THE ROLE OF FINANCIAL SOCIALIZATION AND SELF-CONTROL ON SAVING HABITS

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Abstract

Using novel US household survey data, we examine the role of financial socialization, meant as the exposure to financial concepts while growing up, and self-control in explaining saving behavior. We pay special attention to the potential existence of gender differences in the influence of parental teachings received early in life and self-control skills on saving habits. In addition, we analyze the relationship between financial socialization, self-control and the ownership of different financial products. Results indicate that financial socialization received early in life and self-control are positively associated with general saving habits. However, their contribution differs depending on the type of financial product being analyzed. Furthermore, the gender gap in saving propensity in the favor of males is mainly due to differences in characteristics rather than differences in coefficients.

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1. INTRODUCTION

Governments throughout the world are changing their welfare system, shifting the responsibility of saving onto private individuals, who are then required to accumulate an adequate level of wealth (Thaler and Benartzi, 2004). However, many individuals fail to save enough (Bernheim *et al.*, 2001) and reach the retirement age with virtually no personal financial assets and limited resources to meet unforeseen expenses (Poterba *et al*., 1996). Munnell *et al.* (2009) show that nearly half of workers in the US are expected to be unable to keep their standard of living in retirement. This raises deep economic implications, since low saving rates are partially responsible for increased inequality and poverty at old ages (Caner and Wolff, 2004).

Research on saving behavior attributes a key role to financial literacy in stimulating saving (Van Rooij *et al.*, 2012; Lusardi and Mitchell, 2014). As an extension, all forms of education toward financial and economic issues, taught at any age, can be seen as drivers of a more widespread saving behavior. One form of financial education is the so-called financial socialization, i.e. any financial education received during childhood or adolescence from several socialization agents, including parents, educators, peers and schools. Previous research indicates financial socialization obtained from the parents to be far more effective than socialization obtained from any other agent (Shim *et al.*, 2009; Grusec, 2011). Children acquire financial skills within the family through different socialization processes, such as observing parents' financial behavior or speaking with them about financial topics since young age (Solheim *et al.*, 2011). In this way, children develop financial skills and capabilities that foster their financial independence and facilitate their transition into adulthood.

On the other hand, it is nowadays widely acknowledged that relevant lifetime financial outcomes can be explained by differences in non-cognitive traits during childhood (Lades *et al.*, 2017). In particular, economists have been devoting increasing attention to the role of personal self-control as a predictor of saving behavior (Tangney *et al.*, 2004; Bucciol, 2012;

Achtziger *et al.*, 2015; Rey-Ares *et al.*, 2021). Self-control is defined as the ability to resist temptation and to overcome first impulses (Baumeister, 2002) and its role on wealth accumulation nowadays stands as one of the most relevant research questions among behavioral economists (Thaler, 2018). Self-control problems might hinder savings via overspending (Thaler and Shefrin, 1981), resulting in overconsumption and low wealth (Ameriks *et al.*, 2003).

This study explores how financial socialization and self-control relate to saving behavior (measured as the propensity to save) while controlling for several socio-demographic characteristics. To this end, we use US household data collected in year 2016 from the National Financial Well-Being Survey. We measure financial socialization as exposure while growing up to financial concepts across different dimensions including, among others, discussions about financial issues, teachings on how to be smart shoppers and experiential learning through allowances or saving accounts. Therefore, our measure of financial socialization is broader than the ones used in previous studies, covering both the practical and theoretical knowledge about generic and specific economic concepts learned in young age.

Research generally indicates that parenting is important to the process of developing self-control among young people (Feldman and Weinberger, 1994; Hay, 2001; Tang, 2017). For instance, teachings received during childhood have been shown to foster individuals' self-control (Tang, 2017; Feng Zhu, 2020), which in turn has been shown to influence financial behavior such as retirement planning, wise use of debt and credit, budgeting and saving (Baumeister, 2002; Howlett *et al.*, 2008). Because of this, we examine potential interaction effects between financial socialization and personal self-control skills as drivers of saving behavior.

The contribution of this empirical work is twofold. First, we examine the separate influence of financial socialization and self-control skills in explaining saving behavior and the potential complementary effects between the two, conditional on a set of controls. From this viewpoint, the paper is similar to Feng Zhu (2020). This author shows that parental saving

norms promoted healthy saving behaviors among adolescents both directly and indirectly through fostering self-control skills. We expand this work by studying the separate effects of both parental teachings and self-control using data for a representative sample of adult (rather than adolescent) financial decision-makers in the US. In doing so, we assess potential gender differences in how financial socialization and self-control translate into greater saving propensity. The literature has documented relevant gender differences in financial risk taking (Charness and Gneezy, 2012), financial literacy (Fonseca *et al.*, 2012), long-term planning (Lusardi and Mitchell, 2008), and saving propensities as a result (Fischer, 2010). However, evidence on whether the relationship between financial socialization, self-control skills and saving habits differs by gender is scant to date. This gender gap raises important policy implications because females reach retirement ages with less accumulated wealth (Sundén and Surette, 1998). In this vein, the sources of gender differences in saving patterns are an unresolved topic (Neelakantan and Chang, 2010). Therefore, the paper extends the literature about the role of financial socialization (Kim and Chatterjee, 2013; Bucciol and Veronesi, 2014) and self-control problems (Ameriks *et al.*, 2007; Gathergood, 2012) on financial decisions by disentangling the separate contribution of financial education received during childhood and adolescence and self-control on the propensity to save, both in general and separately by gender.

Second, we examine the different links between financial socialization, self-control and several financial products and services like checking accounts, insurances, retirement products, financial assets and education products, which involve different time horizons. In this respect, our study expands the work by Rey-Ares *et al.* (2021), who examine the association between self-control and several binary investment decisions. Rather than modeling the probability of holding each financial product separately, we estimate a multivariate Probit that allows for correlated errors. Therefore, our empirical strategy provides some insights about potential complementarities between the financial products considered.

The remainder of this paper is organized as follows. Section 2 reviews the related literature. Section 3 presents the data, some summary statistics and outlines the econometric modelling. Section 4 reports the main results and discusses the role of financial socialization and self-control on generic saving habits and on different financial products and services. Some robustness checks are also presented here. Finally, Section 5 concludes.

2. LITERATURE REVIEW

2.1. Self-control Problems and Saving Behavior

Economists are devoting increasing attention to the effects of dynamic inconsistencies, self-control and temptation on intertemporal decisions. Self-control is typically defined as the ability to resist temptation and to overcome first impulses (Baumeister, 2002). According to the behavioral lifecycle hypothesis (Shefrin and Thaler, 1988), lack of self-control implies the individual prefers short-term compensation over long-term rewards. Previous literature on self-control strongly highlights its importance as a psychological resource that influences individuals' financial behavior through impulse buying (Achtziger *et al.*, 2015). High self-control is positively related with goal achievement and the ability to manage unforeseen expenses (Tangney *et al.*, 2004). By contrast, consumers who lack self-control make greater use of quick-access financial products and are more likely to have problems in dealing with over-indebtedness (Gathergood, 2012).

Several authors have investigated how self-control affects saving behavior. According to Choi *et al.* (2011), people with low self-control are less likely to save money for retirement. Ameriks *et al.* (2007) explore the relation between self-control and wealth in a sample of highly educated adults and find that self-control problems are smaller for older respondents. Nonetheless, the effect of self-control on saving decisions is difficult to predict a priori and may be related to individuals' ability to resist temptation. On the one hand, self-control problems hinder savings via overspending (Thaler and Shefrin, 1981), possibly because spending

attitudes are driven by short-term and impulsive motives (Gathergood and Weber, 2014**)**. On the other hand, acknowledging the lack of self-control might promote the purchase of commitment devices to limit future temptation (Laibson, 2015).

A recent study by Rey-Ares *et al.* (2021) evaluates how self-control influences financial behavior and attitude. Using survey data from Spain, the authors pay attention to the differences between millennials and older generations. They find that a high level of self-control increases the probability of setting long-term financial goals, savings and stock market participation, but does not significantly influence the tenure of mortgages or retirement savings. Their findings suggest that the way self-control relates with financial choices might be heterogeneous across financial products and services.

2.2. Financial Socialization and Saving Behavior

There is large evidence showing that education received at home during childhood is a strong predictor of economic outcomes such as civic virtues (e.g. Ljunge, 2015), academic performance (e.g. Ermisch and Francesconi, 2001) and self-esteem (e.g. Darolia and Wydick, 2011). In this sense, previous work has found a positive association between financial literacy among the young and parents' financial sophistication (Lusardi *et al*., 2010). Economic habits might be easily transmitted from parents to children through the mechanism of financial socialization.

Research on financial socialization supports a common view of parental education as a transitional process from childhood into early adulthood in which children develop consumer roles and gain financial independence (Gudmunson *et al.*, 2016). As stated by McGoldrick and Carter (1999), the successful transition throughout the life cycle stages largely depends on achievements and skills acquired in previous stages. Financial socialization goes further than simply focusing on an improvement in financial knowledge, as it represents the process by which attitudes and values of individuals are formed (Grohmann *et al.*, 2015).

Financial socialization received during young age positively affects subsequent financial decisions, notably those involving saving and assets accumulation. Although preferences over consumption versus saving are partially genetic, environmental factors and parental teachings have been shown as important determinants of cross-sectional variation in saving rates (Cronqvist and Siegel, 2015). Bucciol and Veronesi (2014) find a positive effect of parental teaching strategies received during childhood on the propensity to save during adulthood. Similarly, using a Dutch sample of young adults, Webley and Nyhus (2013) provide evidence of a positive link between parental encouragement and the ability to control spending, saving preferences, conscientiousness and future orientation. Bucciol and Zarri (2019) show that saving education provided by parents induces people to be more future oriented later in life. Chowa and Despard (2014) observe that parental financial socialization is a strong predictor of youth financial behavior. Kim and Chatterjee (2013) study the association between financial socialization and beneficial financial practices in young adulthood. Their results indicate that owning a saving account during childhood is positively associated with financial asset ownership during adulthood. According to Serido and Deenanath (2016), children's progress toward financial independence is mainly driven by parental teachings. Therefore, parents play an important role in influencing financial habits during childhood, which might also persist later in life.

2.3. Linkage between Financial Socialization and Self-control

Adolescents who learn from parents through financial socialization develop general skills that will be maintained over the life course. One of them is self-control; in turn, self-control skills are important drivers of financial well-being during adulthood because high self-control allows individuals to diligently follow their financial plans and to convert their financial goals into responsible financial behavior (Tang, 2017).

Lades *et al.* (2017) investigate the impact of self-control problems in childhood on future pension participation. Their mediation analysis shows that about 50 percent of this relationship can be explained by the contribution of self-control to a wide range of factors, such as educational attainment, economic status and home ownership. To date, only a few studies have investigated the role of financial socialization in the development of self-control (Feldman and Weinberger, 1994; Hay, 2001; Tang, 2017), generally finding a positive effect. Feng Zhu (2020) evaluates a financial education program to adolescents paying attention to the role of parental saving socialization on healthy saving behavior by encouraging self-control. The author shows that parental saving norms positively affected saving behavior and improved self-control after the intervention. Nevertheless, whether financial socialization has the capacity to modulate self-control skills is still subject to debate, since some other scholars indicate self-control is formed very early in life (Montroy *et al.*, 2016) and tends to be stable over the life course (Cobb-Clark *et al.*, 2019).

2.4. Gender Differences in Saving and Financial Behavior

It is widely recognized in the literature that females are financially more risk averse (Charness and Gneezy, 2012) and they own fewer savings than males (Bucciol and Veronesi, 2014). In this vein, females have been found to save less in the short-run (Fisher, 2010) and to reach retirement age with less wealth (Sundén and Surette, 1998; Neelakantan and Chang, 2010). A large body of research has studied the factors explaining this gender gap. Although it has been traditionally attributed to females being more risk averse, differences in wealth accumulation and saving behavior are also due to other factors that are still underexplored (Neelakantan and Chang, 2010). Bannier and Neubert (2008) document that little financial literacy is a key deterrent factor for sophisticated investments among females. Similarly, Fonseca *et al.* (2012) show there is a gender gap in financial literacy that is mainly explained by males and females having different production processes for financial literacy formation.

They argue this pattern emerges because of household specialization by which males concentrate on financial decisions and therefore acquire the necessary knowledge whereas females focus on other tasks. We aim to contribute to this stream of research by studying potential gender differences in how self-control skills and financial socialization affect saving attitudes.

3. DATA AND METHODOLOGY

3.1. Dataset

Our dataset comes from the US National Financial Well-Being Survey (hereafter NFWBS). This survey was conducted in year 2016 by the Consumer Financial Protection Bureau and it was fielded on the GfK Knowledge Panel.[1] Sample data were drawn from an online panel after being properly weighted to reflect the US adult population with respect to age, gender, ethnicity, poverty and educational levels.

The NFWBS primarily investigates financial knowledge, financial behavior and financial wellbeing of a representative sample of individuals. The collected information is about respondents' saving behavior, financial skills and attitudes, and other related factors. Socio-economic information such as age, ethnicity, labor status or household income of the respondents come from the GfK Knowledge Panel.[2] For our purpose, the main advantage of this dataset is that it includes a set of questions related to individuals' financial experience and behavior. This allows us to investigate several financial factors that might affect saving

[1] The Consumer Financial Protection Bureau is a Federal agency created in year 2010 to regulate the use of financial products and to help consumers in understanding financial services, supporting their participation in financial markets. The GfK Knowledge Panel is the largest probability-based Internet panel in the US, with a total of about 55,000 panel members. The National Financial Well-Being Survey is available and freely downloadable at https://www.consumerfinance.gov/data-research/financial-well-being-survey-data/ (last access June 4 2022).

[2] These data were collected prior to the survey as part of GfK's standard business operations.

decisions, which have not been explored in the previous literature and, to the best of our knowledge, are not available in other datasets.

A total of 6,394 subjects completed the survey. There is only one respondent per household. As in Van Rooij *et al.* (2012), we focus on respondents who report to take financial decisions at home, i.e., on those who pay the bills and take the responsibility to make financial investments. Indeed, their financial capabilities are the relevant ones for household financial decision making (Smith *et al.*, 2010). This leaves a subsample of 3,235 individuals. After further excluding respondents with missing values in the variables of interest, our final sample consists of 2,912 observations. To address potential concerns about sample-selection bias, prior to our main analysis we run a Heckman Probit regression in which we model the probability of making financial decisions in the household together with the outcome of interest (saving habits). A binary indicator for whether the respondent holds the highest educational level of the household is used as the exclusion restriction for identification. Auxiliary checks support the exogeneity requirement of this variable for explaining the outcome variable (Table A.1 in the Supplementary Material). The correlation between the error terms of the two equations is not significant. Therefore, we find no evidence of selection bias conditional on our set of controls (Table A.2 in the Supplementary Material).

3.2. Main Variables

Outcome Variables

Two different sets of outcome variables are considered. First, we define the dummy variable *saving habits*, which takes the value one if the respondent agrees with the following sentence: "Putting money into savings is a habit for me". Saving habits have been shown to be a relevant predictor of regular saving (Loibl *et al*., 2011), financial goals and adequate emergency reserves (Fisher and Anong, 2012).

Second, since we have detailed data on the financial products chosen by the individuals, we analyze the association between self-control, financial socialization and the decisions to save through specific financial products. Respondents are asked which financial products and services they currently have from an exhaustive list, ranging from checking or savings accounts to non-retirement investments, such as stocks, bonds or mutual funds. We group these items into five categories representing i) checking accounts; ii) insurances; iii) retirement products; iv) financial assets; and v) education products. We model each category as a dummy variable measuring whether individuals currently hold each of them. We refer the reader to Section B in the Supplementary Material for further details.

Financial Socialization and Self-control

There are different ways to measure financial socialization and self-control. Regarding financial socialization, our respondents were asked seven questions about teachings received from the family of origin while growing up at home. Specifically, these questions ask whether the family did any of the following with the respondent: i) Discussed family financial matters; ii) Spoke about the importance of saving; iii) Discussed how to establish a good credit rating; iv) Taught how to be a smart shopper; v) Taught that actions determine success in life; vi) Provided a regular allowance; and vii) Provided a savings account.

Regarding self-control, the measurement uses survey instruments similar to Ameriks *et al.* (2007). Specifically, three questions ask to indicate the perceived closeness with statements related to self-control and temptation. The items are: i) I often act without thinking through all the alternatives; ii) I am good at resisting temptation; and iii) I am able to work diligently towards long-term goals.

Section B in the Supplementary Material reports details on these questions and explains how we used factor analysis to derive an index of financial socialization and an index of self-

control.[3] Both indexes are continuous variables taking values in the 0-1 interval; greater values reflect greater financial socialization or self-control.[4]

3.3. Summary Statistics

Table 1 shows summary statistics of the variables used in the analysis. More than half of the respondents (55 percent) state that putting money into savings is a habit for them. Most people own checking accounts (88 percent), life or health insurances (80 percent) and retirement products (71 percent), while fewer people own financial assets (34 percent) and products targeted to grant education (20 percent). In our sample, the two factors for financial socialization and (especially) self-control show, on average, relatively high values in the 0-1 interval, suggesting that most respondents received practical financial teachings while growing up and exhibit a high self-control ability.

In our analysis we also control for standard socio-demographic and economic characteristics. The average respondent in the sample is in the middle age group (35-54),[5] male, white, married and without dependent children. This person is more likely to live in the South

[3] The survey also collects information on financial literacy, which can be partly related to financial socialization. We created an index of financial literacy using factor analysis on twelve raw questions (covering topics such as inflation, diversification and volatility). The index shows weak positive correlation (0.18) with the financial socialization index. Moreover, it contributes to explain no more than 0.36% of the variability in financial socialization when added to an OLS specification already including the socio-demographic variables of our analysis (the R-squared goes from 0.0958 to 0.0994). We then argue that financial socialization is only weakly related to financial literacy.

[4] Looking at the raw questions behind our financial socialization and self-control indexes, we envisage a potential partial overlapping. For instance, one of the questions behind the financial socialization index asks the level of agreement with the statement "[My family] taught me that my actions determine my success in life", which involves some form of self-control, while one question behind the self-control index asks the level of agreement with the statement "I am able to work diligently toward long-term goals", which could easily refer to saving for a specific purpose. Nevertheless, the correlation between the two indexes is small in our dataset (0.20). Therefore, there is enough variability to separately identify their influence on saving habits.

[5] In the original dataset, the variables income and age are only provided in discrete intervals.

of the US in a household made of two individuals. Roughly half of the respondents are in good health and about 42 percent attained college education. Around half of the sample are employees (51 percent) and smaller fractions are self-employed (7 percent) or unemployed (7 percent). Regarding the economic variables, we observe that approximately 21 percent report levels of household income before taxes below 30,000 USD and 30 percent report levels above 100,000 USD; about 7 percent received in the previous year exceptional money (via, e.g., inheritances or lotteries) and about 67 percent own their home.[6]

The last columns in Table 1 present the mean values by gender and tests for mean equality. The tests are t-tests when the comparison involves continuous variables (financial socialization, self-control and household size), and proportion tests when the comparison involves dummy variables (all the other variables). Males in charge of household finances exhibit a significantly greater propensity to save and to hold checking accounts, retirement products, financial assets and education products than females. Importantly, males also attain higher financial socialization and self-control skills. Concerning the control variables, males in our sample are more likely to be younger, married, in good health conditions, better educated and employees. They also earn higher income and are more likely to receive extra money and to be homeowners.

[6] Based on an auxiliary linear regression (see Table B.4 in the Supplementary Material), we document that financial socialization is significantly larger among young people, people in good health conditions, college graduates and high-income earners. The pairwise correlations are all below 0.22 so that multicollinearity problems are not affecting our results (mean VIF=1.51). Similar results apply to the relationship between our self-control index and socio-demographic characteristics (again see Table B.4 in the Supplementary Material).

TABLE 1. Descriptive statistics

	Mean	Std. dev.	Min.	Max.	Males	Females	t-test
Outcome variables							
Saving habits	0.550	0.498	0	1	0.592	0.501	4.932***
Checking accounts	0.876	0.329	0	1	0.893	0.856	3.064***
Insurances	0.804	0.397	0	1	0.810	0.795	0.972
Retirement products	0.712	0.453	0	1	0.763	0.651	6.685***
Financial assets	0.344	0.475	0	1	0.405	0.272	7.600***
Education products	0.201	0.400	0	1	0.216	0.182	2.242**
Main variables							
Financial socialization	0.545	0.328	0	1	0.567	0.518	4.019***
Self-control	0.802	0.293	0	1	0.815	0.787	2.557**
Control variables							
Age: 18-34	0.201	0.401	0	1	0.197	0.205	-0.550
Age: 55-69	0.273	0.446	0	1	0.258	0.290	-1.971**
Age: >69	0.199	0.399	0	1	0.175	0.226	-3.462***
Female	0.461	0.499	0	1			
White non-Hispanic	0.707	0.455	0	1	0.714	0.698	0.971
Married	0.555	0.497	0	1	0.634	0.462	9.291***
Household size	2.316	1.242	1	5	2.331	2.297	0.734
No dependent children	0.643	0.479	0	1	0.637	0.648	-0.600
Good health	0.501	0.500	0	1	0.535	0.459	4.123***
College degree	0.420	0.494	0	1	0.506	0.319	10.215***
Self-employed	0.067	0.249	0	1	0.072	0.059	1.402
Unemployed	0.069	0.255	0	1	0.059	0.081	-2.401**
Employee	0.505	0.500	0	1	0.566	0.432	7.246***
Income <30k	0.213	0.409	0	1	0.151	0.284	-8.743***
Income >100k	0.299	0.458	0	1	0.367	0.218	8.767***
Extra money	0.074	0.262	0	1	0.084	0.062	2.265**
Home owner	0.674	0.469	0	1	0.700	0.644	3.182***
Area: Midwest	0.216	0.412	0	1	0.210	0.222	-0.734
Area: South	0.356	0.479	0	1	0.354	0.357	-0.162
Area: West	0.236	0.425	0	1	0.254	0.214	2.543**

Note: The final sample includes 2,912 individuals interviewed in year 2016 (1,570 males and 1,342 females). All the variables are dummy apart from financial socialization, self-control and household size. Excluded categories regard individuals aged 35-54, Hispanic or African/American, inactive, with medium income and living in the Northeastern area. The last column reports proportion t-tests (or proportion tests) for mean equality in continuous (or dummy) variables. ***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels respectively.

3.4. Econometric Modelling

To study the separate influence of financial socialization and self-control on individuals' saving habits, we estimate the following full latent linear model, for $i = 1, \ldots, N$:

$$saving\ habits_i^* = \beta_0 + \beta_1 finsoc_i + \beta_2 selfcontrol_i + X_i{}'\gamma + \varepsilon_i \quad (1)$$

where $saving\ habits^*$ is a latent variable representing saving habits, $finsoc$ and $selfcontrol$ are our variables of interest and $\{\beta_1, \beta_2\}$ are the associated parameters to be estimated. The vector *X* includes the socio-demographic and economic control variables reported in Table 1, including e.g. age, gender, race, education and income. Finally, ε_i is an idiosyncratic random error term. Assuming that ε_i follows a standard normal distribution, Equation (1) can be easily estimated using a Probit regression, being the dependent variable *saving habits* a dummy equal to one if the respondent has the habit to put money into savings.

As discussed earlier, it might be the case that the influence of parents' financial socialization on saving habits interacts with general self-control skills, leading to a multiplier effect.[7] Put another way, the influence of financial socialization on the propensity to save might be enhanced when the recipient exhibits high self-control ability. To investigate this possibility, we expand the model specification in Equation (1) with an interaction term between the two variables as follows. In this case a further parameter of interest is β_3:

$$saving\ habits_i^* = \beta_0 + \beta_1 finsoc_i + \beta_2 selfcontrol_i + \beta_3 finsoc_i \times selfcontrol_i + X_i{}'\gamma + \varepsilon_i \quad (2)$$

In the following section we report the results of our estimates. All our models use heteroskedasticity-robust standard errors.

[7] Whether financial socialization exerts an effect in self-control (and this way an indirect effect on saving habits) cannot be formally evaluated without detailed longitudinal data. We instead evaluate whether the role of financial socialization on saving habits varies with current self-control levels through an interaction term.

4. RESULTS

4.1. Baseline Findings

Table 2 reports average marginal effects (AMEs) from Probit models; the coefficient estimates are presented in Table C.1. in the Supplementary Material. We start our analysis in Column (1), by estimating the model in Equation (1) but imposing $\beta_2 = 0$. In this way, we first look at the association between general saving habits, our measure of financial socialization and a wide set of control variables, but without considering self-control.

A unitary standard deviation increase in the financial socialization index increases the probability to save on a regular basis by 6.6 percentage points (hereafter pp) (0.066=0.328*0.201), meaning that parental influence is a significant predictor of respondents' propensity to save.[8] Thus, early acquisition of financial skills has a significant role in stimulating saving habits, in line with Bucciol and Veronesi (2014) and Feng Zhu (2020).

Subsequently, we incorporate self-control and estimate in Column (2) the model in Equation (1). Based on the McFadden's pseudo R-squared and adjusted pseudo R-squared statistics, saving habits are better predicted when we include self-control in the model. We find that financial socialization is still positively and significantly related with the likelihood of saving regularly. Nonetheless, the shrink in the magnitude of the AME of financial socialization after the inclusion of self-control (0.145 versus 0.201) suggests that the ability to resist temptation moderates the role of financial parental teachings received early in life on saving propensity.

Results also indicate that self-control is a significant predictor of saving habits. In particular, a unitary standard deviation increase of self-control raises the probability to save money as a habit by 12.2 pp (0.122=0.293*0.417). The effect size is larger than the one for

[8] Since both financial socialization and self-control are continuous indexes measured on the 0-1 interval, to compare the magnitude of the effects we multiply the AME per marginal increase (see Table 2) by the standard deviation of the variable (see Table 1).

financial socialization, which is 4.7 pp (0.047=0.328*0.145). The positive influence of self-control on saving habits is then strongly significant from both statistical and economic perspectives. Indeed, self-control increases the ability to delay gratification, which is critical to set financial goals and to develop household budgets in service of those goals (Drever *et al.*, 2015).

As regards the other control variables, we do not find a significant relationship between age and saving habits. Saving propensity is neither associated with the tenure of children but is negatively correlated with the number of people living in the household (-2.5 percent per person increase). These results are consistent with Bucciol and Veronesi (2014) using Dutch data. Worthy of note is that white non-Hispanic Americans are found to save significantly less (-5 percent). Conversely, we find a positive association of the propensity to save regularly with good health conditions (+6.8 percent) and education (+3.9 percent). We also document that saving habits are 11.1 percent less likely for those who are self-employed relative to inactive people, with no differences in the case of unemployed or employee individuals. A possible explanation is that self-employed workers could be less stimulated to save regularly as they do not earn a constant wage. In addition, we see that the probability to save is significantly associated with income; rich (poor) individuals are 10.2 (6.7) percent more (less) likely to save. Interestingly, those who have received extra money recently exhibit a 12.8 percent higher probability to save. Finally, we find that individuals who own their house are more likely to save regularly (+8.4 percent) compared to those who rent their house, possibly because of the lower financial constraints they face. However, differences in saving habits may partly reflect different preferences on consumption choices, including the choice about renting or buying a home (Henderson and Ioannides, 1983).

TABLE 2. Saving habits regression output: average marginal effects

Sample	(1) All	(2) All	(3) All	(4) Males	(5) Females
Financial socialization	0.201***	0.145***	0.140*	0.075	0.222*
	(0.027)	(0.026)	(0.083)	(0.121)	(0.117)
Self-control		0.417***	0.414***	0.441***	0.389***
		(0.029)	(0.056)	(0.079)	(0.078)
Fin. soc. × Self-control			0.007	0.065	-0.083
			(0.096)	(0.137)	(0.138)
Age: 18-34	0.007	0.008	0.008	-0.008	0.038
	(0.026)	(0.025)	(0.025)	(0.033)	(0.038)
Age: 55-69	0.035	0.020	0.020	0.021	0.031
	(0.025)	(0.024)	(0.024)	(0.032)	(0.037)
Age: >69	0.024	0.002	0.002	-0.040	0.056
	(0.033)	(0.031)	(0.031)	(0.043)	(0.046)
Female	-0.026	-0.025	-0.025		
	(0.018)	(0.017)	(0.017)		
White non-Hispanic	-0.058***	-0.050**	-0.050**	-0.015	-0.094***
	(0.021)	(0.020)	(0.020)	(0.026)	(0.030)
Married	0.023	0.014	0.014	0.012	0.031
	(0.021)	(0.020)	(0.020)	(0.028)	(0.030)
Household size	-0.023**	-0.025***	-0.025***	-0.032***	-0.016
	(0.009)	(0.009)	(0.009)	(0.012)	(0.013)
No dependent children	0.031	0.031	0.031	0.008	0.068**
	(0.023)	(0.022)	(0.022)	(0.030)	(0.032)
Good health	0.106***	0.068***	0.068***	0.059**	0.079***
	(0.018)	(0.017)	(0.017)	(0.023)	(0.026)
College degree	0.052***	0.039**	0.039**	0.048**	0.034
	(0.019)	(0.019)	(0.019)	(0.024)	(0.030)
Self-employed	-0.117***	-0.111***	-0.111***	-0.127***	-0.084
	(0.039)	(0.037)	(0.037)	(0.049)	(0.056)
Unemployed	-0.090**	-0.045	-0.045	-0.013	-0.056
	(0.040)	(0.040)	(0.040)	(0.058)	(0.054)
Employee	0.001	0.005	0.005	0.020	-0.014
	(0.025)	(0.024)	(0.024)	(0.034)	(0.033)
Income <30k	-0.075***	-0.067***	-0.067***	-0.123***	-0.029
	(0.024)	(0.024)	(0.024)	(0.036)	(0.032)
Income >100k	0.108***	0.102***	0.102***	0.082***	0.124***
	(0.021)	(0.021)	(0.021)	(0.026)	(0.034)
Extra money	0.112***	0.128***	0.128***	0.080*	0.202***
	(0.034)	(0.033)	(0.033)	(0.042)	(0.051)
Home owner	0.110***	0.084***	0.084***	0.042	0.123***
	(0.021)	(0.021)	(0.021)	(0.029)	(0.030)
Area: Midwest	-0.007	-0.020	-0.020	0.004	-0.048
	(0.027)	(0.026)	(0.026)	(0.035)	(0.038)
Area: South	0.027	0.007	0.007	0.050	-0.038
	(0.024)	(0.023)	(0.023)	(0.032)	(0.034)
Area: West	0.031	0.018	0.018	0.046	-0.015
	(0.026)	(0.026)	(0.026)	(0.034)	(0.039)
Log-likelihood	-1,792.36	-1,699.37	-1,699.37	-883.75	-799.19
Pseudo R-squared	0.105	0.152	0.152	0.167	0.140
Adjusted pseudo R-squared	0.094	0.140	0.140	0.145	0.115
Avg. dependent variable	0.550	0.550	0.550	0.592	0.501
Observations	2,912	2,912	2,912	1,570	1,342

Note: Probit regressions, average marginal effects reported. Columns (1)-(3) use all the sample. Columns (4) and (5) are based on separate regressions for males and females, respectively. Heteroskedasticity-robust standard errors in parentheses. ***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels respectively**.** Excluded categories regard individuals aged 35-54, Hispanic or African/American, inactive, with medium income and living in the Northeastern area.

Next, we estimate in Column (3) the full model presented in Equation (2) which includes an interaction term between financial socialization and self-control. The interaction term is positive although not statistically significant. Therefore, there is no evidence of financial socialization and self-control skills acting jointly in fostering saving habits. Accordingly, it appears both dimensions operate independently, and the role of parental teachings is not contingent on the self-control endowment.

The regression estimates in Columns (1)-(3) in Table 2 do not detect gender differences in saving habits, everything else being equal. However, the channel through which both financial socialization and self-control affect the probability to save could differ between males and females. The remaining columns of Table 2 presents AMEs from Probit regressions on Equation (2), separately for males (Column (4)) and females (Column (5)). The corresponding coefficient estimates are again shown in Table C.1 in the Supplementary Material.

Both financial socialization and self-control skills are positively and significantly related to saving habits for both genders, with self-control being in both cases quantitatively more relevant. However, we detect that financial socialization matters relatively more for females. A one standard deviation increase in financial socialization is associated with 4.2 pp (0.042=0.567*0.075) increase in saving habits for males and 11.5 pp (0.115=0.518*0.222) for females.[9] The opposite pattern holds for self-control, whose AME is larger among males. In this case, a one standard deviation increase in self-control is related to an increase in the propensity to save of 35.9 pp (0.359=0.815*0.441) for males but 30.4 pp (0.304=0.783*0.389) for females.[10] Therefore, saving propensity seems to be relatively more sensitive to self-control for males and to financial socialization for females.[11]

[9] The standard deviation of financial socialization in the female (male) sub-sample is 0.518 (0.567).

[10] The standard deviation of self-control in the female (male) sub-sample is 0.783 (0.815).

[11] Similar results are obtained when the partial effect from the interaction term is subsumed into the derivatives with respect to each of the two variables instead of treating it as an additional covariate: aggregate AMEs for

Concerning the other controls, it is relevant to mention that, as opposed to males, females are significantly less likely to save if they are White (-9.4 percent) and significantly more likely if they do not have children on charge (+6.8 percent), if they had received any extra money (+20.2 percent) and if they own their house (+12.3 percent). Males are by contrast significantly less likely to save as the number of people living in the household rises (-3.2 percent per person increase) and if they are self-employed (-12.7 percent).

4.2. Gender Differences

To deepen into whether the gender differences observed in Table 2 arise from differences in the endowment of characteristics across genders (including financial socialization and self-control, as documented in Table 1) or are the result of pure gender differences in the way personal characteristics translate into saving habits, we apply non-linear Blinder-Oaxaca decomposition (Bauer and Sinning, 2008).[12] Table 3 decomposes the gender gap in saving habits in two measures: i) differences in the entire set of explanatory variables; and ii) differences in the corresponding coefficient estimates. In line with descriptive evidence shown in Table 1, it appears that the observed difference in saving habits (on average 9.1 percent in favor of males) significantly depends only on differences in the endowment of characteristics so that, conditional on financial socialization, self-control and the rest of controls, males and females have about the same saving habits.

financial socialization: 0.125 (0.035) for males and 0.155 (0.039) for females; aggregate AMEs for self-control: 0.477 (0.039) for males and 0.345 (0.043) for females (standard errors within parentheses).

[12] This procedure consists of decomposing the differences in outcomes between two groups of differences: i) differences in observed characteristics and ii) differences attributable to different estimated coefficients. This is done using the *nldecompose* (Sinning *et al.*, 2008) and *fairlie* (Jann, 2006) commands in Stata 16.

TABLE 3. Non-linear Oaxaca-Blinder decomposition of gender differences in saving habits

	Males	**Females**
Characteristics	-0.076***	-0.056***
	(0.010)	(0.010)
Coefficients	-0.014	-0.034*
	(0.019)	(0.019)
Mean dep. variable	0.592	0.501
Raw difference (males-females)	0.091	-0.091
Observations	1,570	1,342

Note: Non-linear Blinder-Oaxaca decomposition of mean saving habits between two groups (males-females) as the differences in coefficients and characteristics following Bauer and Sinning (2008) and Sinning *et al.* (2008). Heteroskedasticity-robust standard errors in parentheses. ***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels respectively**.**

To provide a better picture of which specific covariates are more responsible for the gender gap in saving habits, we implement a disaggregated non-linear Oaxaca-Blinder type decomposition by groups of variables following the procedures developed in Fairlie (1999). Intuitively, the procedure consists of measuring the specific contribution of groups of variables to the difference in the predicted probability of a binary outcome between two groups. Table 4 outlines the contribution of each group of variables in explaining the observed gender gap.[13] Consistent with Fairlie (1999), the estimated contributions in Column (1) (Column (2)) are obtained as the change in the average predicted probability of saving from replacing the female (male) distribution with the male (female) distribution of those variables while keeping constant the distribution of the other variables.

Differences in the endowment of financial socialization and self-control skills are significant determinants of the gender gap in saving habits. Specifically, the gap in saving habits (9.1 percent in favor of males) would be reduced by 0.7 pp (1.3 pp) if females were endowed with the financial socialization (self-control) of males. Similarly, males' higher saving habits

[13] We present the decomposition using the coefficient estimates for the male subsample (Column (4) in Table 2). The decomposition using females' coefficients (Column (5) in Table 2) and the ones from a pooled regression provide quantitatively similar results. See on this Fairlie (1999, p.94).

would be reduced by 0.8 pp (-1.3 pp) if they were endowed with the financial socialization (self-control) of females. The disparity in income (particularly in high-income) also explains a large proportion of the gender gap. Interestingly, differences in the distribution of socio-economic characteristics would help females to narrow the saving gap. Finally, the non-significance of the demographic and regional variables is due to the weak relationship of these variables with saving habits. Overall, around 81.3 percent of the observed gender gap in saving habits in the favor of females would be reduced if females were endowed by the whole set of characteristics as males (0.813=0.074/0.091). This confirms the view that observed differences in saving habits between males and females in charge of household financial decisions are mainly due to differences in characteristics rather than differences in the coefficients.

TABLE 4. Non-linear Oaxaca-Blinder decomposition of gender differences in saving by groups of variables

	Females with males' characteristics	**Males with females' characteristics**
Financial socialization	0.007***	-0.008***
	(0.002)	(0.002)
Self-control	0.013***	-0.013***
	(0.001)	(0.002)
Demographic characteristics	0.002	0.005
	(0.005)	(0.006)
Socio-economic characteristics	0.016**	-0.010
	(0.007)	(0.007)
Income	0.035***	-0.035***
	(0.006)	(0.006)
Regional variables	0.001	-0.000
	(0.001)	(0.001)
All variables explained gap	0.074	-0.061
Saving habits gap	0.091	-0.091
Males	1,570	1,570
Females	1,342	1,342
Observations	2,912	2,912

Note: The table reports the contribution of males' and females' covariates in explaining the gender gap following the procedure developed in Fairlie (1999). Bootstrapped standard errors after 500 replications in parentheses. ***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels respectively**.** "Demographic characteristics" include Age: 18-34, Age: 55-69, Age: >69, White non-Hispanic, Married, Household size and No dependent children. "Socio-economic characteristics" include Good health, College, Self-employed, Unemployed and Employee. "Income" includes Income<30k, Income>100k, Home owner and Extra money; "Regional variables" include Area: Midwest, Area: South and Area: West.

4.3. Robustness Checks

In the Supplementary Material we perform several robustness checks to account for the validity of our results. First, in Section D we inspect potential endogeneity problems in our two variables of interest. Our checks suggest that the two indexes used to measure financial socialization and self-control can be taken as exogenous. Second, in Section E we examine the sensitivity of our findings to omitted variables using the Generalized Sensitivity Analysis proposed by Harada (2013). Although we cannot completely exclude that there are omitted confounders, it appears that unobservables should weigh more than observables to alter our findings. Finally, in Section F we use alternative definitions of the key variables of interest and the dependent variable. We document our findings are robust to different ways of measuring financial socialization and self-control. In particular, we find that i) financial socialization is not significant for explaining the amount of money saved; and ii) the interaction term between financial socialization and self-control is negative and statistically significant for explaining individuals' propensity to plan, which suggests that self-control acts as a substitute for financial socialization to explain individuals' planning orientation.

4.4. Financial Products and Services

As a further extension of our main analysis, we focus on individuals' decisions to save using different financial products. We estimate the following equation, for individual $i = 1, \dots, N$ and product $j = 1, \dots, 5$:

$$Y_{i,j} = \beta_{0,j} + \beta_{1,j} finsoc_{i,j} + \beta_{2,j} selfcontrol_{i,j} + X_{i,j}{}' \gamma_j + \varepsilon_{i,j} \quad (3)$$

where now the dependent variable $Y_{i,j}$ is a vector of five binary outcomes for individual *i* denoting the categories of financial instruments (checking accounts, insurances, retirement products, financial assets, education products) described in Section 3.

Our goal is to explore the relationship between financial socialization, self-control and the decisions to save through different financial products and services in a multivariate framework. Exploring all these financial products is interesting not only because they have various purposes and time horizons, but also because they differ in their penetration in the society. Households frequently hold multiple financial products at the same time. Therefore, it is possible that the decisions to save through different financial products are jointly determined, rather than the result of independent processes. Accordingly, unlike Rey-Ares *et al.* (2021), we estimate a seemingly unrelated Multivariate Probit model by Maximum Likelihood.[14] AMEs together with the correlation estimates between the error terms are reported in Table 5. Coefficient estimates are shown in Table C.2. in the Supplementary Material.

Most of the correlation coefficients of the residuals are statistically significant. The positive sign of the correlation coefficients indicates that the decisions to save through specific financial products or services are complementary to each other. Respondents spread their investment portfolio among different financial instruments, which is a commonly used diversification strategy. This supports the use of Multivariate Probit instead of independent Probit regressions.

[14] We used the *cmp* module in Stata 16. The *cmp* modelling framework proposed by Roodman (2011) allows for the simultaneous estimation of several binary outcomes in which the errors share a multivariate normal distribution. It fits non-linear seemingly unrelated regression models based on Maximum Likelihood simulations. Moreover, it easily enables to retrieve marginal effects after estimation. For this reason, it is appropriate for jointly predicting decisions over different financial products on an individual-specific basis.

TABLE 5. Financial products and services

Dependent variable	(1) Checking accounts	(2) Insurances	(3) Retirement products	(4) Financial Assets	(5) Education products
Financial socialization	0.012	0.051**	0.078***	0.118***	-0.012
	(0.018)	(0.021)	(0.021)	(0.025)	(0.022)
Self-control	0.019	0.013	0.086***	0.073**	-0.024
	(0.020)	(0.024)	(0.023)	(0.029)	(0.024)
Age: 18-34	-0.005	-0.015	-0.062***	-0.035	0.105***
	(0.016)	(0.020)	(0.019)	(0.024)	(0.017)
Age: 55-69	0.017	0.024	0.098***	0.067***	-0.112***
	(0.017)	(0.020)	(0.020)	(0.022)	(0.020)
Age: >69	0.000	0.043*	0.099***	0.115***	-0.114***
	(0.021)	(0.025)	(0.025)	(0.029)	(0.028)
Female	-0.000	0.039***	-0.024*	-0.062***	0.022
	(0.012)	(0.014)	(0.014)	(0.016)	(0.014)
White non-Hispanic	0.066***	0.067***	0.048***	0.108***	-0.016
	(0.013)	(0.015)	(0.015)	(0.019)	(0.015)
Married	0.022	0.029*	0.022	-0.021	0.049***
	(0.013)	(0.016)	(0.016)	(0.019)	(0.016)
Household size	-0.007	-0.013*	-0.019***	-0.014	0.000
	(0.006)	(0.007)	(0.007)	(0.009)	(0.007)
No dependent children	0.005	-0.024	0.018	0.039*	-0.108***
	(0.015)	(0.018)	(0.017)	(0.021)	(0.016)
Good health	0.002	0.015	0.006	0.043***	0.022
	(0.012)	(0.014)	(0.014)	(0.016)	(0.014)
College degree	0.056***	0.068***	0.123***	0.147***	0.142***
	(0.014)	(0.016)	(0.015)	(0.016)	(0.015)
Self-employed	-0.049**	-0.067**	-0.144***	-0.018	0.008
	(0.024)	(0.028)	(0.028)	(0.034)	(0.030)
Unemployed	-0.047**	-0.026	-0.142***	-0.111**	-0.053
	(0.022)	(0.027)	(0.029)	(0.044)	(0.035)
Employee	0.015	0.037*	0.070***	-0.027	0.022
	(0.016)	(0.019)	(0.019)	(0.022)	(0.020)
Income <30k	-0.072***	-0.120***	-0.167***	-0.115***	-0.067***
	(0.014)	(0.017)	(0.016)	(0.025)	(0.022)
Income >100k	0.026	0.042**	0.091***	0.124***	0.035**
	(0.017)	(0.019)	(0.018)	(0.018)	(0.016)
Extra money	0.060**	-0.011	0.098***	0.041	-0.009
	(0.027)	(0.027)	(0.030)	(0.028)	(0.024)
Home owner	0.034**	0.074***	0.125***	0.142***	-0.061***
	(0.014)	(0.016)	(0.015)	(0.020)	(0.017)
Area: Midwest	0.015	-0.015	0.015	0.054**	0.014
	(0.018)	(0.022)	(0.021)	(0.024)	(0.021)
Area: South	0.018	-0.027	-0.027	0.047**	0.002
	(0.016)	(0.020)	(0.019)	(0.022)	(0.019)
Area: West	0.028	-0.028	-0.007	0.041*	-0.032
	(0.018)	(0.021)	(0.021)	(0.024)	(0.021)
Correlations ρ with (1)		0.384***	0.186***	0.181***	0.208***
Correlations ρ with (2)			0.382***	0.174***	0.279***
Correlations ρ with (3)				0.340***	0.120**
Correlations ρ with (4)					0.048
Log-likelihood			-5849.72		
Pseudo R-squared			0.168		
Avg. dependent variable	0.876	0.804	0.712	0.344	0.201
Observations	2,912	2,912	2,912	2,912	2,912

Note: Multivariate Probit regressions, average marginal effects reported. Heteroskedasticity-robust standard errors in parentheses. The ρ coefficient measures the correlation of the error terms in each Column with those in another column. ***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels respectively**.** Excluded categories regard individuals aged 35-54, Hispanic or African/American, inactive, with medium income and living in the Northeastern area.

Our findings from Table 5 shed light on the importance of financial socialization and self-control in many financial decisions. The only exceptions are checking accounts (Column (1)), which are widespread in the population (87.6 percent of the individuals in the sample hold at least one account) and education products (Column (5)), which instead are less frequent (present in 20.1 percent of the sample) and related to a specific purpose.

In particular, regression results reported in Columns (2)-(4) show that financial socialization is associated to holdings of insurances, retirement products and financial assets. In general, financial socialization received early in life influences individuals' awareness in the financial domain, fostering their competence in taking financial decisions during adulthood. This confirms previous results by Shim *et al.* (2009), who report that individuals who are confident with their financial transactions frequently have sufficient guidance from their parents since childhood. Our results on this regard are also in line with previous evidence by Bucciol and Zarri (2019), who show that parents' socialization enhances individuals' future orientation. Hence, we argue that future orientation is an important driver of financial decisions, with positive implications on the propensity to hold precautionary savings.

Our results also indicate that self-control is positively associated to retirement products and financial assets. In particular, an increase by one standard deviation in self-control boosts the propensity to have money in retirement products by 2.5 pp (0.025=0.293*0.086), possibly because respondents with good self-control exhibit higher preference for saving rather than spending left-over-money. They may find it less costly to reduce their current consumption to stick to their long-term financial plans. This is contrary to Rey-Ares *et al.* (2021) using data for Spain, who do not detect any role of self-control on retirement accounts. Nevertheless, our findings match those by Rey-Ares *et al.* (2021) with respect to financial assets: self-control is positively related to the probability of holding financial assets. Overall, results reported in Table 5 confirm previous research showing that individuals with high levels of self-control are more prone to make financial investments (Strömbäck *et al*., 2017; Rey-Ares *et al.*, 2021).

The results presented in Table 5 also indicate interesting correlations among financial products and several socio-demographic factors. For instance, individuals with low income are less likely to have checking accounts while those who received extra money are significantly more likely to hold one. Having a checking account is a first step towards building a financial identity, which leads to further access to financial products and services (Hogarth *et al*., 2004). Our findings indicate that individuals older than 55 have 11 percent lower probability of asking for education products. The reference group consists of working-age individuals, who may be more likely to take out loans to help finance for their children's college tuition. We find that individuals in good health conditions are more likely to hold financial assets. Women are more likely to have insurances, probably because they are more risk averse than men and, consequently, make safer choices (Luciano *et al*., 2016). However, in line with some prior evidence, women are significantly less likely to hold financial assets (Sundén and Surette, 1998). Interestingly, insurance ownership is positively related to income and wealth (proxied by being a homeowner), possibly because those who are richer display a higher intensity of the bequest motive (Truett and Truett, 1990). Socio-economic factors such as age and education are also correlated with the tenure of financial assets. Finally, demographics are also strongly associated with the probability of having retirement products.

5. CONCLUSIONS

This paper contributes to the growing empirical literature on the determinants of saving behavior by exploring the role of financial socialization and self-control on saving decisions. Using novel data from the US, we have assessed the separate influence of parental financial teachings received early in life and self-control skills on saving habits. Our results show that financial socialization and self-control skills are positively associated with the probability of saving money as a regular habit. However, these two dimensions are not found to operate multiplicatively nor being substitutes.

Since the sources of gender differences in saving propensity are still an open issue, we have conducted separate regressions by gender and non-linear Oaxaca Blinder type decompositions. Our results show the gender gap in the favor of males is mainly due to differences in characteristics rather than differences in coefficients. A lower endowment of financial socialization and self-control together with lower income are the main responsible for the lower saving rates of females. Indeed, around 82 percent of the gap would be reduced if females were endowed with males' covariates.

We have further explored the relationship between financial socialization, self-control and different types of financial products using a multivariate framework controlling for the presence of shared unobserved heterogeneity across product types. Our results suggest that the relevance of financial socialization depends on the type of financial product being examined. People who received financial education at home, either through teachings about money or by direct exposure to financial instruments, are more likely to hold insurances, retirement products and financial assets. However, the tenure of checking accounts or education products is unrelated to teachings received from the family. Similarly, people with high self-control are more likely to hold retirement products and financial assets, whereas this variable is not significant to explain the ownership of the other types of assets.

Our results are robust to different definitions of the variables of interest. We highlight the fact that our indicator of financial socialization considers not only 'theoretical' teachings about good financial behavior but also 'practical' teachings about how to manage a regular allowance. We believe that our measure of financial socialization is broader in scope than in earlier research.

Our findings have relevant policy implications. Since we provide robust evidence of self-control and financial socialization being two important drivers of financial behavior, it seems that policies aimed at developing financial education and self-control skills at young age would result in increased individual propensity to save. Our results thus underline the important

role of parents in the transitional process towards adulthood to ensure that individuals acquire financial values, norms and habits that drive financial well-being later in life (Drever *et al*., 2015). We can then say that i) parents should pay greater attention to the money-related teachings given to their children; and ii) financial education programs during adolescence should be better promoted to foster good financial practices and help people make sound financial decisions in adulthood. Knowing that financial socialization and self-control skills matter not only for financial behavior, but also for consumer choices, interpersonal relationships and emotional problems, improving financial socialization practices warrants additional emphasis.

As for the gender gap in saving, our results indicate the influence of financial socialization, self-control and other personal characteristics on the habit of saving are about the same for males and females. It is the different endowment of these variables across gender what explains the lower saving propensity in households financially headed by females. Intervention programs and policies must therefore promote the development of financial education and self-control skills among young females to narrow such gap in the near future.

Nevertheless, our study has at least two main limitations that should be addressed in future research. The main limitation is that our measure of self-control is self-reported. Although survey instruments for self-control are widely accepted (Ameriks *et al.,* 2007; Cobb-Clark *et al.*, 2019), people may overestimate their capacity to control themselves. Future research should try to replicate our analysis by means of experimental protocols that elicit self-control in a more objective way. Another drawback is that we lack information on individual risk aversion and non-cognitive abilities other than self-control (i.e. patience and temperament), which could also be relevant for characterizing the saving pattern behavior.

Moreover, we envisage three further avenues for future research. One could be to examine the role of financial socialization and self-control using longitudinal data, which could provide further insights into the dynamics of these variables and financial behavior. Another

one would be the connection between financial socialization, self-control and portfolio diversification. In the future it would also be interesting to compare how the relationship between financial socialization, self-control and saving habits vary over the life course, and to explore the relationship between financial socialization, self-control and other relevant dimensions such as future orientation. This analysis would be beneficial to provide a better understanding of the determinants of financial decisions.

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