

# Financial Information: Is It Related to Savings and Investing Knowledge and Financial Behavior of Teenagers?

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*General linear model procedures were used to investigate the association between financial behavior and sources of financial information, the association between savings and investing knowledge and financial information sources, and the association between financial behavior and savings and investing knowledge. The study participants were 253 teenagers aged 14 to 19 who attended a state-wide 4-H event in Georgia in December 2006. Setting financial goals and saving some or all of their earnings were associated with obtaining more financial information from parents. Having spending plans was associated with using the media/Internet as information sources. White teens reported obtaining less information from the media/Internet and educators than did non-Whites.*

*Key Words: financial behavior, investing knowledge, savings knowledge, teenagers*

Financing the modern American lifestyle of teens and their families such as a home, automobile, education, and retirement requires short-term and long-term planning and savings. However, evidence suggests that saving may be quite a challenge for most American workers. Between 1984 and 2005, the U.S. personal savings rate declined from 10.8% to zero (Johnson, Mensah, & Steuerle, 2006). In April 2008, the U.S. personal savings as a percent of disposable personal income was only 0.7% (Bureau of Economic Analysis, 2008). While the personal savings rate decreased from 1984 to 2007, aggregate consumer credit outstanding increased by over 300% (Federal Reserve, 2008). Further, the number of consumer bankruptcies increased from 284,517 per year in 1984 to more than 2 million in 2005 (American Bankruptcy Institute, 2007). The low savings rate coupled with what many consider to be an excessive reliance upon credit suggests a general lack of financial literacy, particularly as it relates to com-

pound interest. In this environment, learning personal finance at an early age becomes much more important than in the past. Because teens are ill prepared for the financial marketplace that they will face as adults, more research is needed to understand the mechanisms through which they learn and practice good financial management behaviors. Given that parents believe their children aged 12 to 17 are prepared to participate in the finances of the household, this period may be a prime time for teens to learn and use effective financial management practices (Danes, 1994).

Many researchers have studied the financial knowledge and behavior of teens (Americans for Consumer Education and Competition [ACEC], 2001; Bernheim, Garrett, & Maki, 2001; Consumer Federation of America, 1991, 1993; Danes, Huddleston-Casas, & Boyce, 1999; Jump\$tart Coalition, 2002, 2004, 2005, 2006; Peng, Bartholomae, Fox, & Cravener, 2007; Varcoe, Martin,

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Devitto, & Go, 2005). Relatively few have examined the sources of financial information teens use and, more specifically, whether or not there is an association between the source of information and the teens' knowledge of savings and investing and/or financial behavior.

The current study examined the sources of financial information used by teens and the association between these sources and their savings and investing knowledge and financial behavior. Four categories of information were examined: parents, other family and friends, educators, and the media/Internet. The association between savings and investing knowledge and financial behavior was also examined. The following four questions were explored. Where did teens learn about personal finance? Was what they learned from various information sources associated with their knowledge of savings and investing? Was the source of financial information associated with financial behavior? Was savings and investing knowledge associated with financial behavior?

## **Literature Review**

### ***Financial Knowledge***

In surveys conducted by major financial institutions, many parents said that their teenage children did not have the financial knowledge necessary to manage their money (JumpStart Coalition, 2005). On the other hand, in a survey conducted with parents and their teenage children, over half of the parents thought their teens had good to excellent knowledge of money management, but fewer teens (20.0%) thought their knowledge of money management was good to excellent (Capital One and Consumer Action, 2003). Given that the JumpStart Coalition indicated that the teen's financial knowledge scores on their financial literacy survey were low, teens' perception of their financial knowledge may have been fairly accurate. The average financial knowledge score for the 5,775 high school students who completed the survey in 2005-2006 was 52.4% (JumpStart Coalition, 2006). When broken down by ethnic background, the average score for Whites (55.0%) was higher than for African Americans (44.7%) and Hispanics (46.8%). When examining specific questions, 85.8% of the teenagers did not know that stocks are likely to have higher average returns than fixed dollar investments over an 18-year period of time, and 77.3% did not know that if enough interest is earned on a savings account, it is taxable income (JumpStart Coalition, 2006). The ethnic ranking of the financial knowledge score of the 4,024 twelfth graders who took the JumpStart survey

between late 2001 to 2002 produced similar results: White students scored the highest and African American students scored the lowest among five ethnic groups (JumpStart Coalition, 2002). Using a convenience sample of 64 high school students and their parents, Bowen (2002) also found that teens had limited financial knowledge compared to their parents.

It has been possible to increase teens' financial knowledge through personal finance classes in school. Tennyson and Nguyen (2001) did not find a significant association between students' financial knowledge and state mandated personal finance standards or tests. However, there was an association between students' financial knowledge and taking a specific personal finance course. The financial knowledge scores of students in states with mandated standards or tests were not significantly greater than the scores of students in states without a mandate (56.9% and 56.5%, respectively). On the other hand, students who lived in states that required a specific personal finance course did have significantly higher financial knowledge than those residing in states without a mandate at all (59.2% and 56.5%, respectively). The authors suggested that this finding may be due to the variation in personal finance curricula across states. Not all classes may have been effective. In the 2005-2006 JumpStart survey, 16.7% of the students had taken an entire course in personal finance in school. However, the average financial knowledge score for those who took a course was lower than the score for all the students combined (JumpStart Coalition, 2006).

Many factors have affected the financial knowledge of teens. High school students' perceptions and attitudes about financial literacy may have affected their financial knowledge. The JumpStart Coalition tested this in their 2006 financial literacy survey by asking students to respond to a series of statements or questions. Students who believed that bad luck caused serious financial difficulty had lower average financial literacy scores (49.0%) than those who believed that financial difficulty was a result of overspending (55.0%). Students who felt that it was not so bad for families to be unable to take care of their financial obligations had an average financial literacy score of 43.2%. The average financial literacy scores of those who thought that older people can live well on Social Security was 39.9%, whereas those who thought it would be tough to live only on Social Security had an average financial literacy score of 56.0% (JumpStart Coalition, 2006).

In summary, the level of the financial knowledge among teens has not been ideal (Jump\$tart Coalition, 2005). The findings on the effectiveness of personal finance courses to positively influence financial knowledge have varied by studies (Jump\$tart Coalition, 2006; Tennyson & Nguyen, 2001). A racial and ethnic gap has also seemed to exist (Jump\$tart Coalition, 2002, 2006). Lastly, financial knowledge has been associated with perceptions, and attitudes about financial literacy may have affected teens' financial knowledge (Jump\$tart Coalition, 2006).

### ***Financial Knowledge and Behavior***

Hilgert and Hogarth (2003), using data from the monthly Reuters/University of Michigan Surveys of Consumers, found an association between financial knowledge and behavior among adults. Respondents with more financial knowledge also engaged in recommended financial behaviors. Kotlikoff and Bernheim (2001) found that increased knowledge was related to increased retirement savings. The association between financial knowledge and behavior may have also existed for teens. Based on the results from the 2005-2006 Jump\$tart survey, among the 38.7% of teens with a checking account, the average financial literacy score was higher for those who had not bounced a check compared to those who had bounced a check (53.4% and 45.8%, respectively) (Jump\$tart Coalition, 2006).

Although Peng et al. (2007) found an association between personal finance courses taken in college and investment knowledge, this was not true for high school students. High school students who completed a personal finance course did not have a higher level of investment knowledge compared to those who did not complete a course. However, having financial experience, such as owning bank and investment accounts and observing parents' savings habits, did have a positive effect on savings behavior. High school students with more financial experience had higher savings rates than those with less experience. Using data from the "Money Talks: Should I Be Listening?" curriculum, Varcoe et al. (2005) found a positive association between student participation in the curriculum and their financial knowledge and behavior.

Other researchers have found a long-term association between financial knowledge and savings behavior. Danes et al. (1999) studied the impact of the National Endowment for Financial Education (NEFE) High School Financial Planning Program® curriculum on students' financial knowledge, financial behavior, and degree of confidence in their ability to manage their finances. The students had

an increase in knowledge, behavior, and confidence when they completed the curriculum. Their knowledge, behavior, and confidence further increased 3 months after completing the program. Bernheim et al. (2001) found that state mandated consumer economics or personal finance education in high school increased students' exposure to personal financial management information either in specific courses or through integration in other courses. Most importantly, the exposure increased the likelihood of the students accumulating assets as adults.

Overall, financial knowledge and financial behavior have been closely related (Hilgert & Hogarth, 2003; Kotlikoff & Bernheim, 2001; Peng et al., 2007). For instance, high school students with more financial experience had higher savings rates than those with less experience, although it was not clear if these students could have more experience because of more available resources. Financial knowledge gained from taking financial management classes did have a positive long-term impact on financial behavior such as increased saving rates in their adulthood (Bernheim et al., 2001; Danes et al., 1999; Varcoe et al., 2005).

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

When teens were asked about their main sources of financial management information, 45.0% of the sample in the 2001 Americans for Consumer Education and Competition's study indicated that the main source was parents and family. The next common source was classes (22.0%), followed by personal experiences (13.0%), TV/radio (7.0%), Internet (3.0%), and newspapers (3.0%). Similarly, a nationwide survey by the Jump\$tart Coalition (2004) found that high school students learned about money primarily at home (58.0%), with fewer indicating they learned about money management from school (19.5%) or from experience (17.6%). In the 2005-2006 Jump\$tart survey, 16.7% of the students had taken an entire course in personal finance in school (Jump\$tart Coalition, 2006).

Home has been where teens learn about money, and parents have been the primary source of financial information for teens (ACEC, 2001; Jump\$tart Coalition, 2006). Teens' preparedness to manage finances may have been influenced by the gender of both parents who transmit information to their teens (Clarke, Heaton, Israelsen, & Eggett, 2005). The gender roles that the teens observe within the family environment may have influenced how male and female teens learn information at home. In a study of college students, the respondents saw their fathers more as financial managers, whereas the students who felt

most prepared to handle finances had mothers who taught them financial literacy (Clarke et al., 2005).

In summary, there is a need for America's teens to improve their financial knowledge (Jump\$Start Coalition, 2005) because better financial knowledge leads to more positive financial behavior (Bernheim et al., 2001; Danes et al., 1999; Varcoe et al., 2005). Demographic factors need to be considered as well. Average scores from the 2005-2006 Jump\$Start survey differed by race (Jump\$Start Coalition, 2002, 2006). Further, there has appeared to be a difference in teens' preparedness to manage their finances based on the gender of the parent (Clarke et al., 2005).

### ***Focus of Current Study***

The current study examined the sources of financial information used by teens in Georgia. The statistical tests investigated the association between information sources and teens' savings and investing knowledge and financial behavior. Four categories of information were examined: parents, other family and friends, educators, and the media/Internet. The association between savings and investing knowledge and financial behavior was also explored. The focus of the research was to test the following three hypotheses. Controlling for race,

- (a) what teens learn from various information sources is associated with their knowledge of savings and investing,
- (b) the source of financial information used by teens is associated with their financial behavior, and
- (c) teens' savings and investing knowledge is associated with their financial behavior.

## **Methodology**

### ***Data and Sample***

A 39-item questionnaire was used to collect data from a convenience sample of teens (ages 14 to 19) at a state-wide 4-H event in Georgia in December 2006. The teens completed a questionnaire that included information about their financial behavior, financial information sources, and savings and investing knowledge.

In 2005, the enrollment of Georgia's 4-H programs was 183,320. Working with the 4-H program provided access to teens from all of Georgia at one location on a Saturday afternoon at their Fall Forum. The teenagers that participated in the state 4-H program came from diverse backgrounds. Geographically, about 40% were from rural areas, 20% were from small cities, and 40% were from

urban areas. The gender distribution was very close to equal. About half were White and the other half were non-White. Of all 4-H participants, 3.5% were Hispanics of all races (Maddox et al., 2006).

The number of teenagers present at the event was 643. Of those who attended the event, 64.0% were female, and 36.0% were male.<sup>1</sup> A quarter of these teens were 15 years old, another quarter was 16 years old, and the rest were 14 and 17 to 18 years old. Approximately three fourths (of the teens at the event) were White, 16.0% were African American, and 2.0% were multi-racial. A few did not report their race.

The teens were given parental consent forms before the event. A total of 402 participants turned in the forms during event registration. Teens who returned the parental consent forms received the questionnaire and were given time to complete it. This yielded a sample of 253 teens with a response rate of 62.9%.

The demographics of the sample are displayed in Table 1. More than half (62.7%) of the sample were female, and the average age was 15 years. The majority of the sample was White (81.8%). One-third (33.7%) earned money from a part-time job, and 38.2% received an allowance either on a regular basis or for completing chores. Of those who had a part-time job, 62.4% earned less than \$100 per week; 24.7% earned between \$101 and \$200 per week; 5.9% earned between \$201 and \$300 per week; 4.7% earned between \$301 and \$400 per week; and 2.4% earned between \$401 and \$500 per week.

### ***Measures***

***Financial Behaviors.*** Financial behaviors consisted of six measures. Five of them were dichotomous, and one was a categorical variable with seven levels. The respondents were asked if they had a spending plan, if they kept up with where they spent their money, whether they usually set financial goals, whether they saved any or all of their earnings, and whether they saved any or all of their allowance. Teens were also asked about how much money they had saved. The categorical responses were less than \$100; between \$101 and \$200; between \$201 and \$300; between \$301 and \$400; between \$401 and \$500; between \$501 and \$1,000; and over \$1,000. Because of the high correlation of this categorical variable with the other five dichotomous financial behavior variables, the amount of money saved was not included in any of the analyses.

**Table 1. Sample Demographics (N = 253)**

Variables	n	%
Gender		
Male	94	37.3
Female	158	62.7
Age		M = 15 Min = 14 Max = 19
Race		
African American (non-Hispanic)	31	12.3
Asian or Pacific Islander	3	1.2
Hispanic	4	1.6
White	207	81.8
Other	8	3.2
Part-time job		
No	168	66.3
Yes	85	33.7
Weekly earnings from a part-time job		
≤ \$100	53	62.4
\$101 - \$200	21	24.7
\$201 - \$300	5	5.9
\$301 - \$400	4	4.7
\$401 - \$500	2	2.4
Receipt of allowance		
No	156	61.9
Yes (chores)	48	19.1
Yes (regular basis)	48	19.1

Note. Not all n's add to 253 due to missing data.

A small number of teenagers (39.8%) had a spending plan. However, a large percentage (70.3%) recorded their spending and usually set financial goals (56.1%). About 83.0% saved some and 9.6% saved all of their earnings, whereas 54.3% and 6.9% saved some or all of their allowance, respectively. Almost one third (31.0%) had saved less than \$100, whereas 21.0% had saved more than \$1,000. The majority had a checking, savings, or some other type of bank account (75.5%), but most did not have mutual funds or stocks (94.4% and 83.4%, respectively) either in their names or their parents' names (see Table 2).

**Savings and Investing Knowledge.** Savings and investing knowledge consisted of eight multiple-choice questions taken from the JumpStart Coalition for Personal Financial Literacy High School survey (JumpStart Coalition, 2004). A continuous knowledge score variable was created by summing the number of questions answered correctly with

**Table 2. Sample Distribution: Financial Behavior (N = 253)**

Variables	n	%
Had a spending plan		
No	148	60.2
Yes	98	39.8
Kept up with where money was spent		
No	74	29.7
Yes	175	70.3
Usually set financial goals		
No	109	44.0
Yes	139	56.1
Saved any or all of their earnings		
None	19	7.6
Some	206	82.7
All	24	9.6
Saved any or all of their allowance		
None	90	38.8
Some	126	54.3
All	16	6.9
Amount saved		
≤ \$100	75	30.9
\$101 - \$200	30	12.4
\$201 - \$300	28	11.5
\$301 - \$400	17	7.0
\$401 - \$500	13	5.4
\$501 - \$1,000	29	11.9
> \$1000	51	21.0
Ownership of bank accounts		
At least one account	188	75.5
No account	61	24.5
Ownership of stocks in their name or their parents' name		
No stocks	208	83.4
Stocks in their name	18	9.9
Stocks in parents' name	23	6.7
Ownership of mutual funds in their parents' name		
No	235	94.4
Yes	14	5.6

Note. Not all n's add to 253 due to missing data.

the lowest possible score being 0 and the highest possible score being 8.

None of the respondents answered all eight of the savings knowledge questions correctly. Thirty percent only answered three questions correctly; 28.9% answered four correctly; and 9.5% answered five correctly. A small percent (5.1%) answered six out of eight questions cor-

rectly, with this being the highest number of correct answers. About 20.0% had two out of eight correct, 5.5% had one out of eight correct, and 1.2% had no correct responses (see Table 3).

Most respondents (93.%) knew that the safest place to put money away for college is a bank savings account if the person planned to attend college the following year. On the other hand, only 12.0% knew that stocks have higher growth than fixed assets over an 18-year period; only 20.0% knew that a certificate of deposit is not typically associated with spending; and only 24.0% knew that interest earned on a bank savings account may be taxable by the Federal government. A third of the respondents knew that a bond issued by 1 of the 50 states was not protected by the Federal government against loss. Thirty-nine percent of the respondents knew that a house financed with a fixed rate mortgage, rather than bonds and certificates of deposit, would protect a family's purchasing power in the event of high inflation. Slightly more than half of the respondents (54.0%) knew that investing in a down payment on a house was not the best place to put money set aside for emergencies. Nearly half (46.0%) did not know that one investor who started saving 25 years before the other would have more money in their account because the money has grown for a longer period of time at compound interest even when investing less per year. Based on the literature reviewed on the financial knowledge and information sources, race (being White vs. non-White) was included as a control variable.

**Information Sources.** Four sources were assessed as the information sources from which the respondents learned about savings and investing. In the survey, respondents

were asked "how much have you learned about savings and investing from each of the following sources? (a) parents; (b) other family members; (c) friends; (d) teachers (e) 4-H program or county Extension agent; (f) other educator; (g) TV, radio, newspaper, or magazine; (h) Internet; and (i) other." Examples of *other educator* were not given on our survey sheet, and whom they considered as other educators varied. Responses were (a) none, (b) very little, (c) some, (d) good amount, and (e) a lot. These items were recoded into four categories by merging similar information sources to ensure variations within each category: parents, other family members and friends, educators, and the media/Internet variables. When the original categories were merged, the mean responses were used so each of these information source measures ranged between 1 and 5.

Most of the respondents said they learned a "good amount" (36.8%) or "a lot" (34.4%) from their parents about savings and investments. Approximately one fourth (23.0%) indicated that they had learned a "good amount" and 5.2% stated they had learned "a lot" from other family members. Family members consulted included brothers, sisters, aunts, uncles, and grandparents. Very few stated that they had learned a "good amount" or "a lot" from friends (6.4%). Teachers were a source of information for some respondents (16.4% and 12.4% learned a "good amount" and "a lot," respectively). However, a higher percentage of respondents stated that they learned more from 4-H programs or county Extension agents [{"good amount" (22.1%) or "a lot" (15.3%)] than they did from their teachers. A small number indicated that they learned a "good amount" or "a lot" from other educators (12.7%), the Internet (13.5%), the media (18.1%), and other sources (10.8%). The other sources primarily included churches (see Table 4).

**Table 3. Sample Distribution: Savings and Investing Knowledge Score (N = 253)**

Knowledge score	n	%
0	3	1.2
1	14	5.5
2	50	19.8
3	76	30.0
4	73	28.9
5	24	9.5
6	13	5.1
7	0	0.0
8	0	0.0

*Note.* Number of correct responses of respondents to 8 multiple choice questions about savings and investments.

**Statistical Analysis**

General Linear Model (GLM) was chosen as a procedure because each of the four information source measures was continuous, the financial behavior measures were all categorical variables, and the financial knowledge item was continuous. GLM allowed for the examination of the financial behaviors separately in a single model, and thus, four models were analyzed testing the association between the four information sources and the financial behavior measures. A fifth model that assessed the association between the savings and investing knowledge and financial behavior also utilized the GLM because the knowledge variable was continuous, whereas all financial behav-

**Table 4. Sample Distribution: Information Sources (N = 253)**

Variables	<i>n</i>	%	Variables	<i>n</i>	%
Amount parents taught respondents on savings and investments			Amount Internet taught respondents on savings and investments		
None	4	1.6	None	109	43.3
Very little	9	3.6	Very little	59	23.4
Some	60	23.7	Some	50	19.8
Good amount	93	36.8	Good amount	24	9.5
A lot	87	34.4	A lot	10	4.0
Amount other family members taught respondents on savings and investments			Amount other sources taught respondents on savings and investments		
None	64	25.8	None	108	77.7
Very little	36	14.5	Very little	5	3.6
Some	78	31.5	Some	11	7.9
Good amount	57	23.0	Good amount	5	3.6
A lot	13	5.2	A lot	10	7.2
Amount friends taught respondents on savings and investments					
None	93	37.2			
Very little	82	32.8			
Some	59	23.6			
Good amount	11	4.4			
A lot	5	2.0			
Amount teachers taught respondents on savings and investments					
None	61	24.4			
Very little	43	17.2			
Some	74	29.6			
Good amount	41	16.4			
A lot	31	12.4			
Amount 4-H/Extension agents taught respondents on savings and investments					
None	49	19.7			
Very little	37	14.9			
Some	70	28.1			
Good amount	55	22.1			
A lot	38	15.3			
Amount other educators taught respondents on savings and investments					
None	122	59.5			
Very little	25	12.2			
Some	32	15.6			
Good amount	16	7.8			
A lot	10	4.9			
Amount media taught respondents on savings and investments					
None	78	31.3			
Very little	70	28.1			
Some	56	22.5			
Good amount	35	14.1			
A lot	10	4.0			

*Note.* Not all *n*'s add to 253 due to missing data.

ior variables were categorical. The control variable, race (White vs. non-White), was dichotomous and was accommodated using the GLM.

### Results

Table 5 describes the similarities and differences between teens found through the GLM tests. Some financial behaviors were associated with the amount of financial information obtained from parents and the media/Internet. However, savings and investing knowledge was not associated with the amount of information obtained from any of the sources.

Model 1 showed two financial behavior variables were significantly associated with the parents as sources of financial information. The practices of usually setting financial goals and saving any or all of their earnings were associated with an increase in the amount of financial information teens reported obtaining from parents. Financial behavior and savings and investing knowledge were not significantly associated with the amount of information teens reported receiving from other family members and friends (Model 2). There was a significant association between one of the financial behavior variables and the self-perceived use of educators as financial information sources in Model 3. Having a spending plan was associated with the use of educators as information sources. Further, a significant association between race and educators as information sources existed. Whites reported having obtained less information from educators than other

**Table 5. General Linear Model Parameter Estimates**

Independent variables	Dependent variables: Information sources				
	Model 1 Parents	Model 2 Other family members/ friends	Model 3 Educators	Model 4 Media/ Internet	Model 5 Savings and investing knowledge
<b>Financial behaviors</b>					
Spending plan	0.142	0.099	0.231*	0.351**	0.052
Record spending	0.096	-0.141	0.034	-0.046	0.286
Set financial goals	0.244*	0.079	0.142	0.066	0.269
Save earnings	0.535****	0.193	0.176	-0.028	0.092
Save allowance	-0.018	0.103	0.132	0.167	0.077
Savings and investing knowledge	-0.057	0.019	-0.014	0.083	
<b>Control variable</b>					
Race: White	-0.132	-0.192	-0.761*****	-0.532***	0.130
<i>F</i> -value	582.08	167.33	210.14	130.28	216.70

*Note.* The number of observations included in the models were 227 due to missing data.

\* $p < .10$ . \*\*  $p < .05$ . \*\*\* $p < .01$ . \*\*\*\* $p < .001$ . \*\*\*\*\* $p < .0001$ .

racers. Model 4, which examined the information from the media/Internet, showed that having a spending plan was significant. Having spending plans was associated with claiming to have received more information from the media/Internet. In addition, Whites used the media/Internet less for financial information than non-Whites. There was no significant association between teens' financial behaviors and their savings and investing knowledge (Model 5).

**Summary and Implications**

The study provides evidence as to the importance and effectiveness of parents in teaching their children about personal finance. Educating parents, who in turn educate their children, may lead to greater financial knowledge and more effective financial management practices for the next generation as well as for the parents. More research is needed to better understand why some parents are more effective than others at preparing their children for success in the financial marketplace. A related question is, do siblings brought up in the same family environment exhibit different financial behaviors? More research is needed to identify the family dynamics associated with the transmission of savings and investing knowledge and desirable financial behaviors. If the family is central to the transmission of savings and investing knowledge and optimal financial behaviors, a better understanding of the factors associated with positive outcomes may lead to the enhancement of personal financial management educational

programs for children growing up without supportive families.

The association between having a spending plan and the amount of information teens reported receiving from educators is a positive result. One would expect and hope that educators are good sources of information. However, it is not clear why no association existed between other financial behaviors and educators. This could reflect the limited amount of financial literacy education that is currently being taught by educators. Financial literacy was incorporated into the Georgia state curriculum for implementation in 2007 (7<sup>th</sup>-12<sup>th</sup> grades) and 2008 (K-6<sup>th</sup> grades). Additional research, after implementation of the standards, is needed to determine the impact of Georgia's recently mandated financial literacy requirements

There is no clear explanation for the association between having a spending plan and the amount of financial information teens reported receiving from the media/Internet. Because the media and the Internet are not considered the most reputable sources of financial information, one possible, but unlikely, explanation is that these teens used media and Internet sources that provided reliable, unbiased, good quality financial information.

White and non-White teens did not differ on the amount of financial information obtained from parents, but the



relative amount of information that Whites claimed to have learned from educators and the media/Internet was lower than that reported by non-Whites. It is not clear why Whites' self-perceived amount of financial information they received from educators and the media/Internet were less than non-Whites. However, this finding could suggest that non-White teens may be obtaining some biased information. The media/Internet does not always provide reliable, unbiased information. Much of the information obtained through these channels comes from sellers of products and services. Teens that are likely to go to the media/Internet to learn about finances may benefit from exposure to educational programs on how to select reliable, reputable sources of financial information and service providers.

One may wonder if non-White teens who participated in the current study came from less financially advantaged family backgrounds than their White counterparts. The questionnaire included a self-perceived family income category (low, middle, or high income), and based on the responses, there was no significant association between the family income category and racial status (White vs. non-White). Further, the percent of non-White teens who consider their families as low-income was about one third of that of White teens.

### Limitations

Interpretation of the results of the current investigation must take into consideration the limitations inherent in the study sample. First, the sample is not generalizable to other populations of teens. The use of 4-H event participants in Georgia is not representative of all teens in the U.S. In 2006 in Georgia, about 48.0% of teens aged 15 to 19 were female and 52.0% were male. About 54.0% were White, 36.0% were African American, 3% were Asian or Pacific Islander, and 7.0% were Hispanic of any race (U.S. Census Bureau, 2007). Women and White teens are over-represented in our sample. In addition to the differences in a few demographic characteristics, Georgia 4-H participants, the forum participants, and the survey participants may also be different in terms of other less-obvious characteristics such as family values. Second, the information sources examined were self-reported amounts of information the teen received from various sources. The perceived amount may have very little association with the actual amount of information teens obtain from each source when comparing among the participants.

Despite these limitations, the findings reported here make an important contribution to the literature by providing evidence that parents are important sources of financial information to their children and that there is an association between certain sources of information and teens' financial behaviors. Using the results of the present study, educators can develop more effective financial management programs for parents and their children. In addition, future researchers have a foundation to build upon as they further examine teens' financial knowledge, financial behavior and the transmission of financial information to teens through various information sources.

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#### Endnotes

<sup>1</sup>Because of the differences in the proportion of male and female respondents in the present study, the models were initially run with gender as a control variable. The results showed no statistical significance in the variations of the dependent variables, and the models fit far better without controlling for gender. Therefore, gender was not controlled in the final models.

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