

Financial Socialization of First-year College Students: The Roles of Parents, Work, and Education

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Abstract This cross-sectional study tests a conceptual financial socialization process model, specifying four-levels that connect anticipatory socialization during adolescence to young adults' current financial learning, to their financial attitudes, and to their financial behavior. A total of 2,098 first-year college students (61.9% females) participated in the survey, representing a diverse ethnic group (32.6% minority participation: Hispanic 14.9%, Asian/Asian American 9%, Black 3.4%, Native American 1.8% and other 3.5%). Structural equation modeling indicated that parents, work, and high school financial education during adolescence predicted young adults' current financial learning, attitude and behavior, with the role played by parents substantially greater than the role played by work experience and high school financial education combined. Data also supported the proposed hierarchical financial socialization four-level model, indicating that early financial socialization is related to financial learning, which in turn is related to financial attitudes and subsequently to financial behavior. The study presents a discussion of how

the theories of consumer socialization and planned behavior were combined effectively to depict the financial development of young adults. Several practical implications are also provided for parents, educators and students.

Keywords Financial socialization · Emerging adult · Financial learning · Attitudes and behaviors · College students

Introduction

The financial habits—both positive and negative—that form during the transition to adulthood are likely to persist throughout adulthood. What is more, the financial knowledge, attitudes and behaviors acquired during this period and, subsequently, the financial independence that young adults establish, may affect their lives in profound ways, not only in the realms of financial and economic well-being, but also with regard to their ongoing relations with family, friends, and associates. The first year of college constitutes an especially important transitional stage of development within the larger transitional period because most college students are not yet financially independent but are actively learning the skills needed to be financially independent. Furthermore, they perceive this independence as key to achieving adult status (Arnett 2004).

It would seem, then, that they would be keenly discriminating when choosing how to think about money and how to manage it. Yet, while some young adults in college do learn to manage their money well, many others adopt risky behaviors, overspending their budgets, accruing excessive credit-card debt and failing to pay off debts on time. To better understand why this is so, in this study we examine several socialization processes, including those

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processes that occur during adolescence and may account for the differences in financial efficacy.

Historically, sociologists and demographers have defined a particular set of crucial events as markers on the path to adulthood: finishing school, starting a full-time job, leaving one's parental home, marrying, and becoming a parent. In the past several decades, researchers have found that the timing and sequence of these role transitions have changed, with the period from childhood into the mid-1920s being marked by much individual and cultural variability in when and how these role changes are managed (Furstenberg et al. 2005; Fussell and Furstenberg 2005; Hendry and Kloep 2007; Shanahan 2000). As a result, certain qualities of self-sufficiency, such as taking personal responsibility for one's actions and making autonomous decisions, along with becoming financially independent, may be more salient markers of adulthood (Arnett 2004; Hendry and Kloep 2007). For this reason, then, in the transition from adolescence to young adulthood, individuals must acquire the knowledge, skills, values, and attitudes needed to become self-sufficient.

Although in difficult economic times, and for disadvantaged youth, it may be especially precarious, financial independence is a particularly discernible marker of self-sufficiency, and young adults who are, even temporarily, financially independent of their family of origin are more likely to view themselves as adults than are those who are not independent (Shanahan et al. 2005). However, opportunities for financial independence are not distributed equally, and for many without adequate social or human capital, the pathways to self-sufficiency may be long and frustrating. For some, the foundation for these aspects of autonomy will be laid down during the college years, and in this study we focus specifically on the emergence of financial efficacy during the period in which college students adjust to living away from home.

Part of the pathway to financial independence requires that college students perform healthy financial behaviors. According to recent research that led to the development of the Student Financial Well-being Model (Shim et al. 2009), those college students with stronger intentions to perform positive financial behaviors and who reported higher levels of perceived control over their personal finances were more satisfied with their financial status and less likely to incur debt. This financial well-being was, in turn, positively associated with academic success, physical health, psychological health, and overall life satisfaction (Xiao et al. 2008). These results highlight the importance of understanding the socialization processes and factors linked to young adults' positive financial behaviors. Building upon the Student Financial Well-being Model (Shim et al. 2009), the current study tests a conceptual model of financial socialization with the assumption that if we can better understand the financial

development process originating from earlier socialization during adolescence, we can better explain the factors that influence students' financial and overall well-being.

First-year College Students and Transitional Financial Behaviors

The first year of college is characterized by a host of major, life-changing experiences that often overlap; in particular, students typically experience various difficulties associated with adjusting to living away from home (e.g., Tinto 1988). As Scanlon et al. (2007) showed, one set of difficulties derives from the exigency of learning to manage finances because, for the first time in their lives, many students find themselves required to manage money and to pay their own bills. Despite the pervasive role of money (including the lack thereof) in students' lives, we know little about the transitional financial behaviors of first-year students (Evans 2007). Furthermore, although we do know that parents are the primary socialization agents in the process by which children learn how to function in the marketplace as consumers and money managers (Moschis 1987; Webley and Nyhus 2006), we have not clearly defined the *specific* roles that parents play, nor have we measured the *extent* to which parents—as well as school and work during adolescence—influence a young adult's financial socialization.

A Conceptual Model of Financial Socialization Processes

We propose a financial socialization model that links anticipatory financial socialization during adolescence to young adults' financial learning, which in turn predicts their financial attitudes. Attitudes are then expected to serve as indicators of healthy financial behavior among young adults. In developing our conceptual model, we were guided by two theories: the theory of consumer socialization (Moschis 1987) and the theory of planned behavior (Ajzen 1991). The theory of consumer socialization provides a framework that delineates the financial socialization agents that influence young adults. This framework also highlights the anticipatory financial socialization via their interaction with socialization agents during adolescence, which influences learning outcomes and, subsequently, learners' attitudinal and behavioral indicators. Anticipatory socialization refers to the acquisition of skills, attitudes, or values that relate to adult roles and that may have limited relevance for children but may be called into play at their later lives (Hess and Torney 1967). Consequently, anticipatory financial socialization in this study is defined as the unconscious or conscious learning of financial knowledge, skills, attitudes and behavior that might be expressed, practiced, and/or

intentionally taught by key socialization agents such as parents, school, and work, while they were adolescents growing up at home.

We considered two financial learning modalities: observational learning and formal learning. Observational learning was measured by assessing students' willingness to adopt parental financial role modeling during their first year of college, while formal learning was measured by asking students to report their learning experienced formally at school and work. There is clear evidence that individuals learn attitudes and behaviors through the observation and imitation of those role models who come into frequent contact with them—most notably parents (Bandura 1986; Moschis and Churchill 1978). On the other hand, formal learning would induce knowledge-based cognitive learning through schooling and/or work.

The theory of planned behavior (Ajzen 1991) provides a framework for how one's behavior will be influenced by three attitudinal factors: attitude toward the behavior, subjective norms, and perceived behavioral control. In this study, we have defined healthy financial behavioral indicators as the broad set of desirable behaviors that help young adults achieve the financial, economic, and interpersonal goals that are important and relevant to them during the young-adult period. We included three behavioral indicators: quality of financial relationship with parents, financial satisfaction, and the performing of healthy financial behaviors.

Anticipatory Socialization and its Link to Financial Learning

Parents and family are important socialization agents in the process by which children learn about money and develop financial management behavior, often incidentally (by observation and participation) but also through lessons delivered intentionally by parents (Danes and Dunrud 1993; Moschis 1987; Webley and Nyhus 2006). Also, as previous studies have shown, socio-economic characteristics influence an individual's levels of financial knowledge and behavior (i.e., Lyons et al. 2007).

Outside the home, in the realm of work experience, Mortimer (2003) found that adolescents who work receive some of the greatest and most beneficial financial lessons, including a sense of responsibility and greater skill at managing money. However, the importance of paid employment during the high school years has received mixed reviews from scholars. On the one hand, it is viewed as a possible setting for anticipatory socialization into the adult world of work, while on the other it is viewed as a drain on time and energy that could be expended on school work (Greenberger and Steinberg 1986; Zimmer-Gembeck and Mortimer 2006). Nevertheless, working youth are

clearly more likely to save money and be more financially literate than non-working youth (Ersine et al. 2006; Mandell 2009). A second key non-familial source of financial socialization is high school financial education (Mandell 2009). Considering all three earlier socialization agents (parents, work, and school), we expected that both parental behavior and background, as well as the combined roles of school and work during the adolescence period, would predict young adults' observational and cognitive financial learning outcomes.

Links of Financial Learning to Financial Attitudes

It has been well established that parental influence gradually declines as adolescents grow older, and parents' relationships with adolescents change over time (Collis and Laurson 2004; De Goede et al. 2009). We contend, however, that the degree to which parental influence declines or increases depends on the task being considered. For a new task, such as one involving financial management, we believe that greater parental involvement—especially when the new task is being performed—can encourage young adults to adopt healthier attitudes and behaviors. Therefore, the students' willingness to adopt parental financial role modeling should be positively related to their financial attitudes.

An individual's financial knowledge can be expected to influence the individual's attitude (Bryant et al. 2006), and research on financial literacy (i.e., Mandell 2009) has also indicated that financial literacy leads to an improvement in financial decision-making. Shim et al. (2009) found a hierarchical relationship among financial knowledge, attitudinal components (perceived behavioral control and attitudes) and behavioral intention. Therefore, we expect that when young adults possess both objective and subjective knowledge of financial matters, they will demonstrate a greater perceived control of their behavior and a more positive attitude toward performing healthier financial behavior.

Financial Attitudes and Healthy Financial Behavior

Ajzen's theory of planned behavior (1991) provides overall guidance regarding the relations between behaviors and attitudes, subjective norms, and perceived behavioral control. Using Ajzen's theory, Shim et al. (2009) found that students' perceived behavioral control, along with attitudes and parental subjective norms, were broadly related to various aspects of financial well-being and financial behaviors. From other studies, it seems clear that one's perception and sense of control is critical to the way one behaves, regardless of actual control (Danes and Rettings 1993; Thompson 1981). Furthermore, this perceived control is likely to take into account some of the realistic constraints that may exist and is also likely to accurately

reflect available resources and opportunities (Ajzen and Madden 1986).

Linking Financial Attitude and Behaviors to Financial Relationships

Arnett (2004) argues that the emerging young adult period is a time when parents and children form a new relationship, and, too, that as the children transition into adulthood their overall relationship with their parents will change. Given the importance of developing financial independence during this transition, it would seem that financial issues could significantly influence the dynamics of this changing relationship, and in fact previous research has shown that financial issues do become more salient between parents and their college-aged offspring (Allen et al. 2007). However, they also become sources of conflict among family members in general (Picard and Fullmer 1999). Nevertheless, as Soroukou and Weissbrod (2005) reported, first-year college students (both males and females) consider their parents to be supportive, especially during more difficult periods. Since most young people are dependent upon parents for financial support during the transitional period (Schoeni and Ross 2005), we can expect a college students' positive financial attitudes to relate to a positive financial relationship between the students and their parents and also relate to the students' financial well-being as well as to healthy financial behavior. For this reason, we believe that understanding how child-parent financial relationships are forged during the first year of college is important. Yet little research has been conducted in this area.

Goals of the Present Study

By extending the Student Financial Well-being Model (Shim et al. 2009), back into college students' adolescence, we aim to develop and test a conceptual financial socialization model that will help to explain the socialization process that young adults may undergo as they acquire financial knowledge, attitude, and behaviors. Conceptually, we established a hierarchical, four-level model that originates with anticipatory socialization, leads to financial learning processes and connects to financial attitude and subsequently to financial behavioral indicators. More specifically, we hypothesize that anticipatory socialization (parent, school and work) during adolescence will predict young adults' financial learning outcomes (adopting parental role modeling and financial knowledge), which in turn will be related to their financial attitudinal indicators (parental subjective norm, perceived behavioral control, and financial attitudes). Finally, we hypothesize that young adults' financial attitudes will predict financial behavioral

indicators (financial relationships with parents, financial satisfaction behavior, and healthy financial behaviors).

Methods

Participants

A total of 2,098 first-year students who attend a major, land-grant, public university completed the survey, representing 32% of the 2007 first-year cohort. Our sample closely resembled the university cohort but contained a slightly higher percentage of females (61.9% of the sample vs. 54.3% in the first year cohort), in-state students (69.1% vs. 63%), and minority students (32.6% vs. 30.1%). Ethnic minority students consisted of: Hispanic (14.9%), Asian/Asian American/Pacific Islander (9%), Black (3.4%), Native American (1.8%), and other/missing (3.5%). The self-reported average GPA of the sample was also slightly higher than the University's reported average of the full cohort (3.12 vs. 2.79). Our sample also resembled the first-year university cohort in their living status: residential halls (69%), apartments/rental housing (18.4%), home (11%), and other (1.6%).

Procedure

Data were collected from first-year students enrolled full-time (i.e., 12 or more units) at the university over an 8-week period during spring 2008. After we received Human Subject Committee's approval, we invited the entire freshman class (approximately 6,000 students) to participate in the study and used various recruitment methods, including the university's email accounts, campus media, flyers, and class announcements. All respondents were offered a nominal incentive (e.g., \$10 to the first 1,000 respondents and \$5 to subsequent respondents) for their participation. In addition, every student who completed the survey was automatically entered into a raffle for a chance to receive a larger item (e.g., an iPod Touch). The survey questionnaire was posted online throughout the entire 8-week period of data collection. Also, during the final weeks of data collection, a pencil-and-paper survey was administered in classrooms and freshman residential halls as a means of including students who had not responded to email recruiting efforts. The majority (85.7%) of the respondents completed an online-survey, while the remaining students (14.3%) completed a pencil-and-paper version of the survey. Chi-squared analyzes, comparing the two data sources, revealed that the paper survey yielded higher percentages of males and more Hispanics, Native Americans, and students who reported lower GPAs than had the online survey.

Measures

Parent SES and Parental Financial Behaviors

We determined parental socio-economic status (SES) using the CSI (Computerized Status Index) method (Coleman 1983) and the education levels of both parents and the total household income (as reported by participants). Parental financial behavior was measured by asking the students' perceptions of their parents' financial behaviors prior to their leaving for college (Shim et al. 2009). Students were asked to indicate on a five-point scale 1 (*never*) to 5 (*always*) the extent to which they thought their parent(s) engaged in five positive financial behaviors (i.e., tracking monthly expenses, spending within the budget, paying credit card balances in full each month, saving money each month for the future, and investing for long-term financial goals). Cronbach's alpha was .88. (The same five positive financial behaviors were used as the core behavioral domains for the following measures: parental subjective norms, students' financial attitudes and behaviors.)

Parental Direct Financial Teaching

Parental direct teaching was defined as students' perception of their parents' engaging in direct teaching methods of financial management while they were growing up (Shim et al. 2009). Participants were asked to assess on a five-point scale 1 (*strongly disagree*) to 5 (*strongly agree*) the extent to which they thought their parents engaged in six direct teaching methods (e.g., discussed family financial matters with me; taught me how to use a credit card appropriately). Cronbach's alpha was .85.

High School Work Experience and High School Financial Education

To measure high school work experience, students were asked to indicate on a three-point scale 1 (*no*), 2 (*summers only*), and 3 (*summer and during school year*) whether they were employed outside of the home during high school. To assess the extent of high school financial education, students were asked to report the number of relevant courses (e.g., financial management, consumer education, economics or business courses) and seminars (seminars, workshops, or after school programs that taught financial management) they had attended. These two high-school education variables exhibited modest overlap ($\alpha = .49$) but were used as a common latent construct to represent formal financial education during high school (see Little et al. 1999, for the rationale for combining the conceptually related aspects of a construct under conditions of low internal consistency).

Adopting Parental Financial Role Modeling

Adopting parental financial role modeling was defined as students' assessment of the extent to which they presently imitate the roles modeled by their parents when managing their finances. We developed the measure based on the focus group interviews and a pilot study. Students were asked to indicate on a five-point scale 1 (*strongly disagree*) to 5 (*strongly agree*) their agreement with four statements (e.g., I make financial decisions based on what my parents have done in similar situations. When it comes to managing money, I look to my parents as my role models). Cronbach's alpha was .88.

Financial Knowledge

Students' financial knowledge was measured in terms of both subjective and objective knowledge. Subjective financial knowledge was obtained by means of a single item asking students to assess, on a five-point scale 1 (*very low*) to 5 (*very high*), their overall understanding of money management concepts. To obtain the students' objective financial knowledge, they were asked to answer 15 True/False questions selected from Hilgert et al. (2003) and relating to money management, credit, and saving. Sample questions included: If you expect to carry a balance on your credit card, the APR is the most important thing to look at when comparing credit card offers (T or F); With compound interest, you earn interest on your interest as well as on your principal (T or F). On average, students answered 8.9 questions correctly (59%). Scores on subjective (possible range of 1–5) and objective (possible range of 0–15) financial knowledge were modeled as facets of a common latent construct of financial knowledge.

Financial Attitudinal Indicators

Financial attitude To measure financial attitude, students were asked to indicate on a five-point scale 1 (*very unfavorable*) to 5 (*very favorable*) their views about performing five positive financial behaviors ranging from tracking monthly expenses to learning about money management regularly ($\alpha = .86$).

Parental subjective norms Parental subjective norms were measured using two scales that concerned parental normative expectations and motivation to comply. Students were asked to indicate on a five-point scale 1 (*strongly disagree*) to 5 (*strongly agree*) the extent to which their parents thought they should engage in each of five positive financial behaviors. Students were then asked to indicate the extent to which their own financial behaviors were influenced by their parents when it came to money matters: 1 (*not influenced at all*) to 5 (*significantly influenced*).

Using the formula for the multiplication of parental normative expectations and the students' motivation to comply (Ajzen 1991), we arrived at the total score for parental subjective norms ($\alpha = .94$). The possible total score ranged from 5 to 125, and Cronbach's alpha was .86.

Perceived behavioral control Perceived behavioral control was measured by a single item asking students to indicate on a seven-point scale 1 (*difficult*) to 7 (*easy*) how difficult or easy it was for them to stick to their plans when they were trying to manage their money.

Indicators of Healthy Financial Behavior

Financial relationship with parents By assessing the students' financial relationship with parents, we were able to examine conflict and stress in the students' relationships with their parents as it directly related to money and spending. Students were asked to indicate on a five-point scale 1 (*strongly disagree*) to 5 (*strongly agree*) the degree to which they agreed or disagreed with three items adapted from Allen et al. (2007) [e.g., I argue a lot with my parents about money matters (reversed)]. Cronbach alpha was .78.

Financial satisfaction Financial satisfaction was defined as a behavioral indicator that is demonstrated as a result of satisfaction or dissatisfaction with financial issues. This factor was measured using three items, adopted from Shim et al. (2009), asking students to indicate on a five-point scale 1 (*strongly disagree*) to 5 (*strongly agree*) the extent to which they agreed or disagreed with each statement (e.g., I am satisfied with the way I pay my bills).

Healthy financial behaviors Healthy financial behaviors included the frequency of positive financial behaviors. Students were asked to indicate how often 1 (*never*) to 5 (*very often*) they performed each of the five healthy financial behaviors (e.g., tracking, spending within the budget). After we eliminated one item (paying credit card balance in full each month) due to poor item-total correlation, the remaining four items exhibited marginal internal consistency ($\alpha = .65$). This marginal internal consistency is of less consequence in our latent variable models than it would have been had we analyzed manifest variables (Little et al. 1999).

Results

Measurement Model

To evaluate the hypothesized measurement structure, we conducted an initial Confirmatory Factor Analysis (CFA). This model fit the data well ($\chi^2(744, N = 2,098) = 6527.69$, CFI = .94, RMSEA = .065), and all hypothesized factor loadings were substantial and significant. These factor loadings are summarized in Table 1. The (latent)

Table 1 Factor loadings of indicators with latent constructs

Construct/indicator	Standardized factor loading	Scale reliability (α)
Parent SES		NA
SES	1.00 ^a	
Parent financial behaviors		.88
Track monthly expenses	.59	
Spend within the budget	.69	
Pay credit card balances in full each month	.75	
Save money each month for the future	.90	
Invest for long-term financial goals regularly	.88	
Parent direct teaching		.85
Discussed family financial matters with me	.55	
Spoke to me about the importance of saving	.72	
Taught me how to be a smart shopper	.67	
Taught me how to use a credit card appropriately	.79	
Discussed how to establish a good credit rating	.75	
Discussed how to finance my college education with me	.71	
High school work experience		NA
Employed outside of the home during high school	1.00 ^a	
High school financial education		.49
While in high school, how many courses did you take related to financial management, consumer education, economics or business courses?	.57 ^b	
During your high school years, how many seminars, workshops, or after school programs that taught financial management did you attend?	.57 ^b	
Adopting		.88
Parental financial role modeling		
I make financial decisions based on what my parent(s) have done in similar situations	.70	
When it comes to managing money, I look to my parent(s) as my role models	.87	
My parent(s) are role models for me about how to manage financial matters	.88	
My parent(s) have a positive influence on me when it comes to managing money	.80	

Table 1 continued

Construct/indicator	Standardized factor loading	Scale reliability (α)
Financial knowledge		.23
Objective	.41	
Subjective	.66	
Parental subjective norms		.94
Track monthly expenses	.87	
Spend within the budget	.90	
Pay credit card balances in full each month	.91	
Save money each month for the future	.90	
Invest for long-term financial goals regularly	.79	
Perceived behavioral control		NA
When it comes to managing my money, how easy or difficult it is for you to stick to your plans?	1.00 ^a	
Financial attitude		.86
Tracking monthly expenses	.64	
Spending within the budget	.70	
Paying credit card balances in full each month	.68	
Saving money each month for the future	.86	
Investing for long-term financial goals regularly	.81	
Financial relationship with parents		.78
My relationship with my parents is not good because of money issues	.76	
My parents do not approve of my spending patterns in general	.62	
I argue a lot with my parent(s) about money matters	.85	
Financial satisfaction		.84
I am satisfied with the way I pay my bills	.74	
I have difficulty paying for things (reversed)	.86	
I am constantly worried about money (reversed)	.79	
Healthy financial behavior		.65
Tracked monthly expenses	.52	
Spent within the budget	.58	
Saved money each month for the future	.65	
Invested for long-term financial goals	.53	

Note: Factor loadings are (completely) standardized estimates; All loadings statistically significant ($p < .01$)

^a Value fixed for use on single-indicator construct

^b Values constrained equal to aid identification

bivariate correlations among constructs are shown in Table 2. We note that correlations among predictors, both among the exogenous variables and in successive levels (i.e., mediators) of predictors, are expected, given the conceptual overlap among the relevant constructs. Although we realize that this overlap is likely due to shared reporter variance, for several reasons we do not view the correlations as problematic in the current analysis. First, our use of latent constructs ensures that we are identifying a variability that is associated with the same construct more strongly than with other constructs, and none of the latent bivariate correlations include 1.0 (In other words, there is clear evidence for discriminant validity). Second, even the most highly correlated predictors are far below the level above which collinearity is traditionally unacceptable (e.g., $r = .80-.90$). Finally, as we noted, the evidence of significant predictive paths, which capture the unique associations of predictors with the endogenous variables above and beyond other predictor variables, provides strong evidence that the non-overlapping portions of the predictor variables are uniquely predictive. Nevertheless, we do recognize the limitations of relying on single reporters.

Structural Model

To fit a Structural Equation Model (SEM) of the predictive relations among these constructs, we began with an initial model in which all anticipatory pre-college socializing experiences (parental SES, parental financial behavior, parental direct teaching, high school work experience, and high school financial education) predicted all financial learning outcomes (adopting parental financial role modeling, financial knowledge). These outcomes in turn predicted financial attitudinal outcomes (parental subjective norms, perceived behavioral control, financial attitude), which then predicted financial behavioral indicators (financial relationship with parents, financial satisfaction, healthy financial behaviors). We modified the model by (a) adding predictive paths extending beyond successive hypothesized levels (i.e., direct, rather than mediated paths; based on inspection of modification indices), and (b) removing nonsignificant paths from the models (based initially on nonsignificant parameter estimates, which were confirmed by comparing to nested models after removal).

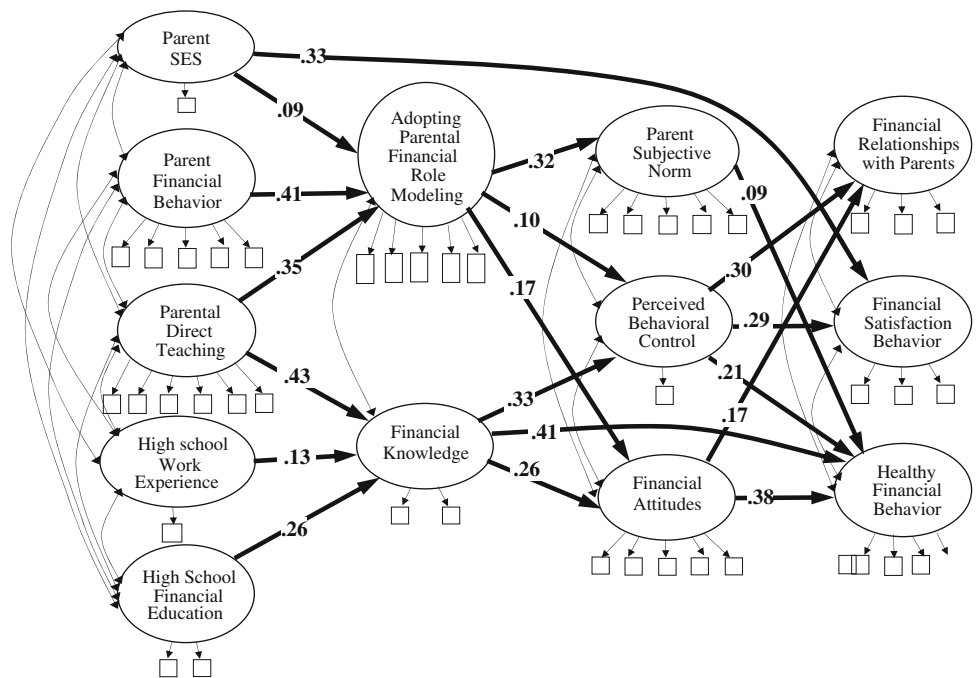
The initial, baseline model fit the data modestly well ($\chi^2(780, N = 2,098) = 7341.49$, CFI = .93, RMSEA = .067). Planned inspection of modification indices indicated two additional paths. First, parental SES directly predicted financial satisfaction. Second, financial knowledge directly predicted healthy financial behaviors. After we added these two paths (see below for conceptual justifications), an inspection of further modification indices suggested no noteworthy additions. We next removed eight

Table 2 Means, standard deviations, and intercorrelations among constructs in model

Construct	<i>M</i>	<i>SD</i>	2	3	4	5	6	7	8	9	10	11	12	13
1. Parental SES	3.26	0.92	.41	.17	−.05	−.05	.32	.03	.08	.03	.06	.04	.35	.07
2. Parental financial behavior	4.00	0.95		.54	−.04	−.02	.63	.15	.20	.13	.27	.20	.32	.34
3. Parental direct teaching	3.57	0.89			−.01	.13	.58	.36	.31	.17	.29	.14	.15	.43
4. High school work experience	2.33	0.78				.04	−.09	.13	−.01	.01	.04	−.01	−.15	.04
5. High school financial education	1.73	0.65					.06	.33	.02	−.01	.01	−.08	−.08	.13
6. Adopting parental role modeling	3.61	0.96						.14	.32	.16	.20	.31	.37	.29
7. Financial knowledge	3.32	0.60							.05	.33	.21	.15	.16	.48
8. Parental subjective norms	14.50	6.04								.04	.12	.05	.08	.18
9. Perceived behavioral control	4.50	1.52									.23	.34	.30	.44
10. Financial attitude	4.06	0.83										.24	.09	.56
11. Financial relationship with parents	1.78	0.86											.39	.26
12. Financial satisfaction behavior	3.20	1.03												.22
13. Healthy financial behaviors	3.26	0.82												

Note: All correlations significant at $p < .01$ unless italicized

Fig. 1 Structural model of the hierarchical financial socialization processes: anticipatory socialization → financial learning → financial attitude → financial behavior



nonsignificant paths from this model, basing our decisions to remove them on nonsignificant parameter estimates that were confirmed by a nested model comparison. The final model fit the data well ($\chi^2(786, N = 2,098) = 6983.97$, CFI = .94, RMSEA = .065). This model is shown in Fig. 1.

Consideration of Indirect Effects

To test indirect effects, rather than using any of several other methods, such as multiple significance testing focusing on the decrease in the direct effect (Baron and Kenny 1986), we adopted a recommendation made by MacKinnon

et al. (2002), which emphasizes the importance of focusing on the significance of the indirect effect and making assessment of mediation based on indirect effect. With the exception of the two paths described below, our model suggests that the constructs to the left of Fig. 1 predicted constructs to the right primarily through the hypothesized mediators. In other words, there is evidence of full mediation of the four-step model of financial socialization of anticipatory socialization → financial learning → attitudinal → behavioral indicators. Two of our findings are exceptions to this pattern: parental SES directly predicts financial satisfaction, and financial knowledge directly predicts healthy financial behaviors. The former is not

surprising, especially if parents in a higher SES status are more likely to provide financial resources to these students than those in a lower SES status. The second direct effect—that which concerns the ability of financial knowledge to predict healthy financial behaviors above and beyond the indirect routes through financial attitude and perceived behavioral control—is especially interesting in that it suggests that financial knowledge plays a greater role in promoting healthy financial behaviors than merely that of influencing the proximal constructs. In fact, similar results found by Shim et al. (2009) further support the direct effect of parental SES on students' financial well-being and both the direct and indirect effects of knowledge on behavior.

Parameter Estimates

Anticipatory Socializing Experiences Predicting Financial Learning Outcomes

The five pre-college anticipatory socializing constructs investigated displayed a unique pattern in predicting financial learning outcomes. Parental SES and parental financial behavior uniquely predicted a greater tendency to adopt the responsible financial behaviors (but not financial knowledge) modeled by parents. Parental direct teaching also played a unique role in predicting both a greater tendency to adopt the behaviors modeled by parents and to accept the financial knowledge they imparted. Students' high school work experience and high school financial education, in contrast, uniquely predicted a greater financial knowledge but did not predict a greater tendency to adopt the financial behaviors modeled by parents.

Financial Learning Outcomes Predicting Financial Attitudinal Outcomes

Financial learning outcomes predicted students' financial attitudinal outcomes. Specifically, adopting parental modeling uniquely predicted higher parental subjective norms, students' perceived behavioral control, and more responsible financial attitude. Financial knowledge predicted perceived behavioral control and financial attitude, but not parental subjective norms. It should be emphasized that these predictions are unique, adopting parental modeling and financial knowledge each playing a singular role in predicting financial attitudinal outcomes.

Financial Attitudinal Outcomes Predicting Financial Behavioral Indicators

Financial attitudinal outcomes in turn predicted students' financial behavioral indicators. Perceived behavioral control predicted all outcomes of interest: a more positive financial

relationship with parents, higher financial satisfaction, and healthier financial behaviors. Parental subjective norms only predicted one indicator of interest: a small positive relation to healthy financial behaviors. Financial attitude also uniquely predicted a positive financial relationship with parents and healthy financial behaviors.

Discussion

In this study we tested a hierarchical, conceptual model of financial socialization processes. The model particularly focused on the roles of parents, work and education and their connections to the financial learning, attitudes and behaviors of first year college students. Our results confirmed the proposed model and highlight processes by which adolescents and young adults may develop healthy financial behaviors.

The Hierarchical Financial Socialization Model

Our results highlight the connections between the solid learning of financial matters and young adult financial attitudes and behaviors, and for this reason they offer insight into possible routes to obtaining those learning outcomes in the socialization context. We developed, tested, and found support for a hierarchical financial socialization model of anticipatory socialization → financial learning → attitudinal → behavioral indicators. There is evidence of full mediation in the model, with constructs to the left of the model predicting constructs to the right, primarily through the hypothesized mechanisms (with the exception of two direct paths: parental socioeconomic status and financial knowledge). This finding provides insights into the findings of Webley and Nyhus (2006) and perhaps explains why in their study the relationships between parental behavior and children's financial behavior were clearly present but weak. Although the direct link might be weak, its total impact as a result of the indirect effects produced by multiple mediators is substantial, and, therefore, the importance of parents' own behaviors should *not* be downplayed at all in the financial socialization processes (more discussion to follow below).

Our data also showed that the theories of consumer socialization (Moschis 1987) and planned behavior (Ajzen 1991) combined effectively to depict young adults' financial development. For instance, all anticipatory socialization constructs predicted financial learning outcomes (both observational learning and formal learning), supporting the theory of consumer socialization. Likewise, all three of the components of the theory of planned behavior (financial attitude, perceived behavioral control, and subjective norms) were significantly related to financial behavior. It is also

important to note that different constructs played unique roles in predicting subsequent constructs in each level of the model. More specifically, each of the anticipatory socialization roles—those played by parents, work, and high school financial education—uniquely contributes to young adults' financial learning outcomes. Parental financial behavior predicted adoption of parental financial role modeling, and parental direct teaching efforts predicted both financial role modeling and financial knowledge. On the other hand, high school work experience and high school financial education predicted financial knowledge only. The model also suggests that both aspects of financial learning (adopting parental financial modeling and financial knowledge) play unique roles in predicting financial attitudes; parental financial modeling broadly predicted all aspects of financial attitudes, and financial knowledge predicted, in a more focused manner, an individual's perceived behavioral control, financial attitude and behavior. Finally, financial attitudes also predicted financial behavior, with the perceived behavioral control element predicting all behavioral indicators broadly, followed by financial attitude and parental subjective norms.

The Role of Parents, High School Work Experience and Financial Education

Our study supports the proposition that parents' behaviors, high school work experience, and high school financial education during adolescence help to shape young adults' financial learning, attitude, and behavior. One of the most compelling results, though, is the magnitude of the influence that parents can exert during young adults' financial socialization process, as compared to the influences of work experience and high school. As the only socialization indicator in the model that endures into college—remaining especially high during the first year (Soroukou and Weissbrod 2005)—the strength of such parental involvement in predicting financial attitudes and behaviors is not surprising for this cohort. Those parents who had displayed positive financial behavior and were engaged in more direct teaching during adolescence were more strongly regarded by their offspring as financial role models during the first year of college. We also found that seeing one's parents as financial role models was linked to students' complying in positive ways with parental expectations and to displaying favorable attitudes toward performing healthy financial behaviors. What is more, when parents were involved and had served as role models, young adults felt that they could control their financial behaviors better. This self-assessment was in turn critical in predicting all elements of financial behavior in the model.

We also found that the formal financial socialization gained from schooling, and the informal socialization gained by working, may enhance young adults' financial

knowledge in important ways. The more classes and financial workshops students had attended, the more that they believed they had learned from those classes and the higher the level of financial knowledge that they reported. Our study provides clear evidence that formal financial education during the high school years predicts students' financial knowledge (which encompassed both objective and subjective knowledge), a finding that should contribute to the debate in the field as to whether high school financial education makes a difference. Also, our finding that work experience contributes to students' financial knowledge supports the findings of others (Mandell 2008; Mortimer 2003). However, it is important to view this finding with the caveat that an excessive number of work hours and the amount of money available for spending may adversely affect adolescents' academic performance and may lead to premature affluence, respectively.

Notwithstanding the indication that formal high school financial education and work experience predicted students' financial knowledge, we want to emphasize that parents who intentionally teach their children about financial management may exert a greater influence on children's financial knowledge than do the lessons learned in high school and those learned in the work place combined. This finding, once again, underscores the importance of parents in the financial socialization of children at home. Clearly, if young adults receive positive lessons from their parents and observe positive parental behaviors in addition to receiving a formal financial education at school and an informal education in the workplace, they have a better chance of acquiring extensive and useful financial knowledge and confidence in their ability to make sound financial decisions.

Financial Knowledge, Perceived Behavioral Control, and Financial Attitude

As anticipated, financial knowledge played an important role in predicting financial attitudes. Financial attitudes, in turn, predicted healthy financial behaviors. This finding supports the hierarchical relationship of knowledge-attitude-behavior. However, we want to note that financial knowledge was also directly linked to financial behavior, a finding that is consistent with Shim et al.'s research (2009). Both studies clearly indicate that financial knowledge can translate into behavior directly, as well as indirectly through attitude. Our finding that financial knowledge was significantly related to perceived behavioral control indicates another important role that financial knowledge plays in the financial socialization process. It is also apparent that perceived behavioral control in turn plays a critical role in predicting broadly defined financial behavioral indicators. These findings support previous studies that emphasized the important role of perceived behavioral control or self-

efficacy in financial behavior (e.g., Ajzen and Madden 1986; Danes and Rettings 1993; Thompson 1981).

The relationships among financial knowledge, perceived behavioral control, and financial behavioral indicators deserve some attention. In our study, therefore, we focused on these relationships, first characterizing financial knowledge as encompassing both objective and subjective knowledge and then regarding the construct as a possible reason for the strong relationship existing between financial knowledge and several attitudinal and behavioral indicators. We think that objective knowledge alone (measured by right or wrong answers regarding financial matters) does not fully capture the multiple dimensions of one's financial knowledge or an individual's level of self-efficacy as it pertains to financial matters. Therefore, we also suggest a redefining of the concept of financial literacy and an acknowledgment of the multi-faceted nature of financial literacy, not just in regard to technical and objective knowledge but also, and more importantly, in regard to self-efficacy and self-confidence. In fact, just as Kotter (2003) found that behaviors are shaped by emotions, so, too, did our findings support the idea that financial attitudes and behaviors are more strongly influenced by an individual's self-assessment than by objective knowledge of the facts.

Financial Relationships with Parents

Given the salient role played by financial issues between parents and college-aged offspring (Allen et al. 2007), we included parent-child *financial* relationships in our model (as one of the financial behavioral indicators). Our finding that both financial attitude and perceived behavioral control were significantly related to young adults' financial relationships with parents is an important one in that positive parent-child relationships are critical to college students' academic, physical, and psychological well-being (Shim et al. 2009) and adjustment to the university environment (Wintre and Yaffe 2000). To the extent that money enters into the affective nature of the parent-child relationship, the conflict tapped into by our construct merits further attention. Perhaps positive parent-child financial relational processes are a protective factor, providing an opportunity for parents to build or maintain positive relationships with their child during the transition into young adulthood. In times of financial crisis, with many needs competing for reduced family resources, we should also keep in mind the probability that conflicts related to financial matters will increase.

Limitations of the Study and Future Directions

Although we believe that this study makes a notable contribution to our understanding of financial development, we

should note several limitations. First, for all constructs, we relied exclusively on students' own reports, so the associations we have found might be in part due to a shared-reporter variance. For this reason, future research in this area should use multiple informants. A dyadic or triadic study, for example, one involving both students and their parents, would likely provide insights into the process by which parents develop and/or cope with skill sets that deal with financial issues during their children's transitional period. By involving parents, one could also consider how the perceptions of parents may differ from their young adult children in what the determinants of adulthood are. Future studies should also include to what extent college students adopt role modeling learned from friends, since they come in to frequent contact with friends more than parents.

Second, although we have evaluated—and found support for—a complex predictive model, we should remember that this model was evaluated using concurrent data. Therefore, when interpreting our presumed predictive relations, caution is warranted, taking into consideration the fact that alternative causal pathways are equally plausible. All of the presumed predictors may interact to predict financial outcomes, but determining whether this is so was beyond the scope of the current study, and we would not have been able to evaluate these interactions within our already complex model. Consequently, we recommend that future studies use a simplified model to examine interaction effects. Future longitudinal research is also needed in order to establish temporal primacy among these constructs as a means of better understanding their relations across time. Furthermore, given the preliminary findings regarding parent-child financial relationships, further research is needed to better understand this specific relationship's impact on the overall relationship domain and its long-term effects.

We also encourage caution when generalizing our results beyond college students. It is very likely that the social and psychological capital available to our participants exceeds that available to youth who do not attend university. For example, having supportive parents, and perhaps also greater family wealth, is likely to both predict college enrollment and shape one's experiences of money management and budgeting. Clearly, future research should examine these processes as they occur in the large number of youth who do not attend college.

Implications and Conclusions

In a culture that demands individual responsibility and self-sufficiency, financial literacy is an essential component of a successful adult life. There is little doubt that learning how to manage personal finances, and especially how to use the

credit system, plays a central role in shaping not only attitudes about financial management practices but also attitudes about life in general. Likewise, the behaviors associated with money management carry over into other realms. It is therefore crucial that young adults begin to learn about finance during adolescence in order to have the best possible chance for a successful transition to adulthood. Knowledge on its own is not enough, however. Clearly, this success requires a set of healthy and positive attitudes, a supportive social network made up of people who expect responsible financial behavior (e.g., parents) and the confidence to use one's knowledge to make smart choices. Our research findings suggest that, in order to help adolescents and young adults achieve this success, parents, schools and entrepreneurs should form partnerships dedicated to teaching sound financial practices.

Based on our findings regarding the key role that parents play, we also believe that parents should be informed about the lessons that their own financial behaviors impart and also about the importance of direct teaching. If parents had a better understanding of how financial literacy can contribute to their children's success later in life, they might be more inclined to demonstrate positive financial behaviors and provide or encourage financial education at home. In contrast to other life-skills, financial management is generally embedded in every facet of life and is clearly necessary to planning for the future, including for one's college education.

We should also find ways to help more parents understand how to involve their children in the family's financial decision making and thereby teach them how to make good decisions on their own. When parents help their children to make personal financial decisions in an open and communicative environment, then a positive relationship can be built (Shulman et al. 2005). Then, too, financial topics could serve both a utilitarian purpose (e.g., learning about a task that is developmentally relevant) and an interpersonal purpose (e.g., an opportunity for parents to develop positive relationships with their children). We also think that high school financial literacy programs must teach not only the terms and techniques of financial management but also ways to enhance self-efficacy and methods for the wise and even virtuous use of financial resources. Financial education courses should include instruction in career planning and should make clear to students that the attitudes and practices they learn about in the classroom carry over into other aspects of life and can thus help in planning one's education and in managing one's interpersonal relationships. These courses might also include lessons that demonstrate how financial decisions and their outcomes permeate other aspects of life and determine the success or failure of interpersonal relationships, education plans, and careers. Finally, we also recommend that adolescents be

encouraged to engage in a limited amount of paid work (e.g., summer jobs) in order to benefit from the positive financial lessons that working can provide. However, the potentially negative effects that can result from working too much should be emphasized. Parents should limit the number of hours that teens are allowed to work.

In conclusion, we highlight the central role of the family in young adult financial socialization. Acquiring responsible financial behavior is a key developmental task, one that must be accomplished along the path to adult self-sufficiency, and parents are central in that process. Much previous research has noted the role of family economic background in the successful launching of young adults. However, little is known about the relational aspects in the socialization of financial self-sufficiency during adolescence and the transition to adulthood. Our results indicate that parents can be both direct teachers and useful role models in the financial development of their children. From adolescence and through the transition to adulthood, parents' ongoing enactment of these roles lays the foundation for sound young adult financial attitudes and behavior. Given the importance of financial well-being to many indicators of college student success (Shim et al. 2009), such parental investment in the financial skills and knowledge of their adolescents may pay substantial dividends in terms of youth health, adjustment, and academic success.

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