

# Financial Information Source, Knowledge, and Practices of College Students from Diverse Backgrounds

Yoko Mimura<sup>1</sup>, Joan Koonce<sup>2</sup>, Scott W. Plunkett<sup>3</sup>, Lindsey Pleskus<sup>4</sup>

*Using cross-sectional data, we examined the financial information sources, financial knowledge, and financial practices of young adults, many of whom are first generation college students, ethnic minorities, and immigrants or children of immigrants. Participants (n = 1,249) were undergraduate students at a large regional comprehensive university. The general linear model results suggested personal financial information obtained from parents was positively associated with levels of financial knowledge and financial practices, and information obtained from other family members and college courses was positively associated with better financial practices. The findings suggest that parents and college personal finance courses may serve as positive inputs for financial socialization among young adults regardless of their demographic backgrounds.*

*Keywords: college students, financial information, financial knowledge, financial practices*

U.S. consumers live in an increasingly complex market that places greater financial responsibility on them. Further, the U.S. personal savings rate (i.e., the difference between disposable income and total expenditures) in December 2013 was around 4% (U.S. Department of Commerce, 2014). This figure is significantly lower than the rates recommended by some financial counseling and planning professionals, which is at least 10% for general households and two to three times more for parents who want to save for their children's education (Dalton, Gillice, Dalton, & Langdon, 2013). Some individuals and families are barely getting by and unable to save for the future. This, as well as the complexity of navigating the financial marketplace in the United States, puts individuals at risk financially. The ethnic background of U.S. consumers is also increasingly complex due to the recent influx of immigrants from various regions of the world. In 2010, 12.9% of the U.S. population was foreign born (U.S. Census Bureau, 2012), an increase from 7.9% in 1990 and 11.1% in 2000 (U.S. Census Bureau, 2003), and over half of the foreign-born population came from Latin America (U.S. Census Bureau, 2012).

The purpose of this study was to examine the associations among family background, financial information sources, financial knowledge, and financial practices of college students in Southern California, many of whom are first

generation college students, ethnic minorities, and immigrants or children of immigrants. In particular, we assessed if parents are still the most significant source of financial information that explains the variations in financial knowledge and financial practices among young adults whose parents do not have college degrees, are ethnic minorities, and immigrants or children of immigrants.

College years are critical for young adults to develop financial capability because they are in transition from financial dependence to independence (Arnett, 2011). These young adults have depended on their parents for financial support and to make financial decisions throughout their lives. During their college years, many are beginning to make financial decisions on their own for the first time. Becoming financially capable in college will benefit these young adults tremendously as they transition from college and become financially responsible for themselves and their families in the future. There are limited studies on the topic that focus on young adults who are first generation college students, ethnic minorities, and immigrants or children of immigrants. Given that the younger population needs to be more prepared for the future than past generations and that individual and family economic well-being affects that of the society, it is important to study these associations among consumers with diverse backgrounds.

<sup>1</sup>Department of Family and Consumer Sciences, California State University Northridge, 18111 Nordhoff Street, Northridge, California 91330-8308, 818.677.7859, [yoko.mimura@csun.edu](mailto:yoko.mimura@csun.edu)

<sup>2</sup>Department of Financial Planning, Housing and Consumer Economics, College of Family and Consumer Sciences, University of Georgia, 305 Sanford Drive, Athens, Georgia 30602, 706.542.4865, [jkoonce@uga.edu](mailto:jkoonce@uga.edu)

<sup>3</sup>Psychology Department, California State University Northridge, 18111 Nordhoff Street, Northridge, California 91330-8255, 818.677.7480, [scott.plunkett@csun.edu](mailto:scott.plunkett@csun.edu)

<sup>4</sup>Psychology Department, California State University Northridge, 18111 Nordhoff Street, Northridge, California 91330-8255, [lindsay.pleskus.49@my.csun.edu](mailto:lindsay.pleskus.49@my.csun.edu)

Some researchers use the terms financial literacy and financial knowledge interchangeably, although the exact definition may differ (Huston, 2010). In this paper, we use the term financial knowledge and define it as the stock of information an individual possesses through education and experience that can be the basis of application in real settings (Huston, 2010). Koonce, Mimura, Mauldin, Rupured, and Jordan (2008) examined racial differences in financial information sources, financial knowledge, and financial practices among primarily African American and White adolescents in the Southeastern U.S. Their findings included the relative significance of the Internet and media as sources of information for non-White respondents. There are limited studies that examine college students of ethnic minority populations as separate groups beyond the classification of “non-White.” The unique contribution of this study compared to the study by Koonce et al. (2008) is the utilization of the financial knowledge measure by Lusardi, Mitchell, and Curto (2010) in a new setting with an emerging adult population.

### **Theoretical Framework**

The family resource management model (Deacon & Firebaugh, 1988) provides an underlying theoretical framework for this study. The lower part of Figure 1 shows the outline of the model. Informed by the general systems theory, in this framework is a system that has two components, personal and managerial subsystems. These subsystems belong to the throughput. Individuals and families receive input, such as the availability of a savings account with a higher interest rate or lower monthly charges for a multi-user smartphone account, from outside the family system. They may receive information regarding personal finance from outside sources, such as their high school and college classes, the media, or banks, or they may already have financial information available within the family unit. They, then, process such information, which through the form of throughput generates output in the form of financial practices. The consequences of the practices come back to the family as input through the feedback process.

Figure 1 shows a conceptual model of financial information sources, financial knowledge, and financial practices among young adults from varying backgrounds in terms of parental educational attainment, ethnicity, and immigration status. This model parallels the family resource management model by having financial information sources, parental education, ethnic background, and immigration status as inputs that are given to individuals. Financial knowledge is a part of the throughput and is within the personal subsystem that can

provide individuals with financial practice capacities. The actual observable financial practices are the output based on the personal and managerial subsystems that directly affect the input through the feedback loop. We hypothesized that the background factors and financial information sources explain the variations in financial knowledge, which explain the variations in financial practices among young adults.

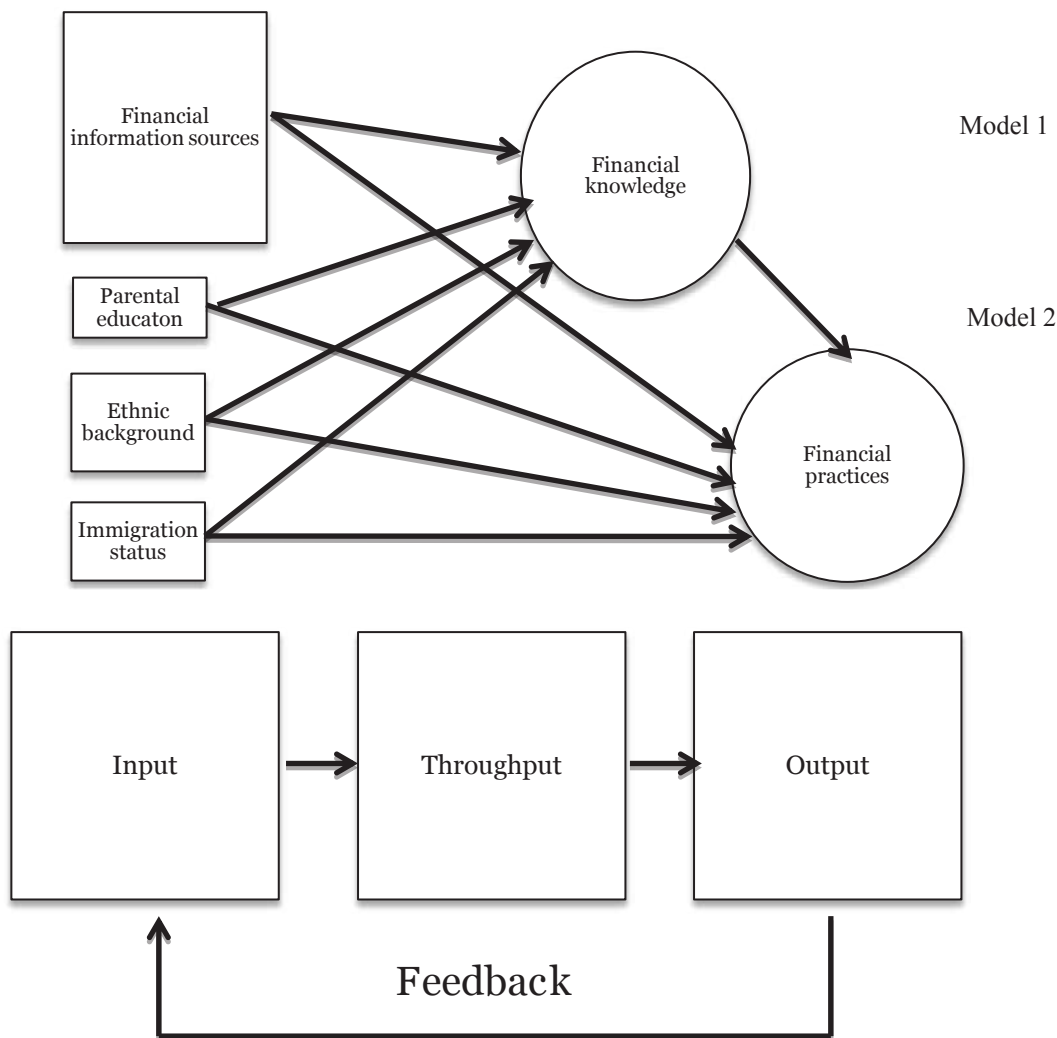
### **Literature Review**

The four major areas of this study are financial information sources, financial knowledge, financial practices, and family background. This section first provides a review of the literature on the association between the main explanatory factor of financial information sources and the mediating factor of financial knowledge. Next, existing studies on the association between family background and financial knowledge are discussed, followed by a review of studies on the association between family background and financial practices. The order follows the conceptual model described above.

#### ***Financial Information Sources***

Financial information sources among young adults predict (or relate to) financial knowledge and financial practices. Parents (Hira, 1997; Kim, Chatterjee, & Kim, 2012; Koonce et al., 2008; Schuchardt et al., 2009; Shim, Xiao, Barber, & Lyons, 2009) and personal finance courses (Koonce et al., 2008; Peng, Bartholomae, Fox, & Cravener, 2007; Robb & James, 2009; Shim et al., 2009), in particular, have positive impacts. The theory of planned behavior (Aizen, 1991) explains perceived “norms” individuals develop from those around them (e.g., parents and close friends), which establish expected levels of attitudes and behaviors. The significance of parental role and family environment for socializing children in the area of personal finance has been well documented (Schuchardt et al., 2009; Shim et al., 2009) and confirms this theory. Hira (1997) also noted the significance of fathers in shaping financial beliefs and values, while Kim et al. (2012) noted the significance of closeness to and communication with mothers to carrying credit card debt. Among first year college students (32.6% minority), parental influence explained financial knowledge, attitudes, and behaviors more decisively than other background information (Shim et al., 2010). The self-reported amount of personal financial information that youth in the Southeast learned from their parents, for instance, was positively associated with the likelihood that they had financial goals and were saving, regardless of race or ethnicity (Koonce et al., 2008).

**Figure 1. Conceptual models based on the family resource management model (from Deacon & Firebaugh, 1988)**



While the findings are mixed regarding the impact of high school personal finance courses on financial knowledge, ranging from not being effective (Mandell & Klein, 2009; Peng, Bartholomae, Fox, & Cravener, 2007) to being effective (Walstad, Rebeck, & MacDonald, 2010), and in between depending on the setting (Tennyson & Nguyen, 2001), a number of studies identified an association between having taken a college personal finance course and scoring higher on financial knowledge items (Danes & Haberman, 2007; Peng et al., 2007; Robb & James, 2009; Shim et al., 2009). Individuals who took personal finance courses in college had better financial knowledge (Shim et al., 2009), investment knowledge (Peng et al., 2007), and general personal finance knowledge (Robb & James, 2009) than those who did not. Personal finance courses specifically had a more positive impact on female than male teenagers (Danes & Haberman, 2007).

For high school students, formal education had varying impacts on individuals from different backgrounds. For example, African Americans reported learning more from educators than did their White counterparts (Koonce et al., 2008). A survey of community college students found that, although they mostly rely on their parents for financial information, they prefer learning more on campus from financial aid counselors, expert speakers, and professors (Lyons & Hunt, 2003). Parents and college personal finance courses, therefore, affect the financial knowledge of young adults from varying backgrounds.

***Family Background and Financial Knowledge***

Family backgrounds of young adults also relate to financial knowledge. It may be assumed that the higher their parental educational attainment, the higher the financial knowledge will be among young adults. First generation female college students scored low on the JumpStart financial knowledge test (Eitel & Martin, 2009). College students at a predominantly

Black institution whose parents had more than a high school education scored higher on the test, which was based on the financial literacy module offered as part of a management course at the institution, than those whose parents only had a high school education (Murphy, 2005).

Racial and ethnic backgrounds may explain variations in financial knowledge levels, since what we measure as literate in the financial domain specifically reflects dominant social values. Existing studies tend to have participants who are primarily racial and ethnic majorities (Joo, Grable, & Bagwell, 2003; Peng et al., 2007). In other available studies, being of the Caucasian race was positively associated with higher financial literacy (Eitel & Martin, 2009), and being a non-minority was positively associated with better financial knowledge (Robb & James, 2009). While one study included a substantial proportion of racial and ethnic minority college students with about 15% of the total respondents being Hispanic, the focus of the study was not to examine varying impacts that these background characteristics have on financial outcome variables (Shim, Barber, Card, Xiao, & Serido, 2010).

Immigrants and children of immigrants may have less knowledge about the U.S. financial system than non-immigrants. Childhood and current financial experiences explained variations in financial knowledge, measured by investment knowledge (Peng et al., 2007). Without prior experience, knowledge of a particular subject and the ability to apply such knowledge may be lacking. A study of community financial literacy educators who serve adults identified that these educators understood that financial literacy education requires an understanding of the cultural contexts of their students (Tisdell, Taylor, & Forté, 2013).

In sum, variations in family backgrounds, such as being a first generation college student, race and ethnicity, and immigration status, explain variations in financial knowledge. The difference in financial knowledge is then expected to relate to the differences in financial choices young adults make as shown. Financial knowledge or knowledge levels undoubtedly explain the variations in financial practices in previous studies with young adults (e.g., Perry & Morris, 2005; Robb & James, 2009; Robb & Woodyard, 2011).

### ***Family Background and Financial Practices***

Family background, such as home environment while growing up, being first generation college students, and immigrant status, also explains variations in financial practices.

Nationally representative young adults who grew up in a home environment that fostered financial socialization, for instance, were more likely to have had more positive financial practices than their counterparts (Kim & Chatterjee, 2013).

Regarding demographic factors, college students who were first generation college students were more likely to carry credit card balances and have higher balances if they carried a balance than those whose parents had bachelor's degrees (Robb & Sharpe, 2009). Studies have identified racial and ethnic differences in financial practices. Compared to non-Hispanic White counterparts, the following groups displayed worse practices: African American adults (Robb & Woodyard, 2011) and African American college students (Gutter, Copur, & Blanco, 2013; Lyons, 2004), Hispanic adults (Robb & Woodyard, 2011), and non-White college students (Gutter, Garrison, & Copur, 2010). Among Hmong immigrant families, second generation young adults spent more than their first generation immigrant parents who tended to save more (Solheim & Yang, 2010). Because older immigrants were more likely to be risk averse in relation to finances than their native-born White counterparts (Fang, Hanna, & Chatterjee, 2013), there may be differences in their financial practices. Gender is another factor that may relate to financial practices. Male college students participating in one study showed better financial wellbeing (Gutter & Copur, 2011) and, in another study, higher financial independence (Xiao, Chatterjee, & Kim, 2014) than female students when controlling other background variables. In sum, information sources and family backgrounds relate to level of financial knowledge and literacy.

Financial knowledge, in turn, relates to financial practices (Robb & Woodyard, 2011; Xiao, Ahn, Serido, & Shim, 2014). Consequently, having lower financial knowledge was linked to higher odds of engaging in risky financial practices among college students (Robb, 2011; Xiao et al., 2014), and college students with better financial knowledge were more likely to maintain credit card balances (Robb & Sharpe, 2009) and overall debt balances (Archuleta, Dale, & Spann, 2014) than those with lower knowledge. Financial information sources, family backgrounds, and financial knowledge combined to explain variations in financial practices among young adults. The purpose of this cross-sectional survey research was to examine the financial information sources, financial knowledge, and financial practices among young adults, many of whom are first generation college students, ethnic minorities, and immigrants or children of immigrants. Our research hypotheses are as follows:

- H1: Financial information obtained from parents is positively associated with financial knowledge, controlling for financial information obtained from other sources and family background.
- H2: Financial information obtained from college personal finance courses is positively associated with financial knowledge, controlling for financial information obtained from other sources and family background.
- H3: Financial knowledge is positively associated with financial practices, controlling for financial information sources and family background.
- H4: Financial information obtained from parents is positively associated with financial practices, controlling for financial knowledge, financial information obtained from other sources, and family background.
- H5: Financial information obtained from college personal finance courses is positively associated with financial practices, controlling for financial knowledge, financial information obtained from other sources, and family background.

## Method

The first aim of this study was to test how financial information sources and family background explain variations in financial knowledge among young adults. The second aim was to test how financial knowledge, along with financial information sources and family background, explains variations in financial practices. More specifically, family background refers to parental educational attainment, ethnicity, and immigration status. We describe these associations based on cross-sectional data collected through a survey.

## Research Setting and Data

The research setting was a large regional comprehensive university in Southern California. The study participants were undergraduate students enrolled in either a freshmen level psychology course or a junior level family and consumer sciences course during the fall 2013 semester. Both courses were general education courses, attracting students from different departments and majors across campus. Multiple instructors teach multiple sections of these courses, allowing us to reach a large number of students. Participants were at least 18 years old when they filled out the survey. We excluded graduate students from the analyses.

Students enrolled in the psychology course participated in research studies as part of their course requirements. They had a variety of studies to choose from, or they could do an

alternative assignment. For this study, the students in the psychology course completed an online survey. Students enrolled in the family and consumer sciences course, where the section instructors had agreed to assist, were asked to participate using a pencil and paper format survey during class time. The survey and the procedure had been approved by the IRB. All answers were confidential, and no identifying information was kept in the data. Of the 1,373 questionnaires completed, 1,249 were usable for this study. Some unusable cases included respondents that were graduate students and other students who did not provide responses to the financial questions.

## Measures

Financial information sources (Koonce et al., 2008) were the main explanatory variables in this study. The respondents rated “How much have you learned about savings and investing from each of the following sources?” The eight sources included were: parents or guardians; other family members; friends; high school courses or instructors; college courses or instructors; other educators; media (e.g., TV, radio, magazine, newspaper, or books); and the Internet. The response choices included 1 = *none*, 2 = *a little*, 3 = *some*, 4 = *a good amount*, and 5 = *a lot*.

Multiple survey items captured the ranges of financial knowledge and financial practices. Financial knowledge was measured through three financial literacy questions that have been used in the 2004 Health and Retirement Survey (Lusardi & Mitchell, 2006, 2008), Wave 11 of the National Longitudinal Survey of Youth, as well as other surveys in the United States and abroad (Lusardi et al., 2010). The three questions follow: (1) “Suppose you had \$100 in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you left the money to grow?”, (2) “Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?” and (3) “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” (Lusardi et al., 2010, p. 361). The first two questions of the three questions are multiple-choice with three choices, and the last item is a true-false question. The items were scored as correct (1) or incorrect (0) and then averaged, which essentially creates a percent of items answered correctly (0.00-1.00). In the current sample, the values ranged from 0.33 to 1.00 ( $M = .68$ ,  $SD = 0.28$ ). Studies have shown the three

items have good validity, since they can distinguish between groups who theoretically should differ on financial knowledge: (1) *sophisticated* participants scored higher than *naïve* participants, (2) more educated participants scored higher than less educated participants, (3) participants with more educated mothers scored higher than those with less educated mothers, (4) participants with higher cognitive abilities scored higher than those with lower cognitive abilities, and (5) participants with parents who engaged in more financial practices scored higher than those with parents who engaged in fewer financial practices (Lusardi et al., 2010).

Financial practices were measured through a set of six questions on money management habits, presence of financial accounts, and anticipation about savings in the future (Koonce et al., 2008). These items included: setting up a budget (spending plan), keeping up with where you spend your money, setting financial goals, setting intermediate-term financial goals that take longer than a year but less than 10 years, saving any or all of your earnings, and saving any or all of the financial support received from your parents or guardians. The respondents rated each item as follows: 1 = *never*, 2 = *sometimes*, 3 = *usually*, or 4 = *always*. The responses were averaged to create a financial practices variable, ranging from 1 to 4. In the current data, the values ranged from 1-4 ( $M = 2.39$ ,  $SD = .75$ ). These practices are a subset of financial practices that have been used extensively in previous research to measure financial behavior. The Cronbach's alpha was .86.

The other explanatory variables were background characteristics such as parental educational attainment, ethnicity, and immigration status. Parental educational attainment was measured by a dichotomous variable, first generation college student (vs. not). A first generation college student was defined as neither of the student's parents received a bachelor's degree. Regarding ethnicity, the participants shared their racial and ethnic identities using an open-ended format and provided a wide range of identities. These were coded into six categories after examining the distribution: African American, Asian, European, Hispanic of any race, Middle Eastern, and other. The immigration status variable included three categories: immigrant (1st generation), native-born with one or two immigrant parents (2nd generation), and native-born to native-born parents (3rd generation and up).

Finally, covariates were gender and survey formats (online vs. pencil and paper). The latter incidentally correlated with the course subject. Students who took the survey online were

enrolled in a lower division, general education psychology class, and students who took the pencil and paper format of the survey were enrolled in an upper division, general education family and consumer sciences class. Therefore, any difference in the survey format may be due to the format, environment, or the kind of students who chose to enroll in one or the other courses to fulfill a portion of the general education credit requirement.

### **Sample Characteristics**

Data were analyzed from 1,249 participants (25.1% men, 74.9% women). The age ranged from 18-29 ( $M = 19.6$ ). Almost half (47.5%) of the participants were freshmen in college. Most (65.7%) lived with their parent(s), with 68.6% coming from two-parent, intact families. The self-reported ethnicity was as follows: 4.8% African American, 11.0% Asian American, 10.7% European American, 51.4% Hispanic, 7.4% Middle Eastern, and 14.7% other (e.g., mixed ethnicity, Native American, Armenian). The sample was comprised of 15.8% first generation (participants and parents foreign born), 59.9% second generation (participant U.S. born, parents foreign born), and 24.0% third generation (i.e., participant and parents were born in the United States). Most (67.8%) of the participants were first generation college students, and the self-reported socioeconomic status of their families was as follows: 1.4% very poor, 8.2% poor, 36.0% lower middle-class, 40.8% middle-class, 12.7% upper middle-class, .6% upper-class/rich, and .3% missing.

### **Analytical Methods**

Two general linear regression models with categorical explanatory variables assessed the conceptual model. In particular, we used SAS's GLM statement that employs least square methods to fit the models (SAS Institute, 1999). Model 1 examined the associations between financial information sources and family background variables and financial knowledge levels. Model 2 had financial practices as the response variable, and financial knowledge, financial information sources, and the three family background variables as the explanatory variables.

**Financial knowledge** $_i = \beta_0 + \beta_1$ Information from parents $_i + \beta_2$ Information from other family members $_i + \beta_3$ Information from friends $_i + \beta_4$ Information from high school teacher or courses $_i + \beta_5$ Information from college professor or courses $_i + \beta_6$ Information from TV, etc. $_i + \beta_7$ Information from internet $_i + \beta_8$ Being first generation college student $_i + \beta_9$ Ethnic origin $_i + \beta_{10}$ Immigration status $_i$

$$\begin{aligned} & \text{Financial practices}_i = \beta_0 + \beta_1 \text{Financial knowledge} \\ & + \beta_2 \text{Information from parents}_i + \beta_3 \text{Information from other} \\ & \text{family members}_i + \beta_4 \text{Information from friends}_i + \beta_5 \text{Information} \\ & \text{from high school teacher or courses}_i + \beta_6 \text{Information from} \\ & \text{college professor or courses}_i + \beta_7 \text{Information from TV, etc}_i \\ & + \beta_8 \text{Information from internet}_i + \beta_9 \text{Being first generation} \\ & \text{college student}_i + \beta_{10} \text{Ethnic origin}_i + \beta_{11} \text{Immigration status}_i \end{aligned}$$

## Results

### Pairwise Correlations

Table 1 describes the correlations between the main financial items: financial information sources, financial knowledge, and financial practices. Almost all the variables were significantly and positively correlated with each other, with the exception of the correlations between financial knowledge and information sources, as well as the correlation between financial knowledge and financial practices. Only the degree to which the respondents reported they received information from their parents was positively correlated with financial knowledge. Regarding the main explanatory variables of various financial information sources, “other educators” appeared unsuitable for analysis, and thus, we excluded this variable from further analyses. We asked the respondents to list educators other than

high school teachers and college instructors; however, the answers given by the respondents varied from “on my own” to the “bank,” while no one actually denoted “other educators” as we had anticipated.

### Financial Information Source by Participant Characteristics

Table 2 shows the sample characteristics based on financial information sources used. The amount of financial information obtained from parents and friends was lower and that from college professors or counselors was higher among first generation college students than those who had at least one parent who graduated from college.

As a group, Hispanic respondents reported having obtained the least amount of financial information from their parents and the media and obtained more information from college professors or courses than other racial and ethnic groups. For the purpose of further analysis, we merged African Americans with the “Other” group in order for them to be included in the results, since the number of African American respondents ( $n = 60$ ) alone was not sufficient to perform multivariate analysis. Second, the ranking order for five of the information sources, where we observed racial and ethnic variations in the self-

**Table 1. Pairwise Correlations among Financial Information Sources, Means, and Standard Deviations**

Variables	1	2	3	4	5	6	7	8	9	10
1. Parents or guardians	1									
2. Other family members	.47***	1								
3. Friends	.27***	.40***	1							
4. High school teacher/ courses	.19***	.23***	.37***	1						
5. College professor/courses	.13***	.29***	.38***	.54***	1					
6. Other educator (specify)	.11***	.26***	.42***	.47***	.63***	1				
7. TV, radio, magazine, news- paper, or books	.11***	.22***	.39***	.34***	.41***	.42***	1			
8. Internet, including social networking sites	.09**	.25***	.45***	.31***	.42***	.40***	.75***	1		
9. Financial knowledge	.07*	-0.01	-0.05	0.01	-0.05	-0.04	0.02	0	1	
10. Financial practices	.29***	.28***	.16***	.17***	.23***	.20***	.15***	.15***	0.05	1
Mean	3.71	2.76	2.31	2.52	2.24	1.96	2.12	2.15	0.71	2.34
(SD)	1.20	1.33	1.06	1.19	1.20	1.16	1.10	1.13	0.25	0.75

*Note:* Variables 1 through 8 include the responses to “How much have you learned about savings and investing from each source?” where the answers ranged between 1 = None and 5 = A lot. Variable 9, financial literacy, is based on the percentages of three questions answered correctly. Variable 10, financial practices, is based on the number of preferred current financial practices the respondents selected.

We excluded Item 6 from further analyses. The respondents predominantly listed financial information sources rather than educators, such as bank or “learned myself.”

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 2. Rank Order of Each Financial Information Source by Participant Characteristics (N = 1249)**

	Sample %	Information Sources						
		Parents or Guardians	Other Family Members	Friends	High school teacher/courses	College professor/courses	TV, radio, magazine, newspaper, or books	Internet
First generation college student		***	-	*	-	**	-	-
Yes	67.80%	2		2		1		
No	31.81%	1		1		2		
Racial/Ethnic origin		*	-	**	-	**	*	**
African	4.81%	5		6		2	1	2
Asian	11.02%	4		2		3	5	5
European	10.71%	1		5		6	3	4
Hispanic of any race	51.44%	6		4		1	6	6
Middle Eastern	7.37%	2		1		5	2	1
Other	14.66%	3		3		4	4	3
Immigration status		***	-	**	-	-	***	***
1st generation	15.75%	3		3			1	1
2nd generation	59.89%	2		2			3	3
3rd generation	23.97%	1		1			2	2
<u>Other participant characteristics</u>								
Sex		-	-	-	-	*	*	***
Men	25.14%					1	1	1
Women	74.86%					2	2	2
Survey format		-	-	-	***	-	-	-
Online	82.78%				1			
Pencil and paper	17.22%				2			

*Note:* The numbers in the total sample column are column percentages. Because individual scales of information sources have no intuitive meanings, the row for each information source shows whether the scale values are statistically significantly different based on participant characteristics. When there is a group difference, the rank order, where 1 indicates the highest, is shown, based on the bi-variate general linear model (ANOVA for unequal cell sizes) results.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

reported amount of information obtained in the descriptive statistics, were relatively smaller between these two groups, eliminating the problem of combining the two groups that ranked at both extremes as shown in Lee and Hanna (2012). Immigration generation statuses showed differences in financial information obtained from sources such as parents, friends, and media. Specifically, 3rd generation participants (i.e., participant and parents were born in the United States) were more likely to obtain financial information from their parents and friends than 1st generation (foreign born) and 2nd generation (born to immigrant parents) participants. Conversely, 1st generation participants were more likely than

other groups to acquire financial information from media sources and the Internet.

Men reported having obtained more financial information from college professors and courses and media than women. Around 83% of the participants took the survey online, while the remaining 17% took it using a pencil-and-paper format. The young adults who participated in the study online reported having obtained more information from high school teachers or courses than those who participated in the study through pencil-and-paper format.



**Table 3. Distributions of Participants' Financial Knowledge, Practices, and Statuses (n = 1,249)**

Variables	Sample Distribution	Variables	Sample Distribution
<u>Variables included in the models</u>		Sometimes	25.24%
Financial knowledge items answered correctly:		Usually	16.29%
Interest rate	78.70%	Always	9.68%
Inflation	60.00%	Save any or all earnings	
Investment	73.22%	Never	19.42%
<u>Financial practices (frequency of the following practices):</u>		Sometimes	35.63%
Set up a budget (spending plan)		Usually	27.05%
Never	19.81%	Always	17.90%
Sometimes	40.10%	Save any or all of the financial support received from parents or guardians	
Usually	25.18%	Never	19.57%
Always	14.92%	Sometimes	37.52%
Keep up with where money is spent		Usually	27.62%
Never	10.49%	Always	15.30%
Sometimes	29.51%	<u>Other participant characteristics</u>	
Usually	34.23%	Description of family wealth	
Always	25.77%	Very poor	1.12%
Set financial goals		Poor	8.67%
Never	17.99%	Lower middle class	35.42%
Sometimes	32.74%	Middle class	41.12%
Usually	27.63%	Upper middle class	13.01%
Always	21.64%	Upper class/rich	0.64%
Set intermediate-term financial goals that take longer than a year but < 10 years		Have a checking account (vs. not)	91.14%
Never	48.79%	Have a savings account (vs. not)	77.42%

*Note.* The numbers are column percentages.

**Distributions of Participants' Financial Knowledge, Practices, and Statuses**

Table 3 shows the distribution for the financial knowledge items, financial practices and other characteristics among the study participants. A majority of participants chose the correct answers for each of the three financial knowledge items, ranging from 60% choosing the correct answer for the inflation item and 79% choosing the correct answer for the interest rate item. The most frequent responses to the six financial practices items used to create our financial practices index were somewhere between “sometimes” and “usually.” The item, “Set intermediate-term financial goals that take longer than a year but less than 10 years” was an exception by having nearly half of those responding reporting that they never do so and having less than 10% reporting that they always do. Finally, most respondents had checking accounts, and three-quarters had savings accounts.

**Multivariate Results of Financial Knowledge**

Two general linear models tested the conceptual models shown earlier (see Table 4). Model 1 examined the association between both the financial information sources and family background and financial knowledge. The combinations of explanatory and control variables explained a mere 4% of variations in financial knowledge ( $R^2 = .04$ ). Among the main explanatory variables, two financial information sources were statistically significantly associated with the variations in financial knowledge. The more the respondents reported they gained information from their parents, the more likely they were to have scored higher on the financial knowledge items. We observed the opposite regarding the information obtained from friends. The more the respondents reported they gained information from their friends, the lower they scored on the financial knowledge items.

**Table 4. General Linear Models Results – Financial Knowledge and Financial Practices**

Explanatory Variables	Financial Knowledge	Financial Practices
Intercept	.61 (.04)***	1.39 (.11)***
Financial knowledge	---	.14 (.08)
Financial information sources		
Parents or guardians	.20 (.01)***	.13 (.02)***
Other family members	-.01 (.01)	.09 (.02)***
Friends	-.02 (.01)*	-.04 (.02)
High school teacher/courses	.01 (.01)	.02 (.02)
College professor/courses	-.01 (.01)	.09 (.02)***
TV, radio, magazine, newspaper, or books	.01 (.01)	.01 (.03)
Internet, including social networking sites	-.00 (.01)	.02 (.03)
Family background		
First generation college student (vs. not)	.01 (.02)	.01 (.05)
Racial/Ethnic origin (Baseline: Other)		
Asian	-.03 (.03)	.07 (.08)
European	.02 (.03)	.02 (.08)
Hispanic	-.01 (.02)	-.01 (.07)
Middle Eastern	-.01 (.03)	.05 (.09)
Immigration status (Baseline: 3rd generation)		
1st generation	.03 (.03)	.11 (.08)
2nd generation	.03 (.02)	.00 (.06)
Control variables		
Men (vs. women)	.07 (.02)***	.01 (.05)
Online survey (vs. pencil-and-paper survey)	.03 (.02)	-.10 (.06)
$R^2$	0.04	0.15
$F$ -value	3.00***	13.11***

Note. The numbers in parentheses are standard errors.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Family background information did not explain variations in financial knowledge, when financial information sources, gender, and survey format were kept constant. It should be noted that keeping other variables constant, male respondents had higher financial knowledge than female respondents.

### ***Multivariate Results of Financial Practices***

Model 2 examined how financial information sources, financial knowledge, and family background explained the variance in financial practices measured by the six survey items. The explanatory and control variables together explained 15% of the variance in the financial practices measure. In particular, three of the seven financial information sources were significantly and positively associated with financial practices.

The more information about personal finance the study participants reported they had obtained from their parents, the higher their financial practice score. Similarly, the more information they perceived as having obtained from other family members, the higher their financial practice score, and college professors and courses as financial information sources had positive associations with the financial practice measure. Financial knowledge, family background, and control variables were not statistically significant.

In summary, participants who claimed to obtain a greater amount of financial information from their parents had better financial knowledge as well as financial practices. Those who obtained a greater amount of information from their friends fared worse in financial knowledge but not in financial practices. A higher financial knowledge score was not statistically significantly associated with higher financial practice measures ( $p = .08$ ). Could family background variables explain variations in financial knowledge or financial practices in models that do not include financial information sources? The models where the explanatory variables are limited to the family background and control variables result in similar findings as those reported above. Specifically, parental education, ethnic background, and immigration status of the respondents were not statistically significantly associated with financial knowledge or financial practices. Among the control variables, being male was associated with having more financial knowledge. The survey format (online vs. pencil-and-paper) had no association with either of the outcome variables.

### **Discussion**

The purpose of this non-experimental survey research was

to examine the financial information sources, financial knowledge, and financial practices of college students ( $n = 1,249$ ), many of whom are first generation college students, ethnic minorities, and immigrants or children of immigrants. First, the general linear model results confirmed personal financial information obtained from parents was positively associated with levels of financial knowledge and financial practices. Second, information obtained from other family members and college courses was positively associated with better financial practices.

While a number of studies exist on financial knowledge and financial practices among college students in the United States, limited studies focus on first generation college students, ethnic minorities, and immigrants. Our results confirmed that parental influence was a significant explanatory factor when examining financial knowledge and financial practices among this population, as well. We did not find variations in financial knowledge or financial practices based on the select demographic characteristics (being first generation college students, race/ethnicity, and immigrant status). Specifically, the higher degrees of information regarding personal finance that the study participants reported receiving from parents related to better performance on the financial knowledge measure and, overall, better financial practices. The more information received from friends related to inferior performance on the financial knowledge measure. The reason for this association is unknown. Since the respondents' friends are likely within their same age group, it is possible that lack of experience is a factor. Friends, unlike parents, have had fewer years of experience making financial decisions and becoming more financially literate and capable over time. Because of their lack of experience, the financial information from friends is more likely to be based on unreliable and inaccurate sources instead of solid research and experience. Other sources, such as other family members and college professors and courses, had a positive association with financial practices but not with financial knowledge.

Our findings are consistent with some studies on college students, financial sources, and financial knowledge or literacy (Peng et al., 2007; Robb & James, 2009; Shim et al., 2010). However, our findings are inconsistent with some earlier studies that identified positive associations between financial knowledge and financial practices among young adults (Perry & Morris, 2005; Robb & James, 2009). While our financial practices measure did not include debt status and debt amount, earlier studies identified a negative association between financial knowledge and debt status among young adults

(Archuleta et al., 2014; Robb & Sharpe, 2009).

Further, our study did not find the variations in this regard based on family background, such as being first generation college students (Eitel & Martin, 2009), being an ethnic minority (Robb & James, 2009), or being an immigrant (Peng et al., 2007). The reasons our study found no variations based on family background may be due to the relatively homogeneous family environments among the study participants, despite diversity regarding parental educational attainment, ethnic identity, and immigration status. Further, our sample was weighted towards Hispanic emerging adults, so this may have affected the generalizability of the findings to other populations.

### ***Limitations***

Some limitations of the study should be acknowledged. First, because this is a non-experimental study, our ability to infer causality is limited. Next, the measurement of financial knowledge using an instrument with only three questions may pose a limitation. Further, the measurement of financial knowledge may or may not be the best measure for the population of interest, as Huston (2009) defined financial knowledge. Schmeiser and Seligman (2013) suggested this point, as well. While the items on interest rate, inflation rate, and stock diversification (Lusardi et al., 2010) may be predictors of optimal financial practices among wealthy individuals, a good portion of college students may benefit from having a different kind of financial knowledge to navigate the complex financial market.

The data collection approach may contribute to a lowered ability to generalize the findings to a college student population. The data collection only took place at one Hispanic serving institution in an urban setting in Southern California. Thus, the results may not be generalizable to minority populations in other geographic regions or non-urban settings. Also, various groups were collapsed together into pan-ethnic labels (e.g., Hispanic, Asian), which does not allow for intra-group comparisons. Participants who chose to participate in the online survey, for instance, may obtain financial information from different sources and have different financial knowledge, skills, and practices than those who chose not to participate. We utilized both online and pencil-and-paper formats to balance the data collection type and student backgrounds. While we collected data from the two different courses differently, the format/course was included in our models as a control variable. Our choice of two general education courses in social and behavioral sciences to collect

data resulted in a majority of the respondents being female. This is an uneven representation of the campus population. Having women as the majority, despite a more even gender distribution in the overall student population, is one concern that can be addressed in future data collection. Similarly, the results could vary by current academic majors and/or their various areas of cognitive strengths (e.g., numeracy and literacy skills). Thus, the results may not be representative of the campus population.

### ***Implications***

The findings suggest the importance of parents as a source of financial knowledge, regardless of family background. Parents and parental figures, as well as other family members, can foster positive learning environments regarding personal finance, financial management, and practices. The findings may suggest the importance of quality time spent together as a family, which was confirmed in a study that identified family meals together was associated with greater wealth accumulation over time (Chatterjee, Palmer, & Goetz, 2010). While parents may not influence the financial information their children and young adults receive from their peers (friends), they can influence what information children are exposed to at home.

The findings also suggest the significance of personal finance courses offered at the college level. The positive association between such information sources and the financial practice index may suggest the kind of college students who choose such courses tend to have higher awareness of financial wellbeing, and the overall positive impact, if it exists, can be significant. Every young adult, regardless of parental financial knowledge and practices, parental educational and ethnic background, and immigration status, benefits from having personal finance materials incorporated in college curriculums.

While examining the gender differences in financial knowledge and financial practices was not our initial interest, the findings indicated that male college students fared better with the financial knowledge measure than their female counterparts, similar to existing literature (Robb & James, 2009). The higher scores could be explained by the majors of the men and women, since men are more likely to major in finance and business than women (i.e., California State University Northridge, 2014). One suggestion is that universities include basic financial information in freshmen orientation courses. This reminds us of the importance of discussing personal finance with boys and girls throughout their schooling.

There are a number of practice and policy implications for this study based on the findings. The findings of the association between information sources and financial knowledge, for instance, suggest the importance of certain information sources. One of the significant sources, college professors and classes, is something to which the young adults in college have relatively easy access. Family members, friends, and professionals can encourage students to seek such opportunities to enhance young adults' financial practices, which ultimately affect their financial well-being. Insignificant findings on family background suggest that young adults from any background benefit from such opportunities. Financial practices of young adults, in turn, have an impact on the national economy and society, as the student loan payment rate and purchasing behaviors both now and later shape the financial well-being of the country.

In terms of implications for education, the current study does not suggest that educators take a different approach to educating certain subsets of students, such as first generation college students, Latino students, or immigrants or children of immigrants. However, there are implications for educators and practitioners.

As children age, there are appropriate life skills that parents should teach them at each age. Learning to manage personal finances is one of these important life skills. Personal finance textbooks also emphasize the importance of talking to children about the family's finances and increasing financial tasks as children get older. The results from this study support the recommendation from personal finance textbooks that parents should teach their children financial skills, as young adults who obtained personal finance information from their parents had higher financial knowledge scores and financial practice scores.

Personal finance educators who teach adults should include information on teaching their children about personal finance. To take this recommendation further, creating educational workshops for parents and children may also prove to be helpful in increasing the financial knowledge and practices of children as they grow older. Educating other family members who are influential in the children's lives may also be a good idea, since young adults who obtained personal finance information from other family members had higher financial practice scores.

The fact that young adults who received personal finance information from a college professor or courses had better

financial practices suggests that colleges and universities should make these courses required for college students. Regardless of a student's major, these courses can influence a student's ability to manage his/her financial resources during college and after graduation. It is possible that taking personal finance courses earlier than college may be beneficial. There are some states that have already incorporated personal finance standards into their middle and/or high-school curriculums. However, California, where this study is based, is not yet among these states. Additional research in states with personal finance mandates is needed to determine if personal finance education in the secondary school system is effective. Financial counselors and planners assist their clients with targeted and comprehensive financial counseling and planning in many areas. However, very few, if any, provide assistance to clients on teaching children financial skills. Counselors and planners can be a good source of information for their clients in this area. Educators, counselors, and planners can be more intentional about teaching parents the importance of teaching personal finance to their children, so parents will be more intentional about teaching their children. In addition to increasing the financial knowledge and practices of young adults, exposure to personal finance through their parents may also increase the likelihood that young adults will continue to seek financial knowledge and assistance from educators, counselors, and planners as they grow older.

Finally, we hope to add to the body of knowledge on financial knowledge and what are dominant *ideals* in the United States regarding positive financial practices. Such *common sense* among scholars may reflect the cultural capital of dominant American financial knowledge that informs financial knowledge and practice but are not reflected in the varying values of diverse populations. Implications for future research include a much needed study to identify if different financial knowledge and practice measures may be more appropriate for understanding the financial experiences of the target population to examine if educators should take a different approach to educating such subsets of students about personal finance.

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## About the Authors

**Yoko Mimura**, Ph.D., is an Assistant Professor in the Department of Family and Consumer Sciences at California State University Northridge. Her research focuses on household finance among special populations, such as young adults, immigrants, women, and low-income households. She received a Bachelor of Laws in Political Science from Seikei University in Japan and M.S. and Ph.D. degrees in Housing and Consumer Economics at the University of Georgia.

**Joan C. Koonce**, Ph.D., AFC®, CPFFE, is a Professor and Extension Financial Planning Specialist in the Department of Financial Planning, Housing and Consumer Economics, College of Family and Consumer Sciences at the University of Georgia. She is the cofounder of the Certified Financial Planner (CFP®) program at the University of Georgia. She received her Bachelor of Science in Family and Consumer

Sciences Education from North Carolina Central University, and her Master of Science and Ph.D. from The Ohio State University with a major in Consumer Economics and a minor in Business Finance, specifically Insurance and Risk Management and Investments.

**Scott W. Plunkett**, Ph.D., is a Professor in the Department of Psychology at California State University Northridge. His research focuses on contextual qualities (community, family, peer, school) related to the mental health of adolescents and emerging adults. He received Bachelor of Arts degrees in both Psychology and Speech Communication and a Master's degree in Education at Northwestern Oklahoma State University, and his Ph.D. in Human Environmental Sciences with a specialization in Family Relations and Child Development at Oklahoma State University.

**Lindsay Pleskus** is graduating with a B.A. in Psychology and a minor in Marketing in Fall 2014 from California State University Northridge. She has been on the Dean's List throughout her undergraduate education. For the 2013-2014 academic year, she held the position of Director of Careers and Placement for the American Marketing Association at California State University Northridge. She also volunteered for the California State University Northridge Helpline from 2012 to 2014. Her interests include marketing research and consumer behavior.