Investigating the Disconnect between Financial Knowledge and Behavior: The Role of Parental Influence and Psychological Characteristics in Responsible Financial Behaviors among Young Adults

Financial knowledge is an essential component in financial decision making; however, knowledge is insufficient to ensure responsible financial behavior. We investigate the weak association between financial knowledge and behavior by simultaneously testing the roles financial knowledge, parental influence, and individual psychological characteristics (self-discipline and thoroughness) play in young adults’ financial behaviors. Results from 2,712 respondents from the 1997 National Longitudinal Survey of Youth confirm there is a weak association between financial knowledge and behavior. Parental influence and self-discipline positively associate with responsible financial behavior. We also investigate the moderating role of gender and observe that financial knowledge and parental influence improve women’s financial behavior more than men, whereas being thorough has a larger impact among males. These findings suggest that considering social and individual psychological factors in financial education programs could improve program efficiency. The results also highlight the importance of adopting tailored financial education to suit gender differences.

Young adults face unprecedented obligations and complexity in today’s financial environment. At the same time, low levels of financial literacy are widespread among American young adults (Lusardi, Mitchell, and Curto 2010; Mandell 2009; Manton et al. 2006). Aiming at improving young adults’ financial literacy to make responsible financial decisions, policymakers and educators have initiated and promoted various programs focusing on financial knowledge delivery. The operating assumption is that increased levels of financial knowledge can lead to responsible financial management behavior. For example, the US Congress established the Financial Literacy and Education Commission under the Fair and Accurate Credit Transactions Act (FACT) of 2003 (H.R. 2622) to improve financial literacy. In 2010, under the Dodd-Frank Act (H.R. 4173), the US Congress
created the Consumer Financial Protection Bureau to further promote financial education through its Consumer Engagement and Education Group. At the state level, as of 2013, 22 states required an economics course to be taken for high school graduation, and 17 states required a personal finance course (Council for Economic Education 2014). Schools and teachers across the nation were encouraged to integrate personal finance topics into core subjects such as social studies and economics (Johnson and Sherraden 2007). Despite these efforts, young adults continue to make inefficient financial decisions regarding student loans, credit card debt, and overall savings (Letkiewicz 2012).

Previous research investigating the reason for financial education inefficiency suggests that financial knowledge is only one of many important drivers of responsible financial behavior. For example, Johnson and Sherraden (2007) suggested that financial capabilities, which include not only financial knowledge but also skills and opportunities, lead to responsible financial behavior. In their view, financial knowledge is a helpful but insufficient condition for responsible financial behavior. Appropriate financial behavior is also deeply intertwined with social and psychological issues. Huston (2010) included “other influences” (e.g., family and self-control) in addition to “financial knowledge” in her conceptual model to determine financial behavior. A person who is financially literate (i.e., has the knowledge and the ability to apply the knowledge) may not exhibit predicted behaviors because of the existence of these “other influences.” Therefore, research calls for a better understanding of other factors, aside from financial knowledge, that can contribute to responsible financial decisions.

This article investigates potential determinants of responsible financial behavior. In particular, we conceptualize a model whereby young adults’ responsible financial behavior is jointly determined by three levels of influences: cognitive level (e.g., financial knowledge), social level (e.g., parental influence), and psychological level (e.g., self-discipline and thoroughness). Using data on 2,712 young adults from the 1997 National Longitudinal Survey of Youth (NLSY97), we study the simultaneous roles of these three levels of influences on young adults’ responsible financial behavior in areas of cash flow management, credit management, and saving. Results first demonstrate the weak relationship between financial knowledge and responsible financial behaviors; a high level of financial knowledge does not necessarily indicate a high level of responsible financial behavior. Further, the results demonstrate that parental influence (social factor) and being self-disciplined (psychological factor) both positively relate with a young adult’s responsible financial behavior.
Finally, we demonstrate that there are important differences between men and women in terms of how knowledge, socialization, and psychological characteristics are ultimately associated with financial behaviors. While women appear to benefit more from financial knowledge and parental influence, thoroughness has a stronger positive association with responsible financial decision making among men.

Our article makes three main contributions. First, our article uses influential theories about the developmental processes of behavior to build a conceptual model for the determinants of young adults’ financial behavior. Second, we use a representative data set on American young adults’ financial well-being to confirm there is a weak association between financial knowledge and financial behavior, and also demonstrate that there are social and psychological variables associated with responsible financial decision making. Finally, our article investigates and demonstrates differences between males and females in how their development processes relate to responsible financial behavior. Taken together, these contributions identify important variables behind financial behavior. The findings can be used to evaluate, tailor, and improve financial education programs to promote responsible financial behavior among young adults.

**LITERATURE REVIEW AND HYPOTHESIS**

**Conceptual Model**

Financial management is a complex set of behaviors and decisions that vary in their importance and ease of implementation according to an individual’s or family’s needs, priorities, and skills (Ozmete and Hira 2011). Given the many potential antecedents to financial decisions, a multitheoretical perspective of human behavior is necessary to explain financial decision making.

For example, Transtheoretical Model of Change points out that both knowledge and psychological readiness are required for people to move through the stages of behavior change (DiClemente and Prochaska 1982; Prochaska and DiClemente 1983). Similarly, other widely used behavioral prediction models also emphasize the role psychological factors play in understanding and predicting human behavior (e.g., Health Belief Model, Janz and Becker 1984; Theory of Reasoned Action, Ajzen and Fishbein 1980; and Theory of Planned Behavior, Ajzen 1991; Ajzen and Driver 1991). At the social level, theories of human behavior assume individuals exist within, and are influenced by, a social environment including family members, coworkers, friends, health professionals, and others (Rimer and Glanz 2005). Among these theories, Social Cognitive Theory (SCT)
integrates concepts from cognitive, behaviorist, and emotional models of behavior change. It asserts that to perform a behavior, a person must possess behavioral capability—the knowledge of both what the behavior is as well as the process to execute the behavior; SCT identifies that learning through the experiences of credible others (“observational learning”) is the other key manner to develop behavior. Psychological factors such as self-regulation (an individual’s ability to manage or control behavior) and self-efficacy (an individual’s confidence in his or her ability to perform a behavior in various situations) are also important factors in human behavior (Bandura 2001; Rimer and Glanz 2005). Each of these models provides a different perspective of human behavior; however, some key principles remain consistent:

(1) Cognitions affect behavior; that is, what people know and think affects how they act.

(2) Knowledge is necessary but insufficient to produce most behavior changes.

(3) Beyond knowledge, additional factors such as social influences and psychological factors are key influences on behavior (Rimer and Glanz 2005).

The human behavior theories discussed above can be applied to a personal finance management context. Specifically, we conceptualize a model in which financial behavior is affected by three levels of influences: cognitive level (e.g., financial knowledge), social level (e.g., parental influence), and psychological level (e.g., self-discipline and thoroughness; see Figure 1). In addition, Role Theory posits that human behavior is guided by role expectations for a specific position (e.g., men and women). As men and women have different perceived gender roles, it is expected that gender will moderate the relationship between these factors and financial behavior (Ozmete and Hira 2011).

Our proposed conceptual model is in line with Huston’s (2010) model in which “Other Influences” join financial knowledge to determine one’s financial behavior. “Other influences” in Huston’s model include factors such as self-control and family. A person who is financially literate (i.e., has the knowledge and the ability to apply the knowledge) may not exhibit predicted behaviors because of these other influences (Huston 2010). However, Huston’s 2010 paper provides no empirical evidence testing the conceptual framework.

In the following sections, we will develop theory-driven hypotheses for the relationship between specific variables within the cognitive, social, and psychological domains and young adult’s responsible financial behavior.
We generate hypotheses for financial knowledge (cognitive level), parental influence (social level), self-discipline (psychological level), and thoroughness (psychological level). We then test these hypotheses using NLSY97 data.

Financial Knowledge

Conventional wisdom tells us that a more informed consumer is a better consumer (Hathaway and Khatiwada 2008). Consequently, numerous programs and initiatives exist to disseminate financial knowledge to students in pre-kindergarten through college. The operating assumption of these programs is that improved knowledge will result in more effective financial behavior. However, empirical results on the relationship between financial knowledge and financial behavior are mixed. Robb and Woodyard (2011); Chen and Volpe (1998); Hilgert, Hogarth, and Beverly (2003); and Lusardi and Mitchell (2007) found evidence of a positive relationship between financial knowledge and financial behavior. However, other studies indicate that improved knowledge does not automatically result in improved behavior (Borden et al. 2008; Jones 2005). The mixed results can be caused by the fact that knowledge is an important but insufficient component in financial decision making (Robb and Woodyard 2011).

Despite the potential existence of other variables that affect financial behavior, there remains both theoretical rationale and some empirical evidence that there should be a positive relationship between financial
knowledge and financial behavior. Therefore, we hypothesize that after controlling for psychological and social factors, financial knowledge will still have a positive relationship with financial behavior.

H1: There is a positive relationship between financial knowledge and responsible financial behavior.

Parental Influence

According to the theory of consumer socialization, individuals, particularly adolescents and young children, develop consumer skills, knowledge, and attitudes by interacting with socialization agents. Parental influence is a particularly important socializing force in early adulthood, and this socialization process continues throughout the life (Moschis 1987; Zarit and Eggebeen 2002). The social constructionist approach also asserts that parents continually construct a shared reality in preparing young adults for their financial future (Danes and Haberman 2007). In fact, the growing recognition of the prominent roles parents play in their children’s financial attitude, knowledge, and capability development has inspired a number of important studies on family financial socialization processes; see Gudmunson and Danes (2011) for a detailed review. It is concluded that parents represent the primary socialization unit for learning about money management (Danes 1994; Danes, Huddleston-Cases, and Boyce 1999) and children learn about the meaning of the adult financial world first through their family experiences, skills, and values (Danes and Haberman 2007).

Previous research on financial decision making has recognized the need to consider parents as an important influence in young adults’ financial decisions (Shim et al. 2013). In particular, research by Bowen (2002) and Lusardi, Mitchell, and Curto (2010) provided evidence strongly linking young adults’ financial knowledge to parents’ financial sophistication, but they did not consider parents’ influence on children’s financial behavior. Norvilitis and MacLean (2010) documented the positive influence of parents on college students’ credit management behavior. Bartholomae and Fox (2002 as cited in Danes and Haberman 2007) found that children’s investment behavior was positively influenced by their parents’ planning behavior. Parental advice about financial matters is an essential component in increasing financial knowledge and financial behavior. However, no study to our knowledge has considered the concurrent role of parental influence, with financial knowledge and individual psychological characteristics, in financial behavior. This leads to our second hypothesis.

H2: There is a positive relationship between parental influence and responsible financial behavior.
Self-Discipline and Thoroughness

Johnson and Sherraden (2007) stated that financial capacity requires knowledge and competencies, ability to act on that knowledge, and opportunity to act. The “ability to act on that knowledge” can include individuals’ psychological characteristics. For example, Sages (2012) found that respondents who possess a stronger psychosocial profile would be more likely to engage in one or more pre-retirement planning behaviors. Perry and Morris (2005) showed that consumers’ propensity to save, budget, and control spending depends partly on their level of perceived control over outcomes (locus of control, LOC). We consider the effects of two psychological characteristics, self-discipline and thoroughness. Self-discipline and thoroughness are two distinct factors characterized within the Big Five personality trait of conscientiousness. To our knowledge, the relationship between these characteristics and responsible financial behaviors among young adults has not been investigated.

Self-discipline is a psychological factor required for individuals to diligently follow their financial plan and successfully convert responsible financial intentions into responsible financial behaviors. Without self-discipline, individuals will have difficulty enduring the challenges associated with successfully implementing financial knowledge. Self-discipline has been implicitly linked to financial behavior. For example, in the extant research on self-control, there is a positive relationship between high levels of self-control and retirement planning, responsible debt and credit use, keeping track of purchases, as well as savings and home ownership (Baumeister 2002; Chatterjee, Palmer, and Goetz 2010; Hastings and Mitchell 2011; Howlett, Kees, and Kemp 2008; Moffitt et al. 2011; Nurcan and Bicakova 2010; Stearns 1999). Specifically, Shim and Serido (2011) studied young adults’ financial behavior in six activities: tracking monthly expenses, spending within budget, paying credit cards in full each month, saving money each month, investing for long-term financial goals, and learning about money management. They found that individuals’ improved beliefs about one’s financial control were linked to improved behaviors. Mansfield, Pinto, and Parente (2003) studied college students and documented a significantly positive relationship between self-control and students paying off card balances each month.

In addition, in order to achieve financial goals and exhibit responsible financial behavior, one must possess competent planning skills. As Kapoor, Dlabay, and Hughes (2009) stated in their book on personal finance, financial and personal satisfaction are the results of an organized process that
is commonly referred to as personal financial planning. Leimberg et al. (2012) also mentioned that those who take a careful, calculated, and systematic approach to financial security will have a peace of mind, justified by the existence of a proper mix of assets producing adequate income and sufficient capital. In fact, empirical evidence indicates that financial planning is found to be positively linked to financial behavior (Lusardi and Mitchell 2007). This perspective suggests “thoroughness” is an important psychological characteristic to be a good planner. One needs to be thorough (detail-oriented and organized) to be good at planning. Therefore, being thorough might represent an important individual psychological characteristic considering differences in financial behavior.

We hypothesize that, after controlling for financial knowledge and parental influence, the individual psychological characteristics of being self-disciplined and thorough have a positive relationship with financial behavior.

H3: There is a positive relationship between self-discipline and responsible financial behavior.
H4: There is a positive relationship between thoroughness and responsible financial behavior.

Gender

A review of literature indicates there are substantial gender differences in consumers’ financial behavior. For example, women are more likely than men to exhibit compulsive buying behavior (Hira and Mugenda 2000); women are more risk-averse than men when they invest, which may result in significantly lower pension funding (Barskey et al. 1997; Graham et al. 2002; Jianakoplos and Bernasek 1998). Further, women are less likely to save for retirement than men, and women who do save for retirement typically only save half as much (Schumell 1996). Consequently, women near retirement age have substantially lower wealth levels than men (Levine, Mitchell, and Phillips 2002).

It is likely that the gender difference in responsible financial behavior is a consequence of several processes, such as men and women differing in their: translation of financial knowledge into financial behavior, utilization of parental socialization to inform financial behavior, and manifestation of how personal traits relate to financial behaviors. There is no research, to our knowledge, that directly examines the moderating role of gender on the effects of financial knowledge, parental influence, and individual psychological characteristics on financial behavior. However, previous studies suggest that gender is likely to affect the strength of the relationship...
between responsible financial behavior and financial knowledge, socialization, and psychological characteristics.

First, women are expected to have a higher chance to successfully translate financial knowledge into financial behavior than men. Based on the Planning, Attention, Simultaneous, and Successive (PASS) cognitive processing model, Naglieri and Rojahn (2001) and Warrick and Naglieri (1993) found that females significantly outperformed males in PASS cognitive processes. These processes work in concert to produce behavior and involve executive functions responsible for controlling and organizing behavior, selecting and constructing strategies, and monitoring performance (Naglieri and Rojahn 2001). They are viable indicators of individuals’ ability to process and act on knowledge. Previous studies also indicated that women have stronger ability to plan, execute, and self-control, which play key roles in converting knowledge to responsible financial behaviors (Darley and Smith 1995; Keane, Maxim, and Teevan 1993; Lagrange and Silverman 1999). Therefore, women are expected to benefit more from increasing financial knowledge in promoting responsible financial behavior. We propose the follow hypothesis:

H5a: The positive relationship between financial knowledge and responsible financial behavior is more significant among women than men.

In addition, there are likely gender differences in the interaction between parents and young adults regarding financial matters. Edwards, Allen, and Hayhoe (2007) concluded that women are more open with their parents about financial matters, even after controlling for financial dependences. Loibl and Hira (2006) found that women may feel more comfortable than men contacting family, friends, or coworkers about the topic of personal finances. These results suggest that women may benefit more from parental interaction to develop responsible financial behavior than men.

H5b: The positive relationship between parental influence and responsible financial behavior is more significant among women than men.

There is precedence in the literature suggesting that psychological characteristics have differential effects by gender on a range of behavioral outcomes such as delinquency and criminality. For example, in studying the linkages between self-control and institutional misconduct, DeLisi et al. (2010) found that self-control is predictive of misconduct only among males; it is unrelated to institutional misconduct among females. LaGrange and Silverman (1999) concluded that impulsivity is more predictive of delinquency among boys. Using data from the National Longitudinal Survey of Youth, Chapple and Johnson (2007) showed that relationships between impulsivity, maternal attachment, and antisocial discipline are
stronger among boys than girls. Unfortunately, there is no previous study explicitly investigating the moderating role of gender on the effects of individual psychological characteristics on financial behavior. However, to the extent that psychological characteristics manifest differently by gender, we propose the following hypotheses.

H5c: The positive relationship between self-discipline and responsible financial behavior is more significant among men than women.

H5d: The positive relationship between thoroughness and responsible financial behavior is more significant among men than women.

DATA AND METHODOLOGY

Data

This article uses data from the 1997 National Longitudinal Survey of Youth (NLSY97). The NLSY97 surveys were designed and carried out by the Bureau of Labor Statistics to be a nationally representative sample of youth who were 12–16 years old as of December 31, 1996. To reach a total sample of 8,984 respondents, NLSY97 interviewers screened 75,291 households in 147 primary sampling units that did not overlap (a primary sampling unit is a metropolitan area or, in nonmetropolitan areas, a single county, or group of counties). The longitudinal data set has followed the same group of respondents since 1997. It contains extensive information on respondents’ demographic and socioeconomic characteristics and their family backgrounds. It also asked questions about respondents’ financial knowledge, financial behavior, and their psychological attributes.1 Our study used 2,712 respondents from the NLSY97 data set because these records had valid responses for all of our study variables. There were 2,471 unique household clusters among the 2,712 analyzed observations.

Measures

Responsible Financial Behavior Score

Respondents were asked questions regarding responsible financial behavior in various waves of the NLSY97. We construct a responsible financial behavior score to measure young adults’ financial behavior in areas of cash flow management, credit management, and saving. In particular, in each of the five waves from 2007 through 2011, respondents were asked if they were able to make ends meet without much difficulty (cash flow management) and if they were pressured to pay bills by stores,

creditors, or bill collectors (credit management). Respondents are considered to have responsible “cash flow management” behavior if they are able to make ends meet without much difficulty in all 5 years. Respondents have responsible “credit management” behavior if they were not pressured to pay bills to creditors in any of the 5 years. In addition, from 1997 to 2011 (excluding 2009), the survey asked respondents if they had retirement savings in either an employer-sponsored account or an individual retirement account. Respondents have responsible “saving” behavior if they indicated that they had retirement savings in any of these years. We derive our responsible financial behavior score by summing the number of responsible financial behaviors each respondent exhibits (range from 0 to 3).

We believe that the constructed responsible financial behavior score can successfully reflect young adults’ ability to perform responsible financial behavior. Remund (2010) summarized that the operational definitions of financial literacy most commonly used in contemporary research fell within four categories—budgeting, saving, borrowing, and investing. Correspondingly, to measure responsible financial behavior, Hilgert, Hogarth, and Beverly (2003) formed a “Financial Practices Index” based upon behavior in cash flow management, saving, credit management, and investment practices. Further, Johnson and Sherraden (2007) listed significant debt, poor credit management, and lacking savings as main concerns about the young people’s financial well-being. The financial behavior questions used to construct our responsible financial behavior score reflect young adults’ behaviors in budgeting/cash flow management (question regarding making ends meet), borrowing/credit management (question regarding paying bills by stores, creditors, or bill collectors), and saving and investment (question regarding saving and investment for retirement). These three financial decisions are also widely used by other studies to measure individual’s financial management behavior (e.g., Hilgert, Hogarth, and Beverly 2003; Perry and Morris 2005).

**Financial Knowledge Score**

The NLSY97 survey conducted in 2007 (Wave 11) asked respondents three financial knowledge questions aimed at testing basic but fundamental financial concepts regarding risk diversification, interest rate, and inflation:

1. Do you think that the following statement is true or false? Buying a single company stock usually provides a safer return than a stock mutual fund. (T/F)
2. Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have
in the account if you left the money to grow: more than $102, exactly
$102, or less than $102?

(3) Imagine that the interest rate on your savings account was 1% per year
and inflation was 2% per year. After 1 year, would you be able to buy
more than, exactly the same as, or less than today with the money in
this account?

These questions have been shown to discriminate between financially
knowledgeable and financially naïve respondents and were widely used in
surveys such as the 2004 Health and Retirement Survey (HRS2004), the
2009 American Life Panel (ALP2009), and the 2009 National Financial
Capability Study (NFCS2009) (Lusardi, Mitchell, and Curto 2010; Lusardi
and Mitchell 2008, 2011). We construct a financial knowledge score as the
number of correct answers out of the three questions asked.

Parental Influence

A key premise of family financial socialization theory is that most of
the financial socialization that takes place in the family has resulted from
day-to-day family interaction, relationships, and implicit financial training
(Jorgensen and Salva 2010; Moschis 1985). Purposeful efforts that fami-
lies have used to financially socialize each other have proven less common
than implicit forms of financial socialization. For example, parents may
give money to children with the purpose of promoting fiscal responsibility
and teaching children to save, share, and budget money prudently (purpose-
ful effort). Yet the success of such efforts largely depends on parent–child
relationship quality. Children who feel that parents are loving and warm,
who routinely spend time with parents, or have positive communication
with parents are more likely to share parent’s prosocial values about money
(Gudmunson and Danes 2011; Kim, LaTaillade, and Kim 2011). Con-
sequently, Gudmunson and Danes’ (2011) conceptual model of family
financial socialization processes and outcomes contends that most family
financial socialization occurs implicitly via family interaction and relation-
ships, instead of purposive or overt teaching, modeling, and practice. They
encouraged inclusion of family interaction and relationship variables such
as time use, relationship quality, and family interpersonal communication
in personal financial research.

Given this perspective, we use a broad measure of the parent–child
relationship to test for the impact of parental influence on young adults’
financial behavior. In particular, in each wave from 1997 to 2000, the
NLSY97 included parental monitoring indexes ranging from 0 to 16 for
each respondent. Some examples of the questions used to construct a
parental monitoring index include the respondents answering to what extent their mother/father knew about their close friends, whom they were with when they were not at home, and their activities in school. The questions were based on standard questions widely used by family research scholars to measure parent–child interaction and parental monitoring level (US Department of Labor 1999). If two parents were in the home, a parental monitoring index was created for the residential mother and the residential father separately. We then take the average monitoring scores of residential father and mother in each wave and then calculate the average across four waves. The resulting 0–16 scale is used as our measure of parental influence.

**Individual Psychological Characteristics**

In the 2008 wave, respondents were asked if they agreed that they were self-disciplined, with 7 indicating “strongly agree” and 1 indicating “strongly disagree.” We use this measure for the first psychological variable “self-discipline.” In the 2002 wave, respondents were asked a single question regarding whether they believed themselves to be a thorough or careless person (1 = careless, 5 = thorough). We use the answer to this question as a measure of our second psychological variable, “thoroughness.”

**Covariates**

Control variables include respondents’ gender, age in 2007, race, education level in 2007, income earned in 2006, parents’ income, parents’ investment experience (whether parents had invested in stocks, bonds, or pension funds, from the 1997 survey), and highest education achievement of parents. These factors have been shown to significantly impact an individual’s financial knowledge (Fonseca et al. 2012; Lusardi, Mitchell, and Curto 2010; Mandell 2009; Monticone 2010). We also included a measure to control for respondents’ perceived control over outcomes, also known as their locus of control (LOC). In the 1997 wave, respondents were asked how much they agreed with the statement “I hardly ever expect things to go my way.” (1 = strongly disagree, 4 = strongly agree). Perry and Morris (2005) stated that individuals with internal LOC generally expect that their actions will produce predictable outcomes and are thus are more oriented, motivated, and likely to perform difficult tasks than individuals with an external LOC. Individuals with an external LOC perceive events as being under the control of luck, chance, or powerful others. Such individuals should be less likely than internals to master the skills necessary to accomplish their goals.
or demonstrate goal-directed arousal. Perry and Morris (2005) also found evidence that LOC affects individuals’ financial behavior.

Methodology

We evaluate the research hypotheses using Poisson regression. Previous research has used Poisson regression to model the count outcome of financial behaviors among young adult populations (Worthy, Jonkman, and Blinn-Pike 2010). Poisson regression is more appropriate than standard linear regression for several reasons. First, preliminary analyses of our data demonstrated that the normality assumptions of linear regression were not satisfied and specifications using linear regression models resulted in models generating out of bounds predictions (e.g., predictions of young adults exhibiting negative responsible financial behavior scores). Further, Poisson regression is more appropriate than linear regression because our dependent variable (responsible financial behavior) is a discrete count variable, it is not overdispersed (e.g., responsible financial behavior score’s variance does not exceed its mean), and it fits the Poisson distribution well; Poisson Pearson goodness-of-fit test $\chi^2 (df) = 2458.88 (3059), p > .99$. We also adjusted standard error estimates to account for within household clustering of data.

Alongside the reported coefficients ($\hat{\beta}$), we also report the parameters as incidence rate ratios (IRRs), calculated as ($e^{\hat{\beta}}$). This transformation helps clarify our results. Coefficients in Poisson regression are the difference between the logs of expected counts, which is difficult to interpret intuitively. IRRs, on the other hand, are interpreted as the change in the rate ratio of financial behaviors for one unit change in the independent variable. In other words, an IRR $< 1$ [ $> 1$] implies one unit increase in an independent variable that will decrease [increase] the predicted rate of responsible financial behaviors by a factor of the reported IRR for the independent variable parameter.

RESULTS

Summary Statistics

Table 1 provides summary statistics on all variables. On average, young adults exhibit an average financial knowledge score of 1.80 of 3. However, their average responsible financial behavior score is much lower, 1.02 of 3. Figure 2 depicts the frequencies of financial knowledge and responsible financial decisions. For example, 63% of respondents correctly answered at least two financial knowledge questions, whereas only 30% of young
TABLE 1
Summary Statistics and Comparison of Selected Sample to Whole NLYS97 Sample

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Selected Sample (N = 2,712)</th>
<th>NLSY97 Whole Sample</th>
<th>Sig. Dif.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Min</td>
</tr>
<tr>
<td>Responsible financial behavior score</td>
<td>1.02</td>
<td>0.82</td>
<td>0</td>
</tr>
<tr>
<td>Total financial knowledge score</td>
<td>1.80</td>
<td>0.91</td>
<td>0</td>
</tr>
<tr>
<td>Parental monitoring index</td>
<td>8.91</td>
<td>2.68</td>
<td>0</td>
</tr>
<tr>
<td>Self-discipline</td>
<td>6.13</td>
<td>0.98</td>
<td>1</td>
</tr>
<tr>
<td>Thoroughness</td>
<td>3.80</td>
<td>1.01</td>
<td>1</td>
</tr>
<tr>
<td>Covariates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (1 = Male, 0 = Female)</td>
<td>50.92%</td>
<td>0.50</td>
<td>0</td>
</tr>
<tr>
<td>Age in 2007</td>
<td>23.31</td>
<td>0.94</td>
<td>22</td>
</tr>
<tr>
<td>Race ***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>65.51%</td>
<td>0.47</td>
<td>0</td>
</tr>
<tr>
<td>Black or African American</td>
<td>22.88%</td>
<td>0.42</td>
<td>0</td>
</tr>
<tr>
<td>American Indian, Eskimo, or Aleut</td>
<td>0.88%</td>
<td>0.09</td>
<td>0</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>1.10%</td>
<td>0.10</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>9.61%</td>
<td>0.10</td>
<td>0</td>
</tr>
<tr>
<td>Education ***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-high school</td>
<td>16.04%</td>
<td>0.37</td>
<td>0</td>
</tr>
<tr>
<td>High school</td>
<td>49.33%</td>
<td>0.50</td>
<td>0</td>
</tr>
<tr>
<td>Some college</td>
<td>8.74%</td>
<td>0.28</td>
<td>0</td>
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<tr>
<td>College</td>
<td>24.26%</td>
<td>0.43</td>
<td>0</td>
</tr>
<tr>
<td>Graduate school</td>
<td>1.62%</td>
<td>0.13</td>
<td>0</td>
</tr>
<tr>
<td>Income from wage and salary in 2006</td>
<td>$20,904</td>
<td>$15,879</td>
<td>0</td>
</tr>
<tr>
<td>Internal locus of control index</td>
<td>2.83</td>
<td>0.82</td>
<td>1</td>
</tr>
<tr>
<td>Parents have investment experience in stocks, bonds, or pension funds</td>
<td>58.92%</td>
<td>0.49</td>
<td>0</td>
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<tr>
<td>Parents’ income</td>
<td>$42,017</td>
<td>$35,246</td>
<td>0</td>
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<tr>
<td>Parents’ education ***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-high school</td>
<td>10.83%</td>
<td>0.31</td>
<td>0</td>
</tr>
<tr>
<td>High school</td>
<td>31.06%</td>
<td>0.46</td>
<td>0</td>
</tr>
<tr>
<td>Some college</td>
<td>27.86%</td>
<td>0.45</td>
<td>0</td>
</tr>
<tr>
<td>College</td>
<td>15.36%</td>
<td>0.36</td>
<td>0</td>
</tr>
<tr>
<td>Graduate school</td>
<td>14.88%</td>
<td>0.36</td>
<td>0</td>
</tr>
</tbody>
</table>

** p < .01, *** p < .001.

Adults exhibited at least two responsible financial behaviors. In addition, we confirm the previous findings that men have a higher level of financial knowledge and behavior than women. Men’s average financial knowledge score is 1.93 and their average responsible financial behavior score is 1.09. The corresponding statistics for women are 1.68 and 0.95, respectively.
Table 1 also provides summary statistics on other variables. The average parental monitoring index is 8.91 of 16, and young adults tend to report that they have a high level of self-discipline (6.13 of 7) and thoroughness (3.80 of 5). The average young adult age was 23.31 in 2007, the year when respondents were asked financial knowledge questions. Males comprised 50.92% of the sample, and the average annual reported salary in 2006 was $20,904. The breakdown of ethnicities is: white (65.51%); black/African American (22.88%); American Indian, Eskimo, or Aleut (0.88%); Asian or Pacific Islander (1.10%); and other (9.61%). A total of 65.37% of respondents held high school degrees or less, whereas 25.88% had college or graduate degrees. On average, young adults reported a medium level of internal LOC (2.83 of 4). A total of 58.92% of parents claimed to have investment experience in stocks, bonds, or pension funds. Parents’ average
income amounted to $42,017 and 30.24% of the families had at least a college degree as parents’ highest level of education achievement.

Our respondent subset is similar to the characteristics of the whole NLSY97 sample. For example, there were no statistically significant differences in parental monitoring index, self-discipline, and thoroughness between selected sample and the whole NLSY97 sample. However, some statistically significant differences between our analyzed sample and the whole NLSY97 sample were found. Depending on the variable in question, we tested for differences between the analyzed sample and NLYS97 whole sample either using independent sample \( t \)-tests (e.g., household income) or chi-square difference tests (e.g., ethnicity). For example, as shown in Table 1, the average responsible financial behavior score is 1.12 in the whole NLSY97 sample, which is higher than 1.02 in our subset sample (\( p < .001 \)), although the mean difference is relatively small (0.1 unite mean difference on a 4-point scored scale). The final knowledge score in the excluded sample was significantly larger than the included sample (\( p < .001 \)). The analyzed sample was also 1 year younger, on average (\( p < .001 \)), and they had a reported income that was on average $2,104 less than in the included sample (\( p < .001 \)). The analyzed sample also had a higher proportion of whites (65.51% compared with 58.76% in the excluded sample) and had a higher percentage of college graduates (24.26% compared with 19.96%; \( \chi^2 \) test sig. \( p < .001 \)). The analyzed sample had a higher mean salary for parents ($42,017 compared with $40,827, \( p < .01 \)) and parents in the whole sample had slightly less formal education (e.g., 15.36% parents with college graduates for the analyzed sample, 14.06% in the nonanalyzed sample, \( \chi^2 \) test sig. \( p < .001 \)).

In summary, our analyzed sample has similar, but not equivalent, properties compared with the whole NLYS97 sample. To test that our findings are not due to a biased sample, we conducted an additional robustness check by using a multiple-imputation model to analyze the whole NLSY97 sample while accounting for missing variables.\(^2\) The results imply that our main findings are not biased because of our selected subsample.

\(^2\) We first generated multiple imputations of plausible values for study variables that had substantial missing data. Then, we repeated our previous analysis on the completed (imputed) data, pooling those results into a single multiple-imputation result. We had multiple variables with an arbitrary (re: not monotonic) missingness pattern, so we used multivariate normal regression and an iterative Markov Chain Monte Carlo (MCMC) method for the imputation generation procedure. In all of our multiple imputation analyses, 100 burn-ins and 100 between-imputation iterations were used. The prior distribution used by the MCMC procedure was a uniform distribution, and 30 sets of imputed values were created. Methodology details and results can be requested from authors.
### Table 2

**Main Effects Model Results**

<table>
<thead>
<tr>
<th>Variable</th>
<th>IRR</th>
<th>Coef. β</th>
<th>Sig.</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>β₁ Financial knowledge</td>
<td>1.036</td>
<td>0.035</td>
<td>+</td>
<td>0.018</td>
</tr>
<tr>
<td>β₂ Parental monitoring</td>
<td>1.027</td>
<td>0.027</td>
<td>***</td>
<td>0.005</td>
</tr>
<tr>
<td>β₃ Self-discipline</td>
<td>1.106</td>
<td>0.101</td>
<td>***</td>
<td>0.018</td>
</tr>
<tr>
<td>β₄ Thoroughness</td>
<td>1.027</td>
<td>0.027</td>
<td>+</td>
<td>0.015</td>
</tr>
<tr>
<td><strong>Covariates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>β₅ Gender (1 = Male, 0 = Female)</td>
<td>1.198</td>
<td>0.181</td>
<td>***</td>
<td>0.030</td>
</tr>
<tr>
<td>β₆ Age</td>
<td>0.997</td>
<td>−0.003</td>
<td></td>
<td>0.016</td>
</tr>
<tr>
<td>β₇ Race—Black</td>
<td>0.82</td>
<td>−0.199</td>
<td>***</td>
<td>0.043</td>
</tr>
<tr>
<td>β₈ Race—Indian</td>
<td>0.757</td>
<td>−0.278</td>
<td>0.186</td>
<td></td>
</tr>
<tr>
<td>β₉ Race—Asian</td>
<td>1.033</td>
<td>0.032</td>
<td>0.089</td>
<td></td>
</tr>
<tr>
<td>β₁₀ Race—Other</td>
<td>1.007</td>
<td>0.007</td>
<td>0.052</td>
<td></td>
</tr>
<tr>
<td>β₁₁ Education</td>
<td>1.169</td>
<td>0.156</td>
<td>***</td>
<td>0.016</td>
</tr>
<tr>
<td>β₁₂ log(Income)</td>
<td>1.071</td>
<td>0.069</td>
<td>***</td>
<td>0.016</td>
</tr>
<tr>
<td>β₁₃ Internal locus of control</td>
<td>1.018</td>
<td>0.018</td>
<td>0.018</td>
<td></td>
</tr>
<tr>
<td>β₁₄ Parents’ investment experience</td>
<td>1.031</td>
<td>0.031</td>
<td>0.035</td>
<td></td>
</tr>
<tr>
<td>β₁₅ log(Parents’ Income)</td>
<td>0.995</td>
<td>−0.005</td>
<td>0.006</td>
<td></td>
</tr>
<tr>
<td>β₁₆ Parents’ education</td>
<td>0.989</td>
<td>−0.011</td>
<td>0.014</td>
<td></td>
</tr>
<tr>
<td>β₀ Intercept</td>
<td>0.153</td>
<td>−1.875</td>
<td>***</td>
<td>0.390</td>
</tr>
</tbody>
</table>

\[
N = 2,712
\]

\[
\text{Wald chi-square (df)} = 376.45 \text{ (16)}
\]

\[
\text{AIC} = 6,499.836
\]

\[
\text{BIC} = 6,600.228
\]

Note: + \( p < .1 \); *** \( p < .001 \); AIC, Akaike information criterion; BIC, Bayesian information criterion.

**Results of Main Effects**

Table 2 summarizes the results of a Poisson regression model on the effects of financial knowledge, parental influence, self-discipline, and thoroughness on responsible financial behavior, after controlling for other covariates. First, it is found that there is a positive relationship between financial knowledge and responsible financial behavior; however, this relationship is not statistically significant \( (p = .056) \). Thus, the results do not support H1. The results indicate that merely understanding financial concepts does not necessarily result in responsible financial behaviors.

Parental influence has a significant positive association with responsible financial behaviors \( (p < .001) \) which supports H2; responsible financial behaviors are expected to increase by 2.7% for every one unit increase on the reported parental monitoring index.

Self-discipline has a statistically significant relationship with responsible financial behaviors \( (p < .001) \). One unit increase in self-discipline is associated with a 10.6% increase in responsible financial behaviors. The
other dispositional variable, thoroughness, also has a positive relationship with responsible financial behaviors, but this result is not statistically significant ($p = .08$). These findings support H3 but not H4.

With respect to the covariates in the study, there is a large significant difference between men and women ($p < .001$) with respect to the expected number of responsible financial behaviors. The results indicate, all else held constant, men are expected to exhibit 1.198 times as many responsible financial behaviors as compared with women. Age is not statistically significant, nor is internal LOC of the respondent. Only black/African American respondents are significantly different from the reference group (white) with respect to responsible financial behaviors; all else equal, black/African American respondents report only .82 times as many responsible financial behaviors of white respondents ($p < .001$). As expected, both income and educational attainment are highly significant and positively associated with responsible financial behaviors ($p < .001$ for both variables).

Results by Gender

To evaluate H5a through H5d (the moderating role of gender), we incorporate interaction terms between gender and financial knowledge ($\beta_{17}$), parental monitoring index ($\beta_{18}$), self-discipline ($\beta_{19}$), and thoroughness ($\beta_{20}$) into our Poisson regression model. The model is otherwise the same as that of the main effects model. Before interpreting the gender moderation hypotheses, it should be noted that there is a baseline difference in responsible financial behavior between males and females. The estimated marginal means of responsible financial behaviors for men are 1.11 ($SE = .028$) and .92 for women ($SE = .028$). This difference needs special attention because Poisson regression coefficients can be interpreted as the percentage predicted change in responsible financial behaviors expected by one unit change in a predictor, not the unit predicted change in responsible financial behaviors, as would be the interpretation if linear regression was used (Coxe, West, and Aiken 2009). Thus, an equal percentage change for men and women will ultimately result in an even greater difference between men and women for the total number of responsible financial behaviors because males have a higher baseline of predicted responsible financial behaviors (i.e., as the value of any number becomes larger, a constant percentage change will result in an increasingly larger absolute change in the number).

For the aforementioned reasons, it is well known that trying to interpret Poisson regression interaction coefficients can be difficult. One intuitive
### Table 3

**Gender Moderation Model Results**

<table>
<thead>
<tr>
<th>Variable</th>
<th>IRR</th>
<th>Coef. β</th>
<th>Sig.</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\beta_1$ Financial knowledge</td>
<td>1.064</td>
<td>.062</td>
<td>*</td>
<td>.025</td>
</tr>
<tr>
<td>$\beta_{17}$ Gender × Financial Knowledge</td>
<td>0.954</td>
<td>-.047</td>
<td>***</td>
<td>.033</td>
</tr>
<tr>
<td>$\beta_2$ Parental monitoring</td>
<td>1.042</td>
<td>.041</td>
<td>***</td>
<td>.008</td>
</tr>
<tr>
<td>$\beta_{18}$ Gender × Parental Monitoring</td>
<td>0.976</td>
<td>-.024</td>
<td>*</td>
<td>.011</td>
</tr>
<tr>
<td>$\beta_3$ Self-discipline</td>
<td>1.119</td>
<td>.112</td>
<td>***</td>
<td>.028</td>
</tr>
<tr>
<td>$\beta_{19}$ Gender × Self-Discipline</td>
<td>0.984</td>
<td>-.016</td>
<td>.036</td>
<td></td>
</tr>
<tr>
<td>$\beta_4$ Thoroughness</td>
<td>1.002</td>
<td>.002</td>
<td>.021</td>
<td></td>
</tr>
<tr>
<td>$\beta_{20}$ Gender × Thoroughness</td>
<td>1.045</td>
<td>.044</td>
<td>.029</td>
<td></td>
</tr>
</tbody>
</table>

**Covariates**

| $\beta_5$ Gender (1 = Male, 0 = Female) | 1.525 | .422 | .265 |
| $\beta_6$ Age | 0.994 | -.006 | .015 |
| $\beta_7$ Race—Black | 0.817 | -.202 | *** | .043 |
| $\beta_8$ Race—Indian | 0.759 | -.276 | .186 |
| $\beta_9$ Race—Asian | 1.041 | .040 | .087 |
| $\beta_{10}$ Race—Other | 0.990 | -.010 | .052 |
| $\beta_{11}$ Education | 1.166 | .154 | *** | .016 |
| $\beta_{12}$ log (Income) | 1.071 | .069 | *** | .016 |
| $\beta_{13}$ Locus of control | 1.200 | .182 | .019 |
| $\beta_{14}$ Parents’ investment experience | 1.028 | .028 | .035 |
| $\beta_{15}$ log(Parents’ Income) | 0.996 | -.004 | .006 |
| $\beta_{16}$ Parents’ education | 0.990 | -.010 | .014 |
| $\beta_0$ Intercept | 0.118 | -2.133 | *** | .400 |

| N | 2,712 |
| Wald chi-square (df) | 378.85 (20) |
| AIC | 6,502.633 |
| BIC | 6,626.647 |

Note: * $p < .05$; *** $p < .001$; AIC, Akaike information criterion; BIC, Bayesian information criterion.

and recommended approach to better understand the results of Poisson regression interactions is to visually plot the marginal predicted responsible financial behavior scores for men and women across values of each respective independent variable, holding all other variables constant at their mean or reference value (Coxe, West, and Aiken 2009). Therefore, we depict these marginal mean plots in Figures 3 through 6, along with Table 3 to demonstrate the moderating role of gender.

Table 3 shows that there is a positive relationship between financial knowledge and financial behavior among both women and men; however, this positive relationship is only significant among women (women: $\beta_1 = .062, p < .05$; men: $\beta_1 + \beta_{17} = .015, p > .1$). The results indicate that, on average, one unit increase in financial knowledge will be associated with a 6.4% (1.5%) increase in expected rate of responsible financial behaviors for women (men).
As reported earlier, women are expected to exhibit fewer responsible financial behaviors than men; however, the size of this gap varies across levels of financial knowledge. These results imply that the responsible financial behavior gap between men and women will narrow as financial knowledge levels increase. Figure 3 clearly depicts this point.

Parental influence is positively associated with responsible financial behaviors among men and women (men: $\beta_2 + \beta_{18} = .017, p < .05$, women: $\beta_2 = .041, p < .001$). The slope difference test is also significant ($\beta_{18} = -.024, p < .05$); the positive relationship between parental influence and responsible financial behaviors is stronger among women than men. Specifically, the results indicate that one unit increase in parental monitoring index is associated with a 4.2% (1.7%) increase in the expected count of responsible financial behaviors among women (men). As shown in Figure 4, women at the highest levels of parental monitoring are able to almost completely close the gap with men with respect to responsible financial behaviors. For example, at the lowest levels of parental monitoring, men are predicted to exhibit .30 more responsible financial behaviors than women (difference of estimated means between males and females is significant, $p < .001$), but the difference is only .03 at the highest reported
levels of parental interaction (difference of estimated means between genders is nonsignificant, \( p = .69 \)). These findings support H5b.

Among both men and women, self-discipline has a positive association with responsible financial behaviors (women: \( \beta_3 = .112, p < .001 \); men: \( \beta_3 + \beta_{19} = .096, p < .001 \)). The difference in the association between men and women is not significant \( (\beta_{19} = -.016, p > .01) \). One unit increase in self-discipline is associated with a 11.9% (10.1%) increase in expected responsible financial behaviors among women (men). Therefore, H5c is rejected. Figure 5 depicts how the association between self-discipline and responsible financial behaviors is nearly the same for men and women.

Thoroughness does not have a significant association with responsible financial behaviors among women \( (\beta_4 = .002, p > .1) \), but there is a significant positive association among men \( (\beta_4 + \beta_{20} = .046, p < .05) \). One unit increase in thoroughness is associated with a 4.7% increase in expected responsible financial behaviors among men. However, there is no statistically significant difference in the association of thoroughness and responsible financial behaviors between men and women \( (\beta_{20} = .044, p = .12) \). These results suggest that the gap between men and women for responsible
It is worth noting that we aggregated longitudinal information into a single financial behavior measure. The measure does not distinguish between people who exhibit a single instance of a specific negative financial behavior versus those who have a pattern of chronic negative financial behaviors (e.g., repeated negative financial behaviors). As a robustness test, we created an alternative dependent variable to identify those individuals who exhibited more chronic patterns of negative financial behaviors rather than those who may have only engaged in negative financial behaviors because of a temporary hardship. This alternative dependent variable is different from the one in the above analysis in two ways. First, a respondent is still counted as exhibiting responsible cash management behavior so long as he did not report exhibiting “difficulty of making ends meet” in more than two waves of study. Second, a respondent is counted as exhibiting positive credit management behavior so long as he did not report exhibiting “pressure from bill collectors” in more than two waves of study. Aside from the dependent variable specification, the analysis procedure followed the same Poisson regression model as discussed above. Substantive results from this
alternative analysis fell in line with those reported in the original model in the manuscript; however, the results for H5b were only significant at the $p < .10$ level.

**CONCLUSIONS**

In the past decades, the number of programs and initiatives promoting Americans’ financial literacy has skyrocketed. Policymakers, financial educators, businesses, and government agencies have all recognized the critical role individuals’ early life responsible financial behavior has in their long-term welfare. However, research has demonstrated that the abundance of financial education programs, which mainly focus on increasing financial knowledge as a means of improving financial behavior, does not guarantee more responsible financial behavior among young adults (Borden et al. 2008; Jones 2005). This weak association between financial knowledge and financial behavior motivated us to examine some of the assumptions that underlie current policy approaches to enhancing responsible financial behaviors. Specifically, besides financial knowledge, we investigated if there are other crucial determinants of financial behavior.
We simultaneously investigated how social influence (parental influence), psychological influence (self-discipline and thoroughness), as well as cognitive influence (financial knowledge) are linked with responsible financial behaviors.

Using data on 2,712 young adults from the NLSY97, we first confirmed the weak association between financial knowledge and behavior; a high level of financial knowledge does not necessarily indicate a high level of responsible financial behavior. We tested our hypotheses and found evidence that social and psychological factors are both influential in developing self-benefiting financial behavior among young adults. Specifically, parental influence as well as the psychological factors of being self-disciplined positively relate to a young adult’s responsible financial behavior. Even more important, we showed that there are important differences between men and women in terms of how knowledge, parental influence, and individual psychological characteristics are linked with financial decision making. While women benefit more from financial knowledge and parental influence, thoroughness has a larger impact on men than on women.

These findings can aid policymakers, finance educators, businesses, and government agencies in their efforts to efficiently train young people to make more responsible financial decisions. First, our results indicate that determinants of young adults’ financial behavior are multifaceted. Cognitive financial knowledge alone may be a weak stimulus for producing financial behavior change, as financial behavior stems from deeply rooted individual characteristics that are impacted by social and psychological forces (Gudmunson and Danes 2011). Therefore, programs should not focus solely on developing financial knowledge. In order to effectively convert knowledge into responsible financial behavior, young adults also require opportunities to enhance socialization as well as develop psychological characteristics. Our findings indicate that involving parents, the indispensable socialization agents for young adults, in financial education programs will elevate the effectiveness of the programs. An online financial knowledge program for young adults could include a section for parents. In this way, programs can encourage more communication between parents and children. At the same time, parents are better equipped with the knowledge they need to offer their children formal financial guidance and to demonstrate good financial behavior that young people can imitate.

The positive influence of self-discipline and thoroughness on responsible financial behavior also confirms the importance of intervention by professionals such as financial planners and financial therapists. The primary role of financial planner is to develop a financial plan with the client
and assist them with plan implementation. Financial planner coaching can serve as an external force to assist clients to confront lack of self-discipline or thoroughness. Our study dealt with self-discipline and thoroughness in general instead of being domain-specific to financial matters. Because of this, our results also suggest that professionals assisting with young adults may be effective when they help clients address self-discipline and thoroughness in a broader sense rather than just solely within the financial domain.

In addition, given the limited budget available for financial education, all financial educational programs should be designed and implemented with best practices in mind and should target those most in need. One-fits-all programs are unlikely to successfully address financial shortfalls among many different groups. For example, women have been identified as a sub-population with low level of financial literacy and planning (e.g., Fonseca et al. 2012; Lusardi and Mitchell 2008; Schumell 1996). Simultaneously, in comparison to men, efficient financial management decisions are especially crucial to women because women share a larger burden of raising families, live longer, and typically earn less during their careers (Alcon 1999; Anthes and Most 2000; Timmermann 2000). Previous studies have recognized the importance of providing programs targeted specifically at women. However, this recognition has not extended to understanding of the unique educational approaches that may help close the gap between men and women with regard to responsible financial decision making. Our results provide some insights on this matter. Our findings by gender suggest that directly increasing the financial knowledge of young women could be a fruitful pathway, while fostering environments where young women can have high frequency, meaningful interactions with their parents may be another means to promote responsible financial decision making among females. Similarly, our results indicate that psychological barriers such as thoroughness are what men lack in financial management. Programs targeted at promoting positive financial behavior among men could focus on assisting them overcome such behavioral biases.

We would also like to highlight the limitation of this study. The three financial knowledge questions used in the NLSY97 survey mainly focus on evaluating how well respondents have grasped certain theoretical concepts. These questions may fail to capture respondents’ financial knowledge in other financial areas or their application-oriented knowledge. This is part of the larger problem of a lack of rigorous measures of financial literacy for researchers to use in their studies (see Schmeiser and Seligman 2013 for a review). As measures of financial knowledge become more rigorous, the results of studies such as ours will become more exact and useful. In
addition, the financial knowledge and behavior questions in this study are not exactly one to one match. Thus, a valuable future study would be a field experiment applying the principles outlined in this research and testing the relationship between knowledge and its corresponding financial behavior. Further, the “self-discipline” and “thoroughness” measures used in the article are self-reported by the respondents. Future studies could broaden the scope of investigated psychological characteristics and use multi-item scales with known psychometric properties. We would also like to point out that we used a broad measure of the parent–child relationship to test for the impact of parental influence on young adults’ financial behavior. It would be useful for future research to adopt an explicit measure of parental influence and investigate whether our findings persist.

Another productive avenue for future inquiry would be to explore the effects of other potential variables under each level of influence in our conceptual model. In this article, we used selected variables under “cognitive,” “social,” and “psychological” level influences to validate the proposed conceptual framework. However, determinants of financial behavior are not limited to the variables studied here. For example, “psychological level influence” may also include individual self-efficacy and self-confidence. Investigating the impacts of other potential variables can largely enrich our conceptual model. In addition, investigating the interplay between psychological factors, parental influence, financial knowledge, and gender on responsible financial decision making could be another area of possible improvement. For example, financial knowledge and parental influence may positively interact to accentuate the occurrence of responsible financial decisions. Alternatively, a mediation-based approach would be worthy of study. That is, one may investigate how “psychological” factors subsequently influence the development of “cognitive” factors. This line of study would extend and build upon the results reported in this study.

REFERENCES


