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Financial Socialization and Money Scripts: The Moderating Effect of Gender—A Preliminary Examination

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Financial socialization is the process by which individuals acquire values, knowledge, and beliefs about money. One way to measure attitudes toward money is by using money scripts. There are four distinct money scripts: money avoidance, money worship, money status, and money vigilance. Despite their importance, money attitudes receive limited attention in the literature compared to other financial-socialization outcomes, such as financial knowledge, financial behavior, and financial well-being. The primary goal of the current study, therefore, is to preliminarily examine the association between financial socialization and money scripts. Using proprietary data collected from retirement plan participants, the current study finds that family financial socialization is positively associated with the money vigilance script. Additionally, interaction models examine gender differences in the association between family financial socialization and financial education at schools and money attitudes. The findings from the current study have implications for financial educators and practitioners regarding financial socialization at different places and stages of life (e.g., childhood, high school, college, and in the workplace) as well as the importance of considering gender differences in financial socialization.

Keywords: attitude toward money; financial education; financial socialization; gender differences; money scripts

INTRODUCTION

Financial socialization is "the process of acquiring and developing values, attitudes, standards, norms, knowledge, and behaviors that contribute to the financial viability and well-being of the individual" (Danes, 1994, p. 128). Money attitudes can be defined as "an opinion, mindset, or feeling regarding money, its meaning, its use, and preeminence" (Beutler & Gudmunson, 2012, p. 19). They are developed through interactions with various socialization agents such as culture, media, school, peers, and family (Beutler & Dickson, 2008). Money attitudes also interact with other intermediate outcomes such as financial

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knowledge and financial capabilities and eventually predict financial behavior and well-being (Gudmunson & Danes, 2011).

Attitudes toward money can be either destructive or protective factors for individuals' well-being. For example, favorable attitudes toward money are related to financial well-being directly or indirectly through their association with positive financial behaviors (Dare et al., 2020; Shim et al., 2009). Negative financial attitudes, such as materialism and money anxiety, are related to lower financial and overall well-being (Burroughs & Rindfleisch, 2002; Dowling et al., 2009; Gasiorowska, 2014; Sirgy, 1998). Despite their importance, however, money attitudes receive only limited attention in the literature compared to other financial socialization outcomes, such as financial knowledge, financial behavior, and financial well-being.

Financial socialization is a growing and important area of study (e.g., LeBaron & Kelley, 2021). The current study fills a gap in the literature by focusing on the attitudes toward money as an outcome of financial socialization, and it explores whether gender moderates these associations. Among the various measures of money attitudes, one measure is the Klontz Money Script Inventory (KMSI), which was developed by Klontz et al. (2011). The current study utilizes a shortened version of the KMSI. The primary goal of the current study is to examine the association between financial socialization and the four distinct money scripts—money avoidance, money worship, money status, and money vigilance—as well as to examine gender as a moderator.

The current study contributes to existing literature in several different ways. First, because the sample of the current study is working adults, we were able to include financial education offered in different settings such as high school, college, and the workplace, in our model, along with family financial socialization when they were young. Previous studies on financial socialization have examined the financial socialization outcomes of college student samples (e.g., LeBaron & Kelley, 2021). The samples in some of these studies, therefore, could not capture financial socialization later in life or account for additional socialization agents, such as workplace financial education.

Second, the current study examines financial socialization as a predictor of money scripts. Past studies on money scripts focused on the financial outcomes of money scripts, such as financial behaviors (e.g., Klontz & Britt, 2012), and some studies focused on the predictors of money scripts by examining socio-demographic factors such as age, gender, race, and education (e.g., Klontz et al., 2011). For its contribution, the current study uses money scripts as one of the outcomes of financial socialization; given we used an abbreviated money script measure, we consider this a preliminary examination of the issue, however.

Furthermore, the current study examined gender as a moderator in the association between financial socialization and the money scripts, contributing to the existing literature on gender differences in financial socialization. Gender differences in financial socialization were reported in previous studies (Agnew et al., 2018; Garrison & Gutter, 2010; Newcomb & Rabow, 1999; Sharif et al., 2020; Tang et al., 2015), but those studies tended to be of teens or young adults, and only a few focused on gender differences in money attitudes as a financial

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socialization outcome. The current study thus preliminarily examines how financial socialization outcomes, specifically money attitudes, differ by gender among working adults.

THEORETICAL FRAMEWORK

A popular theoretical lens with which to view socialization is social learning theory, which posits that socialization is an outcome of environmental forces applied to individuals in the learning process (Barber, 2013). A key element of social learning theory is the concept of socialization agents (Barber, 2013). Moschis and Churchill (1978, p. 600) defined socialization agents as sources of influence "which transmit norms, attitudes, motivations, and behaviors to the learner." The learner can acquire cognitive processes and behaviors from the socialization agent by modeling (referring to imitating the agent's behavior), reinforcement (reward or punishment used by the agent), and social interaction (Moschis & Churchill, 1978).

Family is a key socialization agent for money matters (Danes, 1994). Indeed, families—in particular, parents—provide a unique milieu for socialization (Grusec & Davidov, 2007; Gudmunson & Danes, 2011). Families provide, among other things, financial information networks, financial resources, and role models (Danes, 1994). It is important to note, moreover, that "families are complex systems" (Britt, 2016, p. 540). In accordance with family systems theory, all elements of the family are connected; consequently, money attitudes and money beliefs can be transferred generationally (Britt, 2016).

The conceptual model of family financial socialization, developed by Gudmunson and Danes (2011), proposes that family socialization results from personal and family characteristics, family interaction and relationships, and purposive financial socialization. Empirical studies have found that, in general, parents' indirect (i.e., parent financial modeling) and direct (i.e., parent-child financial discussion) financial socialization is related to more positive financial attitudes, higher financial knowledge, better financial behavior, and higher financial well-being (Agnew et al., 2018; Flouri, 2004; Jorgensen & Salva, 2010; Kim & Chatterjee, 2013; Norvillitis & MacLean, 2010; Tang, 2017; Zhao & Zhang, 2020). Furthermore, in their review of published papers using family financial socialization theory in the last decade, LeBaron and Kelley (2021, p. S199) listed experiential learning as an additional primary method of family financial socialization, emphasizing the value of "parent-facilitated, hands-on experiences with money." Recent literature also suggests that family financial socialization may have broader impacts, such as increases in life satisfaction and decreases in anxiety, at least in emerging adulthood (LeBaron-Black et al., 2022).

In sum, the key distillation of family financial socialization is that children learn (either positively or negatively) about money from their parents, and this learning sets the foundation for their future financial outcomes (LeBaron & Kelley, 2021). This learning can be expressly financial in nature, for example, if children observe their parents modeling financial behaviors (e.g., Rosa et al. 2018). Still, children learn (and can be financially socialized) from non-financial experiences, such as parental communication and parenting style (LeBaron & Kelley, 2021). Recent literature focusing on the financial socialization received directly from parents describes this aspect as "financial parenting" (Serido et al.,

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2020). Financial parenting takes two forms: (a) purposive, in which explicit actions and communications are used to instill knowledge and behaviors, and (b) implicit, in which lessons are instilled from the interactions that occur during everyday life (like paying bills) (Serido et al., 2020).

LITERATURE REVIEW

Financial Socialization Agents

Although past literature notes that parents are the primary influence on children's financial socialization (e.g., Grohmann et al., 2015; Rosa et al., 2018; Shim et al., 2009)—and that the parental financial socialization is associated with financial behaviors and financial well-being (LeBaron-Black et al., 2023)—there exist other socialization agents (LeBaron & Kelley, 2021). Mass media, school, and peers have been discussed as other traditional socialization agents, and recent studies noted social media and the Internet as new socialization agents among the young (Barber, 2013; Marchant & Harrison, 2020; Shim et al., 2009). As noted by Danes (1994), socialization begins in childhood and continues throughout life.

Previous studies have found positive associations between high school, college, and workplace financial education and improvements in financial knowledge, financial attitudes, financial behaviors, and financial well-being. (e.g., Bernheim et al., 2001; Bernheim & Garrett, 2003; Garman et al., 1999; Prawitz & Cohart, 2014; Shim et al., 2010; Xiao & O'Neill, 2016). Some studies have analyzed school-based financial education even at an earlier stage of life; for example, Sherraden et al. (2011) showed an improvement in the financial literacy of fourth graders after a financial education program. However, there exist some studies that have found mixed results; for example, Peng et al. (2007) found a positive association between personal finance education and investment knowledge for a college-level personal-finance course but no similar effect for a high school-level course. Fernandes et al. (2014) conducted a meta-analysis using 201 previous studies on financial literacy, education, and behaviors, and concluded that the effects of financial education interventions on financial behaviors were minimal.

Many studies on financial socialization used samples of college students and examined multiple financial socialization agents such as parents, high school, and college financial education (LeBaron & Kelley, 2021). Due to the sample characteristics, though, these studies could not include workplace financial education as one of the financial socialization agents. Even studies with adult samples tend to not include these types of socialization agents. For example, one study using the data from the National Financial Capability Study included high school, college, and workplace financial education to see their associations with financial behavior. However, it was not able to examine parental financial socialization due to a lack of information in the survey data (e.g., Kim & Stebbins, 2021). The current study, however, aims to capture financial socialization opportunities as much as possible by including high school, college, and workplace financial education in the model, along with parental financial socialization at home.

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Financial Attitudes and Money Scripts

Researchers have attempted to measure different aspects of people's attitudes toward money. For example, Furnham's (1984) Money Beliefs and Behaviors Scale (MBBS), which is a widely used money attitude scale (Allen et al., 2007), measures obsession, retention, effort/ability, security, inadequacy, and power/spending. Another example is Lim and Teo's (1997) Attitudes Towards Money (ATM) scale, which captures eight dimensions: obsession, power, budget, achievement, evaluation, anxiety, retention, and non-generous. There are other measures of money attitudes, such as the Money Attitude Scale (MAS) developed by Yamauchi and Templer (1982), the Money Ethical Scale (MES) developed by Tang (1992), the Money Importance Scale (MIS) developed by Mitchell et al. (1998), and the Material Values Scale (MVS) developed by Richins (2004).

More recently, Klontz et al. (2011) identified four distinct money scripts: money avoidance, money worship, money status, and money vigilance. Money scripts are beliefs about money that are known to be developed in childhood and passed down within families and cultures (Klontz & Britt, 2012). Money avoidance is the belief that money is bad, and people with this script view money as a source of anxiety or disgust. Money worship is the belief that money will solve the problem (Klontz & Britt, 2012). Money status relates self-worth to net worth. Money vigilance is alertness, watchfulness, and concern about money (Klontz et al., 2011). Although money avoidance, money worship, and money status have been found as destructive factors for individual well-being, money vigilance has been found to act as a protective factor (Klontz & Britt, 2012). For example, money avoidance, money worship, and money status found to not only associate with lower levels of net worth and income and higher amounts of revolving credit but also predict disordered money behaviors such as compulsive buying, pathological gambling, and financial denial behavior, while money vigilance found to be opposite (Klontz & Britt, 2012).

Studies have found that parental influence is related to positive money attitudes not only in childhood but also in emerging adulthood. For those aged eleven and twelve, the presence of both parents when children spend their pocket money and having more frequent discussions with parents about money was associated with their positive attitudes toward financial planning and conscientiousness (Agnew et al., 2018). Similarly, for children aged eleven to nineteen, mothers' involvement was negatively related to children's materialistic attitudes (Flouri, 2004). Among young adults aged seventeen to twenty-one, those who engaged with parental financial socialization when they were young were more likely to feel confident in their ability to manage money and less likely to worry about their finances (Kim & Chatterjee, 2013). Other studies found that financial attitudes mediate the association between parental financial socialization and other financial outcomes such as financial behaviors, financial satisfaction, and mental health (Jorgensen et al., 2017; Jorgensen & Savla, 2010; LeBaron-Black et al., 2022, 2023; Shim et al., 2010).

This study uses an abbreviated version of Klontz's money scripts to measure financial attitudes. The full Klontz's money script inventory is an empirically validated tool and has been found useful when incorporated in financial planning practice to understand clients better (Begina et al., 2018). Also, identifying the factors related to Klontz's money scripts is

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important, as they were found to be associated with disordered money behaviors (Klontz & Britt, 2012). As a recently developed money attitude scale compared to others, there is a lack of investigation applying a financial socialization framework to find factors associated with Klontz's money scripts, and the current study contributes to the literature by examining the factors from a financial socialization standpoint.

Gender Differences in Financial Socialization

Gudmunson and Danes (2011) noted that various demographic characteristics, such as gender, are associated with financial outcomes. For example, there is a well-studied gender difference in investing behavior and outcomes (e.g., Bajtelsmit & Bernasek, 1996), where men are more likely to hold risky assets (Hinz et al., 1996), and single women are more risk-averse in financial asset holdings than single men (Jianakoplos & Bernasek, 1998). Even among the mutual fund investors, women were found to invest in less risky fund types than men (Dwyer et al., 2002). Gender differences in risk-taking were also found in a hypothetical setting of an investment game (Charness & Gneezy, 2012). Gudmunson and Danes (2011) argued that these demographic characteristics may impact financial outcomes due to socialization processes.

Past literature explains that financial socialization happens within the context of other socialization, such as gender socialization (e.g., LeBaron et al., 2020). Just like with financial socialization, parents contribute towards gender socialization (LeBaron et al., 2020). Parents engage in gender socialization concerning their children in four main ways: (a) channeling or shaping (e.g., choosing gendered activities), (b) differential treatment (e.g., playing differently with sons), (c) direct instruction (e.g., insisting on particular clothing, like dresses for daughters), and (d) modeling (i.e., children learn to imitate their parents) (Blakemore et al., 2013; LeBaron et al., 2020).

There has been a stream of research discussing gender differences in financial socialization at home, and studies have used gender role theory to explain the gender difference (e.g., Lim et al., 2003; Sharif et al., 2020). Gender role theory (Eagly, 1987) posits that men and women are socialized according to different role expectations for men and women, such as that men are breadwinners and women are homemakers. These expectations for gender roles may socialize men and women to have different financial attitudes (Lim et al., 2003), financial literacy, and financial behaviors (Sharif et al., 2020). For instance, in their study on the financial socialization of immigrant women from Caribbean and African countries, Muruthi et al. (2020) found strong parental financial socialization among their sample. They linked it with a matrifocal culture in which women manage everyday household finances. Furthermore, Danes and Haberman (2007) noted that the internalized norms about gender roles can be reinforced in classroom learning.

Britt (2016) noted that male and female children experience financial socialization differently at home, which may be a possible explanation for the gender differences in financial attitudes and behaviors of adults. Serido et al. (2020), for example, noted that sons may receive better financial parenting. Male children had their first financial discussion at home at an earlier age, and it is related to males being more financially literate or believing

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they are (Agnew & Cameron-Agnew, 2015; Newcomb & Rabow, 1999). Newcomb and Rabow (1999) found that there was a higher expectation to work and save for sons than daughters. They also reported that sons were introduced to family money matters at an earlier age compared to their sisters. Agnew and Cameron-Agnew (2015) also found that males tend to have their first financial discussion in the home earlier than females in a New Zealand-based study.

However, other studies found that general family financial socialization is more prominent and effective among females than males. For example, female college students tend to engage in financial discussions with their parents and observe parents' financial behaviors more than male college students (Edwards et al., 2007; Garrison & Gutter, 2010). Garrison and Gutter (2010) observed the positive association between financial discussions with parents and willingness to take financial risks only among female college students. Tang et al. (2015) found that the positive association between parental influence and responsible financial behaviors was stronger among female young adults than males. The gender difference in financial socialization was observed in financial education, too. Danes and Haberman (2007) found greater increases in financial knowledge after the high school financial planning curriculum among female students compared to male students. The gender difference can be attributed to the lower financial knowledge of female students before their education, as male students still showed higher financial knowledge than female students when they ended their education (Danes & Haberman, 2007). This suggests the effectiveness of family financial socialization among females can be explained in a similar way; it might be the case that the outcome of family financial socialization seems more improved among females because they lacked financial socialization or education before, so when they get exposure, the improvement is more noticeable.

Previous studies have found empirical evidence that attitudes toward money differ by gender. Compared to females, males tend to perceive money as a source of power, yet feel more anxious about money (Lim et al., 2003). Using a sample of college students, Newcomb and Rabow (1999) found that males tend to feel more positive about money than females. However, in a study that used Klontz's Money Script scale (Klontz et al., 2011), there were no statistically significant differences between gender and any of the money-script subscales. Additionally, LeBaron et al. (2020) found that there was no significant difference in the frequency of healthy financial behaviors by gender, and the interaction term between parental financial education and gender was also not significant. LeBaron et al. (2020) noted that depending on the financial socialization outcome, the moderation effect of gender can vary. Since there is a gap in the literature examining the moderating role of gender on money scripts as a financial socialization outcome, the current study fills the gap by testing the interaction term between financial socialization and gender on money scripts.

RESEARCH HYPOTHESES

This study aims to examine the relationship between financial socialization and attitudes towards money. Incorporating the literature on financial socialization and money attitudes, it is assumed that financial socialization is positively related to "protective" money

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scripts and negatively related to "destructive" money scripts. Thus, we explored the following research hypotheses:

H1a: Family financial socialization is positively associated with money vigilance.
H1b: Financial education at school or in the workplace is positively associated with money vigilance.
H2a: Family financial socialization is negatively associated with money avoidance, money status, and money worship.
H2b: Financial education at school or in the workplace is negatively associated with money avoidance, money status, and money worship.

Moreover, based on the gender-differences literature, we also considered the following research hypothesis:

H3: The association between the location of financial socialization (home, school, or in the workplace) and money scripts differs by gender.

METHODOLOGY

Data

A retirement-plan advisory firm located in the Midwest surveyed employer-sponsored retirement-plan participants. The plan sponsor emailed plan participants and recruited through social media; 507 valid survey responses were collected. However, missing data (including "don't know" and "prefer not to answer" responses) on financial-resource questions (income, assets, and debt levels) ranged from 6 to 10%. To reduce the effects of missing data and increase the analytical sample size, we used multiple imputation with chained equations (MICE) with fully conditional specification.

MICE is a principled way to handle missing data (Azur et al., 2011), with multiple benefits; multiple imputations account for statistical uncertainty arising from imputations, and chained equations account for various types of variables (Azur et al., 2011). In short, under MICE, missing variables are imputed iteratively by a series of regression-based imputation models. In each imputation model, the first missing variable is regressed on specified variables in the prediction equation; those imputed values are then used in the other prediction models, and so on (White et al., 2010).

Given their categorical nature in the survey instrument, income, asset, and debt levels were imputed using an ordered logit regression across 50 imputations. In line with White et al. (2010), all the variables in the analysis model were included in the imputation model, including the outcome variables (e.g., money scripts).[1] Including all the variables from the analysis model helps avoid bias in the estimation of that analysis model (White et al. 2010).

[1] We did not include interaction effects in the imputation model. Moreover, for the imputation model, the family financial socialization variable was an additive index variable (not a factor variable), and the role model variable was mean centered for imputation.

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After the multiple imputation on financial-resource questions, the analytic sample size was 463 respondents.

Dependent Variables

The dependent variables in this study were money-script scores (money avoidance, money worship, money status, and money vigilance). The Klontz Money Script Inventory (KMSI) contains 51 questions using a Likert-type scale to evaluate money scripts. In Klontz et al. (2011), the Cronbach's alpha for each money script was .70 or higher. This study used an abbreviated version consisting of 16 questions, with each subscale consisting of four questions (as provided in Smith, 2012). Money avoidance is measured by questions such as "It is not okay to have more than you need." Money worship is measured by questions such as "You can never have enough money." Money status is measured by questions such as "Your self-worth equals your net worth." Money vigilance is measured by questions such as "It is important to save for a rainy day."

Respondents' scores were summed and then averaged to calculate a mean score for each money script; thus, each scale had a range of 1 to 6, with higher values representing higher levels of each script. If there were missing values on any of the money script questions, the mean scores were calculated with the available data for each respondent. In our sample (before imputation), the money scripts had Cronbach's alphas of .67, .64, .52, and .37, for the avoidance, worship, status, and vigilance money scripts, respectively. Given the abbreviated measure and the low Cronbach alphas, particularly for the money vigilance money script, the analyses should be considered more exploratory and preliminary in nature.

Independent Variables

We created a family socialization index variable using six questions, each of which had Yes/No response options and reflected socialization questions asked in the National Financial Well-Being Survey from the Consumer Financial Protection Bureau. Respondents were asked about their childhood experiences at home, and whether their family (a) discussed financial matters with them, (b) spoke to them about the importance of saving, (c) discussed establishing a good credit rating, (d) taught them how to be a smart shopper, (e) provided a regular allowance, and (f) encouraged them to open a savings or bank account.

Rather than using a simple additive index, we operationalized family financial socialization in line with how objective knowledge has been operationalized in past literature, namely following Kim et al. (2019), Lusardi and Mitchell (2009), and van Rooij et al. (2011). In this approach, dummy variables were created for each question indicating the presence of that form of socialization. We then performed a factor analysis using the iterated principal factor method to generate factor loadings. Next, using those loadings, one factor was retained, and the Bartlett (1937) method was used to generate a composite index of family financial socialization. The factor loadings and factor scores for the index, which were calculated before the multiple imputation, are presented in Table 1.

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Table 1.

Factor Loadings Corresponding to Six Family Financial Socialization Questions (n = 463).

Question	Factor Loadings	Factor Scores
Discussed financial matters	0.5531	0.1827
Importance of savings	0.7813	0.4599
Establishing a good credit rating	0.6922	0.3047
Smart shopper	0.5554	0.1842
Regular allowance	0.4054	0.1113
Account encouragement	0.6645	0.2729
Cronbach's alpha	0.7768	

Related to family financial socialization, we also included as a continuous measure (on a range of 1 to 7) the respondent's evaluation of "My family members were role models of sound financial management." Because this variable is included in the gender interaction term, we mean-centered it. Mean-centering renders a meaningful interpretation of the conditional effects of the gender term (Hayes, 2018). In other words, without mean-centering, the coefficient of the male term in the interaction models would be measuring the effect of being male when the family role model is equal zero, which is outside that variable's permitted range; mean-centering removes this inherent interpolation of the model beyond the data's range (Hayes, 2018).

Financial education taken in high school, college, or the workplace was included as a binary variable. We included other variables related to financial attitudes and beliefs. Objective financial knowledge was operationalized as the number correct on three questions (regarding risk, compounding, and inflation). Other financial attitude and belief variables—such as financial satisfaction, financial confidence, financial stress, and risk tolerance—were measured on a seven-point Likert-type scale, which were coded as continuous variables. Financial satisfaction was measured by respondents' answers to how satisfied they feel with their current personal financial condition. Financial stress was measured by asking respondents how they feel stressed about their personal finances. Financial confidence was measured by asking respondents about their subjective confidence in managing their finances. Financial risk tolerance was measured by the respondent's answer to their willingness to take financial risk.

Control variables included gender (binary), age (categorical), education (college degree or not), marital status (married or not). We also included whether the respondent had a spouse or partner that currently worked, and whether the respondent had financially dependent children, which were both coded as binary variables. Financial resources (i.e., income, assets, and debt levels) for the respondent and his or her spouse/partner were included and collapsed into three levels each for parsimony.

Data Analysis

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We used multiple linear regression to model the money-script variables. A linear regression was estimated for each money-script variable. Two approaches were used: first, a model with simple effects with no interactions, and second, a model with interaction effects between gender and the socialization variables. The regression models incorporated multiple data imputations; namely, the coefficients and standard errors are adjusted to reflect the variability between imputations, according to Rubin (1987). Unstandardized coefficients and robust standard errors are reported.

RESULTS

Descriptive Results

Our analytical sample contained 463 respondents after multiple imputation. The sample descriptive statistics for the full analytical sample are presented in Table 2. A slight majority of the sample (57%) was male, and a large percentage of the sample (67%) was married. Similarly, a majority of the sample had a working spouse or partner (59%). A plurality of the sample (44%) made between $75,000 and $149,999, corresponding to an upper-middle class socio-economic status. A majority (59%) had at least $200,000 in assets, and a majority of the sample (74%) had $50,000 or more in debt.

Given the nature of the sample being current workers, those aged 60 years or more understandably constituted a small percentage of the sample (9%). A sizable portion of the sample had some financial education at high school (29%), college (29%), or in the workplace (36%). Although most of the money script scores are comparable, money status has the lowest score (2.19 out of the potential range of 1–6), and money vigilance had the highest score (4.29 out of the potential range of 1–6).

Table 2.

Sample Descriptive Statistics (n = 463).

Variable	Mean/%	SD
Money Script		
Avoidance	2.44	0.87
Worship	3.10	1.01
Status	2.19	0.75
Vigilance	4.29	0.72
Demographic		
Male	56.80	–
Female	43.20	
Age		
Under 30	17.49	–
30 – 39	29.16	–
40 – 49	21.81	–

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50 – 59	22.89	–
60+	8.64	–
Married	66.74	–
Working spouse/partner	58.53	–
Financially dependent children	53.78	
College Degree	54.64	–
Financial Resources		
Income		
0 – $74,999	27.88	–
$75,000 – $149,999	43.65	–
$150,000+	28.46	–
Assets		
0 – $199,999	40.80	–
$200,000 – $499,999	31.53	–
$500,000+	27.66	–
Debt		
0 – $50,000	26.41	–
$50,000 – $149,999	36.45	–
$150,000+	37.14	–
Financial Education		
High school financial education	28.51	–
College financial education	28.51	–
Work financial education	35.85	–
Financial Beliefs and Attitudes		
Objective financial knowledge (range: 0 – 3)	2.22	0.97
Subjective financial knowledge (range: 1 – 7)	4.94	1.49
Risk tolerance (range: 1 – 7)	4.79	1.32
Financial satisfaction (range: 1 – 7)	4.04	1.75
Financial confidence (range: 1 – 7)	5.24	1.42
Financial stress (range: 1 – 7)	4.01	1.67
Family Financial Socialization		
Family Financial Socialization Additive Index (range: 0 – 6)	3.09	1.98
Family Financial Socialization Factor Index (range: –1.74 – 1.43)	0	1.11
Family Financial Role Model (range: 1 – 7)	4.05	2.01
Family Financial Role Model Centered (range: –3.05 – 2.95)	0	2.01

Note: Incorporates multiple imputation

Multiple Regression Analysis Results

Simple-Effects Models

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Table 3 reports the simple-effects model. In the simple-effects model (i.e., with no interactions), the model for money worship was not significant at conventional alpha levels (i.e., non-significant global *F*-test). The money script models for avoidance, status, and vigilance were significant, however.

In the simple-effects model for the avoidance and status money scripts, we do not observe any statistical significance across the financial education or family financial socialization variables. Some significance is observed between various control variables and the financial beliefs and attitudes variables. For example, relating to the status money script, relative to those who were under 30 years old, those 50 years and older had higher levels of money status. Higher levels of objective financial knowledge, on the other hand, were associated with a lower money status score ($\beta = -0.13$, $p < .01$) and a lower money avoidance score ($\beta = -0.11$, $p = .03$).

In the simple-effects model for money vigilance, we did not observe any significance in the financial education variables. However, there was a positive association between money vigilance and family financial socialization ($\beta = 0.13$, $p < .01$). Thus, those with increased levels of family financial socialization had higher levels of money vigilance; other variables in this model were generally not significant.

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Table 3.

Simple Effects Model (n = 463).

	Avoidance			Worship			Status			Vigilance		
Variable	Coef.	SE	*p*	Coef.	SE	*p*	Coef.	SE	*p*	Coef.	SE	*p*
Demographic												
Male	–0.12	0.08	.15	0.14	0.10	.16	0.04	0.07	.58	0.03	0.07	.66
Age (Ref: under 30)												
30 – 39	0.02	0.13	.89	–0.12	0.16	.47	0.22	0.11	.05	–0.11	0.11	.31
40 – 49	0.04	0.15	.78	–0.12	0.17	.47	0.07	0.12	.56	–0.17	0.12	.14
50 – 59	–0.05	0.15	.75	–0.11	0.17	.52	0.29	0.13	.03	0.09	0.11	.42
60+	0.02	0.16	.90	–0.24	0.20	.23	0.34	0.15	.03	–0.07	0.14	.62
Married	–0.02	0.13	.87	–0.17	0.16	.27	–0.24	0.11	.04	0.12	0.11	.27
Working spouse/partner	–0.04	0.11	.72	0.08	0.13	.56	0.05	0.10	.60	–0.08	0.10	.43
Children	0.01	0.10	.93	–0.06	0.12	.62	0.08	0.09	.34	0.03	0.08	.67
College	–0.07	0.09	.41	–0.05	0.11	.64	0.03	0.08	.64	–0.03	0.07	.64
Financial resources												
Income (Ref: 0 – $74,999)												
$75,000 – $149,999	0.12	0.12	.29	0.15	0.14	.27	–0.01	0.10	.94	0.04	0.10	.68
$150,000+	0.30	0.17	.08	0.16	0.20	.42	0.14	0.15	.34	–0.08	0.14	.55
Assets (Ref: 0 – $199,999)												
$200,000 – $499,999	0.09	0.12	.45	–0.06	0.14	.65	0.09	0.10	.40	0.06	0.09	.48
$500,000+	0.00	0.15	.98	–0.03	0.18	.88	–0.06	0.14	.65	–0.04	0.12	.77
Debts (Ref: 0 – $50,000)												
$50,000 – $149,999	–0.12	0.11	.28	–0.09	0.13	.49	–0.10	0.10	.31	0.10	0.09	.25
$150,000+	–0.07	0.13	.62	0.05	0.15	.76	0.00	0.11	.99	0.15	0.10	.16
Financial beliefs												

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and attitudes											
Financial satisfaction	0.02	0.03	.43	0.01	0.03	.70	0.05	0.03	.07	0.00	0.02	.96
Financial stress	0.04	0.03	.25	0.11	0.04	.00	0.02	0.03	.48	−0.02	0.03	.54
Financial confidence	−0.01	0.03	.86	0.05	0.04	.24	−0.03	0.03	.37	0.00	0.03	.96
Risk tolerance	−0.06	0.04	.09	0.04	0.04	.30	0.05	0.03	.08	0.01	0.03	.72
Objective knowledge	−0.11	0.05	.03	−0.04	0.06	.54	−0.13	0.04	.00	0.04	0.04	.24
Subjective knowledge	−0.05	0.04	.16	0.09	0.04	.03	−0.01	0.03	.85	0.05	0.03	.12
Financial education											
High school fin. edu.	0.01	0.09	.90	0.04	0.11	.70	0.09	0.09	.29	0.02	0.08	.80
College fin. edu.	0.02	0.09	.80	0.02	0.11	.87	0.07	0.08	.41	−0.02	0.08	.80
Work fin. edu.	−0.13	0.08	.12	0.01	0.10	.91	−0.02	0.08	.84	0.01	0.08	.93
Family Financial socialization											
Family Financial Socialization (factor index)	0.03	0.05	.53	−0.02	0.05	.63	0.03	0.04	.35	0.13	0.04	.00
Role model (cent.)	0.01	0.03	.71	−0.02	0.03	.53	0.00	0.02	.96	−0.03	0.02	.13
Constant	3.09	0.35	.00	1.84	0.37	.00	1.96	0.30	.00	3.90	0.25	.00
Fit statistics											
F-test	$F(26, 433.8) = 1.73$, $p = .02$			$F(26, 433.9) = 1.16$, $p = .26$			$F(26, 433.7) = 1.62$, $p = .03$			$F(26, 433.9) = 1.79$, $p = .01$		
R-squared	.09			.07			.09			.09		
Adj. R-squared	.03			.02			.04			.03		

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Interaction Models

Table 4 reports the model with an interaction effect between gender and the family financial socialization and financial education variables. In the interaction models, the avoidance, status, and vigilance money script models were significant at the .05 alpha level (the worship model was not significant, i.e., it had a non-significant global *F*-test).

The simple effect for family financial socialization was positively associated with the money status script (β = 0.18, $p < .01$) and the money vigilance script (β = 0.16, $p < .01$). Thus, in both cases, increased levels of family financial socialization were associated with increased levels of money status and money vigilance. None of the simple or main effects of the financial-education variables were associated with the money avoidance, money status, or money vigilance scripts.

Considering the gender interaction terms, several significant associations were observed with the money status script. There was a significant negative interaction effect between gender and family financial socialization (β = −0.26, $p < .01$), indicating that the positive association between family financial socialization and money status script is weaker for males. Also, just marginally outside the 5% alpha level, there was a positive interaction effect between gender and high school financial education (β = 0.31, $p = .07$) in the money status script model. Males may experience an increased level of money status for school-based financial education.

We also observed other significant associations. There was a general positive association between age and the money status script (except for those in their 30s and 40s). That is, compared to those under 30 years old, being older was generally associated with increased money-status scores. Surprisingly, there were no significant associations—positively or negatively—with financial resources (income, assets, or debt levels) and the money status and money vigilance scripts. On the other hand, being married was negatively associated with the money status script (β = −0.25, $p = .03$). In the money status model, moreover, there was a negative association with objective financial knowledge and money status score (β = −0.13, $p < .01$). Financial satisfaction was positively associated with money status score (β = 0.05, $p = .04$).

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Table 4.

Interaction Effects Model (n = 463).

	Avoidance			Worship			Status			Vigilance		
	Coef.	SE	*p*	Coef.	SE	*p*	Coef.	SE	*p*	Coef.	SE	*p*
Demographic												
Male	−0.25	0.13	.05	−0.04	0.14	.78	−0.11	0.10	.28	−0.01	0.09	.95
Age (under 30)												
30 – 39	0.01	0.13	.95	−0.13	0.16	.41	0.20	0.11	.07	−0.12	0.11	.27
40 – 49	0.04	0.14	.76	−0.13	0.17	.44	0.08	0.12	.53	−0.17	0.12	.14
50 – 59	−0.07	0.14	.65	−0.14	0.17	.40	0.26	0.12	.04	0.08	0.12	.49
60+	0.04	0.16	.81	−0.22	0.20	.27	0.35	0.15	.02	−0.08	0.15	.60
Married	−0.03	0.13	.80	−0.19	0.16	.23	−0.25	0.11	.03	0.11	0.11	.28
Working spouse/partner	−0.04	0.11	.71	0.08	0.13	.54	0.04	0.10	.67	−0.08	0.10	.39
Children	0.01	0.10	.91	−0.06	0.12	.61	0.08	0.08	.32	0.03	0.08	.69
College	−0.07	0.09	.47	−0.03	0.11	.79	0.04	0.08	.60	−0.03	0.07	.68
Financial resources												
Income (0 – $74,999)												
$75,000 – $149,999	0.13	0.12	.28	0.16	0.14	.25	0.01	0.10	.94	0.05	0.10	.62
$150,000+	0.30	0.17	.07	0.17	0.19	.37	0.16	0.15	.28	−0.07	0.14	.63
Assets (0 – $199,999)												
$200,000 – $499,999	0.10	0.12	.39	−0.05	0.14	.70	0.12	0.10	.25	0.07	0.09	.42
$500,000+	0.01	0.14	.93	−0.01	0.18	.94	−0.04	0.14	.78	−0.03	0.12	.79
Debts (0 – $50,000)												
$50,000 – $149,999	−0.12	0.11	.29	−0.08	0.13	.55	−0.09	0.10	.33	0.11	0.09	.24
$150,000+	−0.08	0.14	.57	0.04	0.15	.77	−0.02	0.11	.84	0.14	0.10	.18
Financial beliefs												
Financial satisfaction	0.03	0.03	.37	0.02	0.03	.64	0.05	0.03	.04	0.00	0.03	.97

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Financial Socialization

Financial stress	0.04	0.03	.24	0.11	0.04	.00	0.02	0.03	.45	−0.02	0.03	.54
Financial confidence	−0.01	0.03	.83	0.05	0.04	.25	−0.03	0.03	.35	0.00	0.03	.98
Risk tolerance	−0.07	0.04	.08	0.04	0.04	.34	0.05	0.03	.12	0.01	0.03	.75
Objective knowledge	−0.10	0.05	.04	−0.03	0.06	.65	−0.13	0.04	.00	0.04	0.04	.24
Subjective knowledge	−0.05	0.04	.15	0.09	0.04	.03	−0.01	0.03	.85	0.05	0.03	.11
Financial education												
High school fin. edu.	−0.10	0.13	.46	−0.12	0.17	.48	−0.11	0.13	.37	−0.08	0.11	.46
College fin. edu.	−0.09	0.13	.49	−0.21	0.16	.19	−0.03	0.11	.78	−0.04	0.12	.72
Work fin. edu.	−0.16	0.12	.19	0.03	0.15	.86	−0.03	0.10	.77	0.04	0.10	.67
Family Financial socialization												
Family Financial Socialization (factor index)	0.10	0.08	.18	0.03	0.08	.67	0.18	0.06	.00	0.16	0.05	.00
Role model (cent.)	0.01	0.04	.81	0.00	0.05	.96	−0.02	0.03	.62	−0.03	0.03	.35
Interactions												
Male x Family Financial Social.	−0.14	0.10	.16	−0.11	0.10	.28	−0.26	0.07	.00	−0.06	0.07	.38
Male x Role model (cent.)	0.01	0.05	.91	−0.02	0.06	.69	0.03	0.04	.47	−0.01	0.04	.86
Male x High school fin. edu.	0.16	0.18	.39	0.25	0.23	.28	0.31	0.17	.07	0.17	0.15	.27
Male x College fin. edu.	0.22	0.19	.24	0.41	0.22	.07	0.20	0.16	.22	0.04	0.17	.82
Male x Work fin. edu.	0.06	0.17	.73	−0.03	0.20	.89	0.03	0.15	.84	−0.07	0.15	.65
Constant	3.15	0.34	.00	1.93	0.37	.00	2.03	0.29	.00	3.91	0.25	.00
Fit Statistics												
F-test	$F(31, 428.8) = 1.60$, $p = .02$			$F(31, 428.9) = 1.34$, $p = .11$			$F(31, 428.8) = 2.13$, $p < .01$			$F(31, 428.9) = 1.80$, $p < .01$		
R-squared	.10			.09			.13			.09		
Adj. R-squared	.03			.02			.06			.03		

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DISCUSSION

The main purpose of this study was to explore the associations between financial socialization and money scripts in a preliminary examination. This study focused on family socialization and education-based socialization, both of which can have lifelong implications and consequences for how people view, manage, and relate to their finances.

Across the simple and interaction models that were significant, family financial socialization had a significant positive association with positive money attitudes, namely, money vigilance. This finding reflected the hypothesized associations based on the money-script framework, namely, that family financial socialization—parents discussing and demonstrating healthy financial behaviors in the household—would be related to money vigilance in adulthood. This supports H1a, which hypothesized a positive association between family financial socialization and money vigilance, which can be protective in nature. The finding is consistent with Agnew et al. (2018), which found a positive association between family financial socialization and financial attitudes toward financial planning and money conscientiousness.

On the other hand, family financial socialization was not significantly related to money avoidance and money worship in both the simple model and the interaction model, and it was even positively associated with the money status script in the interaction models, which does not support H2a. Hypothesis 2a posited a negative relationship between family financial socialization and the non-protective (or even destructive) money scripts. This finding is contrary to findings from previous literature, which found positive effects of parental financial socialization on financial attitudes of children (Agnew et al., 2018; Flouri, 2004; Kim & Chatterjee, 2013). The lack of significance of family financial socialization on money avoidance and money worship might be attributed to the focus of the purposive financial socialization from parents, which might emphasize money vigilance but neglect to caution the destructive money scripts, such as money avoidance and money worship.

Interestingly, financial education at high school, college, and the workplace was not significant as a simple effect in all four money scripts (in either the simple-effects models or the interaction-effects models). Our results thus do not support H1b and H2b, which posited relationships between financial education and money scripts. While a meta-analysis of more than two hundred studies on financial literacy, education, and behaviors (Fernandes et al., 2014) showed that the effects of financial education on other financial socialization outcomes, such as financial literacy and behavior decay over time, financial attitudes seem to act in the opposite direction in our study. It may be possible that financial attitudes are developed early and primarily by parents (Batty et al., 2015) and that later interventions are not as efficacious. Our results also comport with Shim et al. (2010), who found that parental financial socialization may be more influential than high school and work-based education. Our results also reinforce past empirical work that demonstrated minimal impact of some school-based financial-education programs (Fernandes et al., 2014), though there is a mix in the literature (e.g., Danes & Brewton, 2014; Sherraden et al., 2011).

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There was an observed gender effect in the interaction models between the money status script and family financial socialization. Concerning money scripts other than the money status script, which is discussed above, there were no significant gender effects. Thus, H3, which posited that gender moderated the association of money scripts and financial socialization, was partially supported. Our findings of non-significance for most of the money script subscales are similar to the findings of LeBaron et al. (2020), who did not find a moderating gender association between financial education and healthy financial behaviors, despite the prior literature noting differences in socialization by gender. They hypothesized that the lack of significance could be because of the outcome variable explored, which was financial behaviors. Thus, as implied by LeBaron et al. (2020), it could be the case that even though there may be differences in socialization by gender, they may not manifest robustly in the particular outcome variable studied, which was current money attitudes in our case. Additionally, Klontz et al. (2011) did not find an association between gender and the money belief subscales.

As noted, we did find that males reported a decreased association between family financial socialization and the money status script. This is protective, as males tend to perceive money as a source of power (Lim et al., 2003), and the money status script is not generally seen as a healthy perspective about money and finances (Klontz & Britt, 2012). Males reported increased effects of education-based socialization and the money status script (at the 10% significance level). While focusing on financial knowledge, Danes and Haberman (2007) found that after studying the financial planning curriculum, male teens reinforced their pre-existing financial knowledge. This might apply to financial attitudes, too.

LIMITATIONS

Although this study hypothesized relationships between youth-based socialization (e.g., family or education-based) and adulthood money beliefs, cross-sectional data collected during adulthood does not lend itself optimally to assess those relationships. Moreover, even though a respondent may have received financial education at school or work, we do not have data to measure how effective those interventions were.

Likewise, a similar concern is present for the family socialization measure. For example, a simple summative index likely does not capture the full nuance of the learning environment and complex relationships in a household between parents and children, especially as it concerns household finances. We did try to ameliorate that and allow for more nuanced relationships by using a factor-based index. Relatedly, because we used an abbreviated version of the KMSI, we may not have captured sufficiently the variation or true values of the money script mean scores. Moreover, the use of an abbreviated money script measure may have resulted in the less than ideal Cronbach's alphas, which tempers our results—this is particularly true with respect to the money vigilance scale. Thus, we emphasize that this is a preliminary examination. Given the low Cronbach's alphas, moreover, there are concerns for a lack of internal consistency; indeed, future research should use the full KMSI and look for result concordance.

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Moreover, we have a modest sample size of nearly 500 respondents. Due to that sample size, we kept the models simple and parsimonious. Relatedly, given the small sample size, we may not have an adequate sample size to model other factors. In addition, there are other limitations given the nature of the sample, such as racial homogeneity, which was present here (with most respondents indicating being White or Caucasian). Therefore, given the sample size constraints and sample limitations, we may not have captured or controlled for all relationships or possible confounders. However, we could control for an array of financial resources, financial attitudes, and financial beliefs. Also, due to some missing data, we imputed some financial resource variables; as with any imputation method, it is possible that the imputation itself affected the results.

CONCLUSION

People engage with various disordered money behaviors, such as compulsive buying, hoarding, gambling, and financial denial (Klontz et al., 2012), and these behaviors "cause significant stress, anxiety, emotional distress, and impairment in major areas of one's life" (Klontz & Klontz, 2009, p. 129). Studies have found that these money disorders are closely related to childhood memories of parental financial socialization and their own money scripts (Furnham et al., 2014; Klontz & Britt, 2012). Thus, the findings from the current study on financial socialization and money scripts provide implications to financial educators and practitioners to address money disorder issues and eventually improve people's well-being.

One key finding from the current study is that although family financial socialization is generally associated with favorable money attitudes (i.e., money vigilance), it may have an unexpected side effect on children's financial outcomes and attitudes (i.e., money status). Due to data limitations, though, we do not know what types of parents actively engage in family financial socialization. There is the possibility that parents with money vigilance and money status scripts might transmit, and children develop similar money scripts from them. It will be important to provide children with a more balanced view towards money by having multiple family members with different financial attitudes engaged in the financial socialization process. More discussion is needed among financial educators and practitioners on how children and parents can effectively engage in financial socialization at home.

Additionally, although financial socialization occurs at different places and stages of life (e.g., childhood, high school, college, and in the workplace), the current study failed to find significant positive associations between financial education at schools and the workplace and positive money scripts (i.e., the money vigilance script). Along with an informational curriculum that increases financial knowledge, a financial education curriculum that cultivates favorable financial attitudes would likely have a long-term effect on financial and overall well-being.

In addition, the marginally statistically significant finding that school education may be related to increased money status script among males informs the utility of financial education curricula from a gendered view. As noted in Pinto and Coulson (2011), financial education curricula should consider the role of gender inequality and the unique experiences

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of women in developing financial literacy. Additionally, covering a wider range of money-related topics (e.g., charity) can expand our understanding of the diverse aspects of money beyond its known role as a tool for achieving status and power.

Our findings are important to financial planners, financial educators, and even policymakers who extol the importance of beginning money conversations and starting good-money behaviors at a young age. Although these household attitudes or school-based interventions can impact children, planners and policymakers should be mindful that these effects may differ based on gender.

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