage, we involve the children in a game whose goal is to elicit their time-preferences. The game (Game 1) consists in answering the questions reported in Table B1 (see Appendix B). The first question asks whether they prefer to receive 10 balloons the following day (choice A) or 11 balloons in one month (choice B)[4]. The questions that follow are structured in the same way as the first one, but the pay-off for waiting one month gradually increases up to 20 balloons. The game's rules are simple, at that age they have adequate cognitive abilities to deal with it,[5] but the game requires that they focus for a sufficient time span as to provide answers

[4] The researchers use some examples to help the children understand what it means to wait for one month.

[5] The fact that children aged 7, 8 and 9 have adequate cognitive abilities to deal the rules of the game is confirmed also by their teachers.

that are noncontradictory (i.e. rational or consistent). According to standard revealed preference theory, x is revealed to be preferred to y if and only if x is chosen when y is also available (Samuelson 1938). Any choice reversal, therefore, observed both empirically and experimentally, is attributed to irrationality since it cannot be expressed as preference maximization. In our game, the switching point --the row at which the child changes its preference from choice A to choice B-- gives information about the child's level of patience. We signal as inconsistent any choice in which the child switches from choice B back to choice A.

To test whether the lexical items used to conceptually frame the description of the task boost the children's attention and enhance the likelihood of providing consistent answers, we use assorted color balloons as a prize and we present the game in three different ways:

a) describing it with lexical items related to competitiveness and physical abilities (from now on referred to as masculine language):

IL GIOCO DEI DESIDERI: 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.

[THE WISHING GAME: up for grabs a lot of colorful balloons you can use to challenge your friends in compelling games and races. Should I give you an example? Have you ever run a balloon race? You have to be agile, fast and clever. You win if, pushing along your balloon using your nose only, you get to the finish line first]

b) describing it using lexical items related to cooperation and empathy (from now on referred to as feminine language):

IL GIOCO DEI DESIDERI: 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.

[THE WISHING GAME: up for grabs a lot of colorful balloons to share with your friends and play fun games with them. Should I give you an 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 and without ever letting them drop. You cannot ever use your hands to hold the balloons]

c) using a short description which is as gender neutral as possible (from now on referred to as neutral language):

IL GIOCO DEI DESIDERI: in palio tanti palloncini per fare giochi divertenti.

[THE WISHING GAME: up for grabs a lot of colorful balloons to play fun games]

We read the instructions to the children and we spend some time verifying that they understand the rules of the game. Most important of all, we make sure that they fill out the table (Table 1, Appendix B) on their own. After the end of the game, as an incentive to their participation, we extract a row number (from 1 to 10) and we assign the reward corresponding to the choice made for that row (either choice A or B).

The third stage consists in a one-hour workshop on the utility of saving originally designed for elementary school children by the *Museo del Risparmio* of Torino (the MdR treatment). The program of the workshop, which has been running since 2014, is the following.[6] First, children are asked to think about the utility deriving from something they really like, and they would love to buy (e.g., a toy, a pet, and so on). To make this mental exercise really effective, we give them sufficient time to think about what they really would like, and we ask them to draw this desired object on a piece of paper. Overall, this stage lasts about 15 minutes. We adopt measures to avoid any influence of the adults involved in supervising the workshop on the children's choices. Next, we invite the children, by providing some examples, to ponder on the fact that to be able to buy their desired object, they need money. To scrape together the amount of money they need, a few options are available. For instance, they can ask their parents and/or grandparents for it, or they can run some chores for them in exchange for pocket money. As they seldom get the money they need to buy their desired object immediately, they usually have to save for a period of time. Finally, to reinforce this concept, the children are involved in a game consisting in the creation of a small saving plan. They are assigned a weekly allowance of 5/10 Euro and they are asked to determine how long they will have to save to be able to

[6] It is the same workshop on the utility of saving discussed in Coda Moscarola and Migheli (2015).

buy a certain item, which we randomly assigned to each of them by showing them a picture of it together with its market price.

In stage four, which follows stage three closely, the children play the game in Table B1 once again (Game 2). All the children go through all the four stages. However, they do so in a different order; namely, the children of the MdR treated group follow the sequence 1, 2, 3, 4 whereas the children of the MdR control group follow the sequence 1, 2, 4, 3. The comparison between the two groups allows us to isolate the "treatment effect", that is the effect of the MdR workshop, from the "learning effect" due to the repetition of the game.

3. Descriptive Statistics

We run our field experiment on a total of 269 children belonging to 12 different classrooms from 5 different elementary schools in the metropolitan area of Torino, Italy. For 36 children we had missing answers in either Game 1 or Game 2 due to absence and/or non-response. Our balanced sample consists of 502 observations referring to 251 children.

Table 1 reports the descriptive statistics of the sample. The sample is gender-balanced: 48 per cent of girls and 52 per cent of boys. About 14 per cent of children is a foreign citizen. The parents' level of education and employment rate are in line with the ones of the general population (OECD, 2014). About 20 per cent of the parents have only completed mandatory education (age 16), and 19 per cent of mothers and 5 per cent of fathers are inactive or unemployed. The children's average grades in Mathematics are quite high (8.5 on a scale from 1 to 10). As for the familiarity with managing money, the pocket money is granted to 20 per cent of children only.

Table 1 – Descriptive statistics, t=0

	All			Boys			Girls		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
Girls	251	0.48	0.50	131	0.00	0.00	120	1.00	0.00
Foreign citizen	251	0.14	0.35	131	0.13	0.34	120	0.16	0.37
Education-mother: mandatory	231	0.22	0.41	121	0.21	0.41	110	0.22	0.41
Job position-mother: inactive/unemployed	234	0.19	0.39	123	0.18	0.38	111	0.21	0.41
Education-father: mandatory	223	0.18	0.39	116	0.18	0.39	107	0.19	0.39
Job position-father: inactive/unemployed	206	0.05	0.23	108	0.06	0.23	98	0.05	0.22
Maths 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
Game presented in masculine language	251	0.33	0.47	131	0.36	0.48	120	0.30	0.46
Game presented in feminine language	251	0.34	0.47	131	0.33	0.47	120	0.35	0.48
Game presented in neutral language	251	0.33	0.47	131	0.31	0.47	120	0.35	0.48
Boys treated with masculine language	251	0.19	0.39	131	0.36	0.48	120	0.00	0.00
Girls treated with feminine language	251	0.17	0.37	131	0.00	0.00	120	0.35	0.48
MdR workshop treated	251	0.75	0.43	131	0.78	0.42	120	0.73	0.45

We divide the 12 classrooms into 3 groups and to each group we present the game in one of the three languages: masculine, feminine and neutral. Overall, the boys treated with masculine language are 19 per cent of the sample, while the girls treated with feminine language are 17 per cent of the sample. Moreover, about 75 per cent of the sample does the MdR workshop before repeating the game, while 25 per cent of the sample represents the control group and does the workshop only after repeating the game. The detailed distribution of the classrooms across treatments is reported in Table A1 in the Appendix together with the related descriptive statistics.

In order to analyze the outcome of our experiment on each child involved in it, we encode the choices made by each child in each row of Table B1 in a string of 10 characters, e.g. AAAAAAAAAA, BBBBBBBBBB, ABBBBBBBBB, etc. We consider the choices as consistent when a) the child always selects choice A, b) the child always selects choice B, c) the child selects choice A and then switches to choice B. Patterns A and B reveal that the child starts preferring either a non-delayed payment (choice A) or a delayed payment (choice B), and then does not change her preferences when the interest rate increases. Pattern C reveals that the child prefers to switch from a non-delayed payment (choice A) to a delayed payment (choice B) when the interest rate is high enough to compensate for her waiting. Choices are consistent when we observe one switching point at most and the child never switches from choice B to choice A. Examples of inconsistent choices are ABABABABAB, AAAABBBBAB, BBAAAAAAAA, etc. Although the interpretation of these patterns in

the literature is controversial (see Andersen et al. 2006), in our experimental design, we consider them as signals that the task did not capture a child's interest.

The percentage of consistent choices is quite low (see Table 2). In Game 1 it reaches about 44 per cent among boys and 42 per cent among girls. In Game 2, however, we see a substantial improvement and the rate of consistent answers increases to 64 per cent among boys and 58 per cent among girls. Such an observed improvement is statistically significant, while the gender gap is not.

Table 2 – Consistency in the answers by gender and time

Consistent choices	Boys			Girls			H0: diff=0 (P-value)
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	
T=0	131	0.435	0.043	120	0.417	0.045	0.769
T=1	131	0.641	0.042	120	0.575	0.045	0.285
Ho: diff=0 (p-values)		0.001				0.014	

Note: Our elaborations on the balanced panel of children.

Inconsistency (and consistency) in the children's choices is quite persistent (see Table 3). About 31 per cent of the children provide inconsistent answers (vs. 34 per cent who provide consistent answers) in both Game 1 and Game 2. Improvement, that is the shift from inconsistent to consistent answers, involves 27 per cent of the children, while 8 per cent of them shifts from consistent to inconsistent answers.

Table 3 – Persistence in consistency/inconsistency by gender

	All	Males	Females
T_0=0; T_1=0	31%	27%	34%
T_0=0; T_1=1	27%	29%	24%
T_0=1; T_1=0	8%	8%	8%
T_0=1; T_1=1	34%	35%	33%

Note: Our elaborations on the balanced panel of children.

4. Empirical strategy

As anticipated in the previous sections, in our experiment the children participate in two treatments, the language treatment and the MdR treatment. To elicit the language effect on the outcome, we divide the children into three groups and we exploit the between group heterogeneity in the answers. Indeed, once a child is assigned to a group, she will have the game explained with always the same language both in t=0 (Game 1) and in t=1 (Game 2), and the language effect emerges from the comparison among the performances of the different groups[7]. To elicit the workshop effect on the outcome, we divide children in two groups, a treated group and a control group. Then, we use a difference in difference approach as in Coda Moscarola and Migheli (2015) and we exploit the variation in the choices of each child in time. We are interested in the effect of both treatments on the time consistency of the choices made by the children.

[7] In a pilot, we observed that when the children play the game the second time, they immediately realize that is the same game they played before and, therefore, they don't read or listen to the instructions anymore. They fill out the table straightaway. Thus, it becomes impossible to detect a difference in the pre- and post-treatment choices at an individual level. It is precisely this reason that motivates the current experimental design and empirical strategy.

Thus, we run the following regression:

$$Y_{i,t} = \beta_0 + \beta_1 * Time + \beta_2 * Treated\ MDR + \beta_3 * (Time * Treated\ MDR) + \beta_4 * Language_{masculine} + \beta_5 * Language_{feminine} + X_{i,t} * \gamma + e_i + u_{i,t}$$

where Y is a binary variable assuming value 1 if the answer of the child is consistent and value 0 otherwise. The variables *Time* and $Treated\ MDR$ identify, respectively, the time in which the game takes place – either t=0 or t=1 – and the group in which the individual is –either the treated (*Treated MdR=1*) or the control group (*Treated MdR=0)* for what concerns the MdR treatment. If the estimated coefficient β_3 is positive and statistically significant we can infer that the MdR treatment is effective in improving the time consistency of the choices. The dummies $Language_x$ identify the language used in presenting the game, i.e. masculine, feminine or neutral. In analogy with the MdR treatment, if the estimated coefficients β_4 and β_5 are positive and significant it means that the language treatment improves the time consistency of the choices with respect to the neutral language (omitted category). $X_{i,t}$ is a set of explanatory variables including information about the education and the job status of the children's parents, whether the child receives pocket money, the children grade in mathematics, whether the children is a foreign citizen. 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 children's answers. These characteristics are assumed to be time-invariant and uncorrelated with the other regressors. The second component is time variant and we assume it is distributed according to a type I extreme value distribution. This assumption leads to implement a generalized least squares Logit (GLS RE Logit). In the Appendix, this assumption is relaxed. We assume a normal distribution of the error term and run a generalized least squares Probit (GLS RE Probit). We try different specifications of the abovementioned models in which we interact the treatments with gender.

Finally, on the subgroup of children that provided consistent answers in both game 1 and 2, we run GLS regression using as dependent variable the impatience level, that is the number of answers A out of the 10 choices in each game using the same set of regressors.

5. Results

We test the effect of our two treatments by running a set of generalized least squares regressions on the binary variable identifying whether the children's choices in the games are consistent.[8] In each model presented in Table 4 we use a different set of explanatory variables and we report the estimated coefficients and the marginal effects for the Logit specification[9]. In the basic specification (model i), the language treatment does not have any significant effect, while the MdR treatment has a positive effect and it increases by 22 percentage points the probability of providing a consistent choice. However, once controlling for some basic individual and household characteristics, a language effect emerges.

Table 4 - RELogit on time consistency of the choices

	(i)		**(ii)**		**(iii)**		**(iv)**	
	b/se	Mfx	b/se	mfx	b/se	Mfx	b/se	Mfx
Female	-0.357	-0.0741	-0.182	-0.0348	-0.482	-0.0913	-0.635	-0.120
	(0.235)	(0.0504)	(0.270)	(0.0518)	(0.412)	(0.0766)	(0.447)	(0.0821)
Masculine language	-0.127	-0.0264	-0.233	-0.0445	-0.317	-0.0600	-0.315	-0.0596
	(0.531)	(0.111)	(0.375)	(0.0722)	(0.486)	(0.0932)	(0.500)	(0.0958)
Feminine language	-0.224	-0.0466	0.0852	0.0163	-0.353	-0.0669	-0.348	-0.0660
	(0.598)	(0.125)	(0.346)	(0.0665)	(0.479)	(0.0892)	(0.475)	(0.0885)
Time (T)	0.344	0.0715	0.143	0.0273	0.142	0.0270	0.142	0.0270
	(0.454)	(0.0928)	(0.497)	(0.0950)	(0.496)	(0.0938)	(0.497)	(0.0939)
Treated MdR	-2.006***	-0.417***	-2.278***	-0.436***	-2.296***	-0.435***	-2.324***	-0.440***
	(0.611)	(0.0999)	(0.461)	(0.0767)	(0.470)	(0.0777)	(0.476)	(0.0784)
Treated MdR*T	1.073**	0.223**	1.105*	0.211*	1.106*	0.210*		
	(0.557)	(0.117)	(0.618)	(0.116)	(0.617)	(0.115)		
Treated MdR*T*Male							0.936	0.177
							(0.687)	(0.130)
Treated MdR*T*Female							1.319**	0.250**
							(0.670)	(0.123)
Masculine language*Male					0.114	0.0216	0.121	0.0228
					(0.551)	(0.105)	(0.552)	(0.105)
Feminine language*Female					1.085**	0.206**	1.107**	0.210***
					(0.449)	(0.0798)	(0.434)	(0.0770)
Mother mandatory school			-0.891**	-0.170**	-0.873**	-0.165**	-0.877**	-0.166**
			(0.377)	(0.0694)	(0.371)	(0.0668)	(0.368)	(0.0662)
Father mandatory school			-0.638	-0.122	-0.576	-0.109	-0.590	-0.112
			(0.651)	(0.125)	(0.632)	(0.120)	(0.636)	(0.120)
Grade in Maths			-0.223**	-0.0427**	-0.247***	-0.0469***	-0.252***	-0.0477***
			(0.0959)	(0.0181)	(0.0934)	(0.0172)	(0.0936)	(0.0171)
Foreign citizen			-0.232	-0.0444	-0.142	-0.0269	-0.152	-0.0288
			(0.446)	(0.0850)	(0.471)	(0.0891)	(0.478)	(0.0903)
Pocket money			0.759**	0.145**	0.777**	0.147**	0.773**	0.146**
			(0.392)	(0.0733)	(0.378)	(0.0694)	(0.377)	(0.0690)
Dummies for the school			YES		YES		YES	
Constant	1.341**		3.492***		3.733***		3.858***	
	(0.578)		(0.898)		(0.918)		(0.955)	
Ln sigma2 - constant	1.124***		0.990**		0.966**		0.969**	
	(0.364)		(0.398)		(0.402)		(0.405)	
Tests (P-value):								

[8] For sake of completeness, Table A8 and Table A9 in the Appendix report the partition of consistent and inconsistent choices by sub-groups.

[9] As a robustness check we have also used a Probit specification. Results do not change and are reported in the Appendix (see Table A10).

Ho: (Masc.lang +Masc.lang*Male)=0			0.6485	
Ho: (Fem.lang +Fem.lang*Female)=0		.	0.0355	
Ho: (Fem.lang +Fem.lang*Female)=(Masc.lang)			0.0562	
Ho: (Fem.lang +Fem.lang*Female)=(Masc.lang +Masc.lang*Male)			0.0314	
Ho: (Treated MdR*T*Female= Treated MdR*T*Male)				0.5096
N	502	420	420	420

Note: Balanced panel. Error terms clustered at class level. Standard errors in parentheses. Significance levels: *** p <0.01, ** p <0.055, * p <0.10. Omitted variables: Neutral language and Scuola P.

In model iii, we find that language is effective in increasing the degree of consistency of individual choices only when it is gender-specific and only for females (see coefficients of the variables "Masculine language", "Feminine language", "Masculine language*Male", "Feminine language*Female" in column iii). Girls treated with a feminine language increase their probability of providing a consistent choice of about 21 percentage points. Boys treated with a masculine language do not behave differently from the other children. Our interpretation of this evidence is that either the masculine language we used was not adequate, or boys are, for some reasons, already familiar with intertemporal choices and/or interested in them without needing additional stimuli. The opposite is true for the girls of the same age. The MdR workshop has a comparable positive impact (the marginal effect is 21 percentage point, see variable "Treated MdR*T") on consistency. In model iv, we further interact the coefficient for the MdR treatment ("Treated MdR*T") with gender. The coefficient of this interacted variable besides being higher for girls (see coefficient of the variable "Treated MdR*T*Female"), is not statistically different across genders (compare "Treated MdR*T*Female" with "Treated MdR*T*Male" in column iv; the t-test is reported at the bottom of the table).

As for the other potential determinants of the outcome, we observe that receiving pocket money has a positive effect on the time consistency of the choices. Pocket money increases the probability of a consistent answer of about 15 percentage points. Indeed, pocket money can be considered as a sort of educational tool that parents employ to teach their children how to manage money, a sort of learning by doing experience. Unexpectedly, the Maths grade is negatively correlated with the time consistency of the choice –it reduces the probability of a consistent answer of about 5 percentage points-- but this may depend on the fact that, in Italian elementary schools, the teaching of Maths focuses more on Arithmetic than Logic. Finally, the education level of mothers plays a key role. Having a mother who received only mandatory education is negatively correlated with a consistent choice in the game. It reduces the probability of a consistent answer of about 16 percentage points. Instead, the education level of fathers does not play any significant role.

Of course the two treatments interact. If we replicate our analysis interacting the language treatment with the MdR treatment, we see that the scarce appealing of the masculine language on females (variable MdRTf1 in Table 5) and on the feminine language on boys (variable MdRTm2 in Table 5) leads to statistically non-significant effects of the MdR workshop. At the opposite, the gender specific explanation of the game boosts the effect of the MdR workshop for girls (when using the feminine language, the effect of the MdR

workshop is statistically different between genders, the p-value from the t-test is 0.0250). The neutral language leads to a significant effect of the treatment on both boys and girls.

Table 5 - Logit on time consistency to explore the joint effects of the two treatments

	(i)	
	b/se	mfx/se
Female	-0.297	-0.0438
	(0.350)	(0.0513)
Time (T)	0.143	0.0212
	(0.500)	(0.0743)
Treated MdR	-2.358***	-0.348***
	(0.443)	(0.0623)
Treated MdR*T*Male*Male lang (MdRTm1)	0.918	0.135
	(0.890)	(0.128)
Treated MdR*T*Female*Male lang (MdRTf1)	0.215	0.0318
	(0.531)	(0.0774)
Treated MdR*T*Male*Female lang (MdRTm2)	0.739	0.109
	(0.903)	(0.133)
Treated MdR*T*Female*Female lang (MdRTf2)	2.632***	0.388***
	(0.757)	(0.103)
Treated MdR*T*Male*Neutral lang (MdRTm3)	1.223**	0.180**
	(0.566)	(0.0767)
Treated MdR*T*Female*Neutral lang (MdRTf3)	1.350*	0.199*
	(0.791)	(0.110)
Mother mandatory school	-0.836**	-0.123**
	(0.362)	(0.0502)
Father mandatory school	-0.642	-0.0947
	(0.653)	(0.0966)
Grade in Maths	-0.236***	-0.0348***
	(0.0871)	(0.0117)
Foreign citizen	-0.245	-0.0361
	(0.452)	(0.0672)
Pocket money	0.799**	0.118**
	(0.405)	(0.0577)
Dummies for school	YES	
Constant		
	3.586***	
	(0.773)	
lnsig2u constant	0.979**	
	(0.419)	
Tests (P-values)		
(MdRTm1)= (MdRTf1)	0.3241	
(MdRTm2)= (MdRTf2)	0.0250	
(MdRTm3)= (MdRTf3)	0.8107	
N	420	

Note: Balanced panel. Error terms clustered at class level. Standard errors in parentheses. Significance levels: *** p <0.01, ** p <0.05, * p <0.10. Omitted var: Neutral language and Scuola P.

To complement the previous results, we then explore the effect of our treatments on the level of patience revealed by the games. However, to run such a test we need to select the subsample of children that answer in a consistent way both in t=0 and t=1, and they are only about 34 per cent of the sample. The very small sample dimension does not allow us to derive strong conclusions. However, we find that on average masculine language decreases the general level of impatience of children (the coefficient of the variable "Masculine language" in column v of Table 6 is statistically significant and equal to -3.8) more than feminine language. Feminine language is highly effective in decreasing the level of impatience of girls only (the coefficient for the "Feminine language" is about -1 while the coefficient of the interaction between language and gender, "Feminine language*Female" is significant and equal to -2.8). All the other regressors

do not affect the impatience level of children with the exception of the inactivity condition of fathers and the foreign citizenship, which are correlated with higher impatience levels. This result may be driven by income; Lawrence (1991) and Tanaka et al. (2010) find evidence of higher discount rates for lower income households.

Table 6 - GLS on revealed impatience rate

	(i) b/se	(ii) b/se	(iii) b/se	(iv) b/se	(v) b/se	(vi) b/se
Female	-1.882***	-0.667	0.206	0.206	0.206	0.754
	(0.690)	(1.001)	(0.971)	(0.971)	(0.971)	(0.943)
Masculine language	-1.914***	-2.405*	-4.008***	-4.008***	-4.008***	-4.100***
	(0.577)	(1.386)	(1.127)	(1.127)	(1.127)	(1.086)
Feminine language	-0.991	-0.172	-1.173**	-1.173**	-1.173**	-1.290**
	(0.752)	(0.605)	(0.504)	(0.504)	(0.504)	(0.593)
Time (T)	-1.400*	-1.516	-1.600	-1.600	-1.600	-1.600
	(0.823)	(0.982)	(0.993)	(0.993)	(0.993)	(0.997)
Treated MdR	-1.956**	-2.013**	-1.428	-1.428	-1.428	-1.342
	(0.783)	(0.937)	(0.921)	(0.921)	(0.921)	(0.956)
Treated MdR*T	0.988	1.204	0.910	0.910	0.910	
	(1.082)	(1.222)	(1.230)	(1.230)	(1.230)	
Treated MdR*T*Male						1.697
						(1.148)
Treated MdR*T*Female						-0.371
						(1.728)
Masculine lang*Male		1.239	2.322*	2.322*	2.322*	2.368*
		(1.661)	(1.357)	(1.357)	(1.357)	(1.384)
Feminine lang*Female		-2.967***	-2.909**	-2.909**	-2.909**	-2.745***
		(0.896)	(1.260)	(1.260)	(1.260)	(0.914)
Mother mandatory school		-0.482				
		(1.227)				
Mother inactive			-0.115	-0.115	-0.115	-0.159
			(1.410)	(1.410)	(1.410)	(1.448)
Father mandatory school		-1.423				
		(1.441)				
Father inactive			4.369***	4.369***	4.369***	4.379***
			(0.375)	(0.375)	(0.375)	(0.392)
Grade in Maths		-0.220	-0.044	-0.044	-0.044	-0.023
		(0.183)	(0.322)	(0.322)	(0.322)	(0.331)
Pocket money		-0.367	0.173	0.173	0.173	0.236
		(0.851)	(0.711)	(0.711)	(0.711)	(0.672)
Foreign citizen		1.165	1.442**	1.442**	1.442**	1.402*
		(1.192)	(0.659)	(0.659)	(0.659)	(0.763)
Dummies for the school		YES	YES	YES	YES	YES
Constant	8.819***	13.213***	11.232***	11.232***	11.232***	10.915***
	(0.607)	(2.023)	(3.381)	(3.381)	(3.381)	(3.352)
R-squared	0.138	0.180	0.234	0.234	0.234	0.248
N	172	158	144	144	144	144

Note: Balanced panel of consistent choices. Error terms clustered at class level. Standard errors in parentheses. Significance levels: *** p <0.01, ** p <0.05, * p <0.10. Omitted var: Neutral language and, in models iv and v, school P.

6. Conclusion

This paper provides field evidence on the effect of conceptual frames on individuals' choices and contributes to the literature on financial market participation and decision making by stressing the role of attention and interest. We hypothesize that the low engagement of women in economic and financial tasks can originate from their lack of interest in these tasks and the difficulties in foreseen the utility of their outcomes. Thaler

and Sunstein (2009) demonstrate that the way of presenting the potential utility of a task can represent a "nudge" that alters people's behavior in the desired way without forbidding any option or significantly changing the economic incentives embedded in the choice. In line with them, we conjecture the need for a more gender specific approach in framing the tasks to boost the attention and/or interest of women.

To test the above hypotheses, we run a field experiment. The experiment is addressed to elementary school children in the attempt to go to the roots of the gender gap in financial market participation and decision making. We give children a simple basic economic task addressed to measure their intertemporal discount rate. In the experiment, we propose two treatments to boost the attention/interest of children in the task: a) a treatment which is short, gender specific, based on language and leveraging on instinctive reactions (the language treatment); b) a treatment which is longer, gender neutral and educational (the MdR treatment). We measure the effects of these two treatments on both the time consistency of the answers and the level of patience of children. We find that gender-specific language is effective in increasing the number of consistent answers among girls only. The MdR treatment has a comparable effect on both girls and boys but, upon closer inspection, the gender specific explanation of the game also boosts the effect of the MdR workshop for girls. As for the impact on the level of patience, masculine language is effective the impatience level of the generality of children, while the feminine language has a comparable effect on the impatience level of girls only.

Our findings support the idea that a gender-specific treatment works with girls and leads to the same short-run effects of a longer, more educational treatment. Even if long-run effects are unknown and certainly deserve more exploration, it seems that a more gender-specific language --a language that women can identify more with-- could play a crucial role in narrowing the gender gap in financial market participation.

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Appendix

Table A1 – Repartition of classes by treatments

Treatement 2 – MdR laboratory	**Treatment1 - Language** *Masculine*	*Feminine*	*Neutral*
Treated group			
Collodi 3b	0	0	22
Collodi 4a	21	0	0
Marco-polo 3a	0	0	21
Marconi-antonelli 3b	0	21	0
Palmieri 3a	23	0	0
Palmieri 3b	0	22	0
Palmieri 3c	0	0	19
Palmieri 3d	21	0	0
Pertini 3c	0	19	0
Total	*65*	*62*	*62*
Control group			
Marco-polo 4a	18	0	0
Marconi-antonelli 3a	0	23	0
Palmieri 3e	0	0	21
Total	*18*	*23*	*21*

Table A2 – Comparison among groups treated with different language

	Masculine language (M)			Feminine language (F)			Neutral language (N)			Difference			ttest (P-value)		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	M-F	F-N	M-N	M-F	F-N	M-N
Gender	166	0.43	0.50	170	0.49	0.50	166	0.51	0.50	-0.06	-0.01	-0.07	0.27	0.83	0.19
Time	166	0.50	0.50	170	0.50	0.50	166	0.50	0.50	0.00	0.00	0.00	1.00	1.00	1.00
MdR treated	166	0.78	0.41	170	0.73	0.45	166	0.75	0.44	0.05	-0.02	0.04	0.25	0.72	0.44
Mother mandatory school	158	0.25	0.44	160	0.19	0.39	144	0.21	0.41	0.07	-0.02	0.05	0.16	0.65	0.36
Mother inactive	160	0.25	0.43	160	0.18	0.38	148	0.15	0.36	0.08	0.03	0.10	0.10	0.53	0.03
Father mandatory school	152	0.18	0.39	158	0.19	0.39	136	0.18	0.38	-0.01	0.01	0.01	0.90	0.77	0.87
Father inactive	138	0.10	0.30	148	0.04	0.20	126	0.02	0.13	0.06	0.03	0.09	0.05	0.21	0.00
Grade in Math	166	8.64	1.11	142	8.25	1.09	166	8.53	0.87	0.39	-0.28	0.11	0.00	0.01	0.32
Grade in English	166	9.35	0.74	168	9.11	0.89	164	8.91	1.27	0.24	0.20	0.44	0.01	0.10	0.00
Money allowance	166	0.25	0.44	170	0.16	0.37	166	0.19	0.40	0.09	-0.03	0.06	0.05	0.50	0.19
Autonomy in managing savings	166	0.65	0.48	170	0.60	0.49	166	0.49	0.50	0.05	0.11	0.16	0.34	0.05	0.00
Preference for energetic games	166	0.36	0.48	168	0.25	0.43	166	0.12	0.33	0.11	0.13	0.24	0.03	0.00	0.00

Note: ttest on means with unequal variances.

Table A3 – Comparison between treated and control group w.r.t. MdR laboratory

	MdR treated group			MdR control group			Ttest of the difference
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	P-value
Gender	378	0.460	0.499	124	0.532	0.501	0.166
Language Masculine	378	0.344	0.476	124	0.290	0.456	0.262
Language Feminine	378	0.328	0.470	124	0.371	0.485	0.390
Language Neutral	378	0.328	0.470	124	0.339	0.475	0.828
Mother mandatory school	344	0.209	0.407	118	0.237	0.427	0.535
Mother inactive	348	0.167	0.373	120	0.267	0.444	0.028
Father mandatory school	332	0.151	0.358	114	0.281	0.451	0.006
Father inactive	304	0.046	0.210	108	0.074	0.263	0.319
Grade in Math	358	8.408	1.046	116	8.720	0.965	0.003
Grade in English	374	9.114	1.003	124	9.141	1.011	0.793
Money allowance	378	0.164	0.371	124	0.323	0.469	0.001
Autonomy in managing savings	378	0.545	0.499	124	0.694	0.463	0.003
Preference for energetic games	376	0.266	0.442	124	0.177	0.384	0.033

Note: ttest on means with unequal variances.

Table A4 - Consistent choices in game 1

SintesiG1	Freq.	Percent	Cum.
BBBBBBBBBB	18	16.98	16.98
ABBBBBBBBB	7	6.60	23.58
AABBBBBBBB	5	4.72	28.30
AAABBBBBBB	2	1.89	30.19
AAAABBBBBB	4	3.77	33.96
AAAAABBBBB	11	10.38	44.34
AAAAAABBBB	4	3.77	48.11
AAAAAAABBB	5	4.72	52.83
AAAAAAAABB	4	3.77	56.60
AAAAAAAAAB	17	16.04	72.64
AAAAAAAAAA	29	27.36	100.00
Total	106	100.00	

Table A5 - Inconsistent choices in game 1

SintesiG1	Freq.	Percent	Cum.
BBBBAAAAAA	1	0.70	0.70
BBABBBBBBB	1	0.70	1.40
BBAABBBBAB	1	0.70	2.10
BABBBBBBBB	1	0.70	2.80
BABBABBAAB	1	0.70	3.50
BABBABAABB	1	0.70	4.20
BABBAABBBA	1	0.70	4.90
BABBAABBAB	2	1.40	6.29
BABBAABBAA	1	0.70	6.99
BABABABBAB	1	0.70	7.69
BABABABABB	2	1.40	9.09
BABABABAAB	1	0.70	9.79
BABAABABBA	1	0.70	10.49
BABAABABAB	1	0.70	11.19
BAABBBAAAA	1	0.70	11.89
BAABBABAAA	1	0.70	12.59
BAABABBABA	1	0.70	13.29
BAABABABAB	1	0.70	13.99
BAABABAAAB	1	0.70	14.69
BAAAAAAAAA	2	1.40	16.08
ABBBBBBBBA	1	0.70	16.78
ABBBBAABBB	1	0.70	17.48
ABBBABBBBA	1	0.70	18.18
ABBBABABBB	1	0.70	18.88
ABBBABAABB	1	0.70	19.58
ABBBAABABB	1	0.70	20.28
ABBABBBBBB	1	0.70	20.98
ABBABBBABB	1	0.70	21.68
ABBABABBBB	1	0.70	22.38
ABBABABBAB	1	0.70	23.08
ABBABABABB	1	0.70	23.78
ABBABAABAB	1	0.70	24.48
ABBABAAABB	1	0.70	25.17
ABBABAAABA	1	0.70	25.87
ABBAABBBBB	1	0.70	26.57
ABBAABBABB	1	0.70	27.27
ABBAABBAAB	2	1.40	28.67
ABBAABABBB	1	0.70	29.37
ABBAABABBA	1	0.70	30.07
ABBAABABAB	2	1.40	31.47
ABBAABAAAA	1	0.70	32.17
ABABBBBBBB	1	0.70	32.87
ABABBBABAB	1	0.70	33.57
ABABBABBAB	1	0.70	34.27
ABABBABABB	1	0.70	34.97
ABABBABAAB	1	0.70	35.66
ABABBAABAB	1	0.70	36.36
ABABABBABB	1	0.70	37.06
ABABABBABA	1	0.70	37.76
ABABABABBB	2	1.40	39.16
ABABABABAB	11	7.69	46.85
ABABAABABB	1	0.70	47.55
ABABAABABA	1	0.70	48.25
ABAABBBBAB	1	0.70	48.95
ABAABBBABB	2	1.40	50.35
ABAABBBAAB	1	0.70	51.05
ABAABBABBA	2	1.40	52.45
ABAABBAABB	1	0.70	53.15
ABAABBAABA	2	1.40	54.55
ABAABABBAA	2	1.40	55.94
ABAABABABB	1	0.70	56.64
ABAABABAAB	1	0.70	57.34
ABAABAABAA	1	0.70	58.04
ABAABAAAAA	1	0.70	58.74
ABAAABBBBB	1	0.70	59.44
ABAAABBABB	1	0.70	60.14
ABAAABBAAB	1	0.70	60.84
ABAAABABBB	1	0.70	61.54
ABAAABABBA	1	0.70	62.24
ABAAAABBBB	1	0.70	62.94
ABAAAABABA	1	0.70	63.64
ABAAAAABBB	1	0.70	64.34
ABAAAAABAB	1	0.70	65.03

ABAAAAAABA	1	0.70	65.73
AABBBABBAA	1	0.70	66.43
AABBAABBAB	1	0.70	67.13
AABBAABAAB	1	0.70	67.83
AABBAAABBB	1	0.70	68.53
AABABBABAB	3	2.10	70.63
AABABBAABA	1	0.70	71.33
AABABABBBB	1	0.70	72.03
AABABABBBA	1	0.70	72.73
AABABABBAB	1	0.70	73.43
AABAABBBAB	1	0.70	74.13
AABAABBABB	1	0.70	74.83
AABAABABAB	1	0.70	75.52
AABAAABBBA	1	0.70	76.22
AABAAAAAAB	3	2.10	78.32
AAABBBBBAB	1	0.70	79.02
AAABBBBAAB	1	0.70	79.72
AAABBABBAB	1	0.70	80.42
AAABBABABB	1	0.70	81.12
AAABBABAAB	1	0.70	81.82
AAABBAAAAB	1	0.70	82.52
AAABABBBBB	1	0.70	83.22
AAABABABBB	2	1.40	84.62
AAABAABBBB	1	0.70	85.31
AAABAABABB	1	0.70	86.01
AAABAABAAB	1	0.70	86.71
AAABAAAAAB	2	1.40	88.11
AAAABBBBAB	2	1.40	89.51
AAAABBBBAA	1	0.70	90.21
AAAABBABBB	1	0.70	90.91
AAAABBAABB	1	0.70	91.61
AAAABABAAB	1	0.70	92.31
AAAABAAABB	1	0.70	93.01
AAAABAAAAB	1	0.70	93.71
AAAAABBBBA	1	0.70	94.41
AAAAABBBAB	1	0.70	95.10
AAAAABBAAB	2	1.40	96.50
AAAAABAAAA	1	0.70	97.20
AAAAAABAAB	2	1.40	98.60
AAAAAAABBA	1	0.70	99.30
AAAAAAABAB	1	0.70	100.00
Missing	1		
Total	142	100.00	

Table A6 - consistent choices in game 2

SintesiG2	Freq.	Percent	Cum.
BBBBBBBBBB	30	19.87	19.87
ABBBBBBBBB	5	3.31	23.18
AABBBBBBBB	6	3.97	27.15
AAABBBBBBB	6	3.97	31.13
AAAABBBBBB	10	6.62	37.75
AAAAABBBBB	12	7.95	45.70
AAAAAABBBB	7	4.64	50.33
AAAAAAABBB	2	1.32	51.66
AAAAAAAABB	8	5.30	56.95
AAAAAAAAAB	28	18.54	75.50
AAAAAAAAAA	37	24.50	100.00
Total	151	100.00	

Table A7 - inconsistent choices in game 2

sintesiG2	Freq.	Percent	Cum.
.BAB.BAB.A	1	1.02	1.02
.A.....B..	1	1.02	2.04
BBBBBBBBBA	2	2.04	4.08
BBBBBBBBAB	1	1.02	5.10
BBBBABBBBB	1	1.02	6.12
BBBBAAAAAB	1	1.02	7.14
BBBABBABBB	1	1.02	8.16

BBBAABABBB	1	1.02	9.18
BBABABABAB	1	1.02	10.20
BBAABBAABB	1	1.02	11.22
BBAABAAABB	1	1.02	12.24
BBAAABBAAB	1	1.02	13.27
BBAAABABBB	1	1.02	14.29
BBAAAABAAA	1	1.02	15.31
BABBBBBBBB	1	1.02	16.33
BABBABBAAB	1	1.02	17.35
BABBABAABB	2	2.04	19.39
BABBAABBBB	1	1.02	20.41
BABBAABAAB	1	1.02	21.43
BABABABABB	1	1.02	22.45
BABABABABA	3	3.06	25.51
BABABABAAB	1	1.02	26.53
BABAABBAAB	1	1.02	27.55
BAABABABAB	1	1.02	28.57
A...BBBABB	1	1.02	29.59
A.B.ABBABA	1	1.02	30.61
AB.ABABBBB	1	1.02	31.63
ABBBBABBBB	1	1.02	32.65
ABBBABABBB	1	1.02	33.67
ABBABBABAB	1	1.02	34.69
ABBABAABAB	2	2.04	36.73
ABBAABBBBB	1	1.02	37.76
ABBAABBAAB	1	1.02	38.78
ABBAAABBBB	1	1.02	39.80
ABBAAABABB	1	1.02	40.82
ABABBBBBBB	2	2.04	42.86
ABABBBABBB	1	1.02	43.88
ABABBABBBB	3	3.06	46.94
ABABBABBAB	1	1.02	47.96
ABABA.BABB	1	1.02	48.98
ABABABABBA	1	1.02	50.00
ABABABABAB	12	12.24	62.24
ABABAAABBB	1	1.02	63.27
ABABAAABAA	1	1.02	64.29
ABAABAB.AB	1	1.02	65.31
ABAABABBBB	1	1.02	66.33
ABAABABAAB	1	1.02	67.35
ABAABABAAA	1	1.02	68.37
ABAABAABBA	1	1.02	69.39
ABAABAAAAB	1	1.02	70.41
ABAAABABBA	1	1.02	71.43
ABAAAABBAB	1	1.02	72.45
ABAAAAAABB	1	1.02	73.47
ABAAAAAAAB	1	1.02	74.49
AABBBBABBB	1	1.02	75.51
AABBBABBBB	1	1.02	76.53
AABBABAABB	1	1.02	77.55
AABAB.B.AB	1	1.02	78.57
AABABBBBBB	1	1.02	79.59
AABABBAABB	1	1.02	80.61
AABABA.BBB	1	1.02	81.63
AABABABABB	1	1.02	82.65
AABAABBAAB	1	1.02	83.67
AABAABAAAB	1	1.02	84.69
AAABBAABBA	1	1.02	85.71
AAABABBBBB	2	2.04	87.76
AAABABABAA	1	1.02	88.78
AAABAAAAAA	1	1.02	89.80
AAAABBAABA	1	1.02	90.82
AAAABAABAA	1	1.02	91.84
AAAABAAABB	1	1.02	92.86
AAAABAAAAB	1	1.02	93.88
AAAAABBBBA	1	1.02	94.90
AAAAABABAB	1	1.02	95.92
AAAAABAAAB	1	1.02	96.94

AAAAAABAAB	1	1.02	97.96
AAAAAAABAB	1	1.02	98.98
AAAAAAABAA	1	1.02	100.00
Missing	17		
Total	115	100.00	

Table A8 – Percentage of consistent choices by gender and language

	Boys				Girls			
T=0	Masculine	Feminine	Neutral	Total	Masculine	Feminine	Neutral	Total
Inconsistent	19.80%	19.10%	17.60%	56.50%	16.70%	20.00%	21.70%	58.40%
Consistent	**16.00%**	13.70%	13.70%	43.40%	13.30%	**15.00%**	13.30%	41.60%
Total				100%				100%
T=1								
Inconsistent	12.20%	13.70%	9.90%	35.80%	15.80%	14.20%	12.50%	42.50%
Consistent	**23.70%**	19.10%	21.40%	64.20%	14.20%	20.80%	**22.50**%	57.50%
Total				100%				100%

Note: percentages computed on 251 pupils, 131 boys and 120 girls.

In t=0, the number of time –consistent answers among the pupils in the control group was much higher than among pupils in the treated group. In t=1 the gap shrinks.

Table A9 - Consistent choices by gender and MdR lab. group

	MdR lab.: control group			**MdR lab.: treated group**		
	T=1			T=1		
T=0	Inconsistent	Consistent	Total	Inconsistent	Consistent	Total
Inconsistent	19.35%	14.52%	33.87%	34.39%	30.69%	65.08%
Consistent	9.68%	56.45%	**66.13%**	7.94%	26.98%	**34.92%**
Total	29.03%	**70.97%**	100.00%	42.33%	**57.67**%	100.00%

Note: percentages computed on 251 pupils, 25 per cent are in the control group while 75 per cent in the treated group.

Table A10 - Probit estimates on consistency of the choices

	(i)		(ii)		(iii)		(iv)	
	b/se	Mfx	b/se	mfx	b/se	Mfx	b/se	Mfx
Female	-0.208	-0.0725	-0.103	-0.0333	-0.285	-0.0914	-0.374	-0.120
	(0.137)	(0.0489)	(0.157)	(0.0508)	(0.239)	(0.0753)	(0.258)	(0.0804)
Masculine language	-0.0724	-0.0252	-0.136	-0.0441	-0.178	-0.0570	-0.176	-0.0564
	(0.311)	(0.109)	(0.222)	(0.0718)	(0.285)	(0.0919)	(0.292)	(0.0942)
Feminine language	-0.131	-0.0456	0.0518	0.0167	-0.206	-0.0661	-0.203	-0.0651
	(0.349)	(0.122)	(0.205)	(0.0666)	(0.283)	(0.0892)	(0.281)	(0.0886)
Time (T)	0.204	0.0710	0.0880	0.0284	0.0865	0.0277	0.0875	0.0280
	(0.266)	(0.0916)	(0.291)	(0.0938)	(0.291)	(0.0930)	(0.292)	(0.0932)
Treated MdR	-1.173***	-0.409***	-1.326***	-0.428***	-1.339***	-0.429***	-1.354***	-0.433***
	(0.356)	(0.103)	(0.261)	(0.0752)	(0.266)	(0.0764)	(0.269)	(0.0768)
Treated MdR*T	0.624**	0.217**	0.640*	0.207*	0.642*	0.206*		
	(0.323)	(0.114)	(0.358)	(0.115)	(0.358)	(0.114)		
Treated MdR*T*Male							0.542	0.174
							(0.400)	(0.128)
Treated MdR*T*Female							0.765**	0.245**
							(0.387)	(0.122)
Masculine language*Male					0.0514	0.0165	0.0555	0.0178
					(0.319)	(0.102)	(0.320)	(0.103)
Feminine language*Female					0.643**	0.206***	0.656***	0.210***
					(0.258)	(0.0784)	(0.249)	(0.0757)
Mother mandatory school			-0.516**	-0.167**	-0.506**	-0.162**	-0.508**	-0.163**
			(0.220)	(0.0687)	(0.216)	(0.0662)	(0.214)	(0.0656)
Father mandatory school			-0.377	-0.122	-0.344	-0.110	-0.352	-0.113
			(0.383)	(0.124)	(0.372)	(0.119)	(0.373)	(0.119)
Grade in Maths			-0.129**	-0.0418**	-0.143***	-0.0459***	-0.146***	-0.0468***
			(0.0547)	(0.0174)	(0.0531)	(0.0166)	(0.0533)	(0.0165)
Foreign citizen			0.446**	0.144**	0.455**	0.146**	0.453**	0.145**
			(0.229)	(0.0725)	(0.220)	(0.0687)	(0.219)	(0.0682)
Pocket money			-0.140	-0.0452	-0.0834	-0.0267	-0.0880	-0.0282
			(0.261)	(0.0840)	(0.275)	(0.0880)	(0.279)	(0.0890)
Dummies for the school			YES		YES		YES	
Constant	0.784**		2.025***		2.169***		2.240***	
	(0.334)		(0.513)		(0.522)		(0.542)	
Ln sigma2 - constant	0.048		-0.086		-0.111		-0.107	
	(0.350)		(0.387)		(0.391)		(0.393)	
Tests (P-value):								
Ho: (Masc.lang +Masc.lang*Male)=0					0.6289			
Ho: (Fem.lang +Fem.lang*Female)=0			.		0.0327			
Ho: (Fem.lang +Fem.lang*Female)=(Masc.lang)					0.0568			
Ho: (Fem.lang +Fem.lang*Female)=(Masc.lang +Masc.lang*Male)					0.0263			
Ho: (Treated MdR*T*Female= Treated MdR*T*Male)							0.5041	
N	502		420		420		420	

Note: Balanced panel. Error terms clustered at class level. Standard errors in parentheses. Significance levels: *** p <0.01, ** p <0.055, * p <0.10. Omitted variables: Neutral language and Scuola P.

Appendix B

Table B1 – Game

	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	