Teen Financial Knowledge, Self-Efficacy, and Behavior: A Gendered View

Sharon M. Danes and Heather R. Haberman

A social constructionist perspective was taken in the current investigation of 5,329 male and female high school students. Gender differences were investigated in financial knowledge, self-efficacy, and behavior after studying a financial planning curriculum. Females gained more knowledge on credit, auto insurance, and investments, although males had more knowledge entering the course. Females believed that managing money affected their future more than males, but males felt more confident making money decisions. After studying the curriculum content, males reported achieving financial goals more than females, whereas females reported using budgets, comparing prices, and discussing money with family more than males. In sum, male teens reinforced their existing knowledge, whereas female teens learned significantly more about finances in areas in which they were unfamiliar with prior to the curriculum.

Key Words: evaluation, financial behavior, financial knowledge, gender, self-efficacy, teens

Introduction

Financial literacy has become a concern of policymakers in recent years. The concern has been primarily due to reports of high credit card debt, low and negative savings rates, and increased personal bankruptcies which have led many states to adopt financial education policies (Bernheim, Garrett, & Maki, 2001). The rising concern has evolved because financial literacy deficiencies can impact a person's daily money management and affect long-term goals (Braunstein & Welch, 2002). One result of increasing national concern has been that more attention is being directed toward preparing teens to be more financially proficient. However, discussions and actions taken have occurred without much consideration for the gender of the teens or how their gender affects what they learn about money. Neither has the limited research on the financial literacy of teens addressed how gender affects financial literacy acquisition. Doing so, may add insight about how teens process and incorporate financial information.

When children are very young, family is the primary socialization unit for learning about finances, and it serves as a filtering point for information from the outside world (Danes, 1994; Danes, Huddleston-Casas, & Boyce, 1999). Thus, it would be expected that the financial behavior of many families would reflect societal trends. The research of Beverly and Clancy (2001), in fact, found this to be true. They reported that parents are not providing children with adequate financial education based on their own lack of knowledge.

Family is a social structure that shapes experiences and meaning around gender and how each gender category relates to money (Baca Zinn, 1991; Bowen, 2002; Hibbert, Beutler, & Martin, 2004). In a study of family financial role acquisition, Clarke, Heaton, Israelsen, and Eggett (2005) found that fathers modeled financial tasks more frequently than mothers; however, when mothers modeled financial tasks, and adolescents practiced those tasks, frequency of performance increased and adolescents reported feeling more financially prepared. Gendered financial role patterns that are experienced over time become internalized norms, and these norms influence children's future expectations and behavior (Greene, 1990). When gendered role patterns become internalized, people often act on the beliefs, attitudes, and expectations that undergird these patterns without being consciously aware of them (Danes, 1994).

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Classroom education has had a substantial influence in the continuing development of students' financial socialization (Bartholomae & Fox, 2002). As children enter school, the foundations of their values, beliefs, attitudes, expectations, and motivations about money and gender have already been established through their internalized norms (Moschis, 1987). Children obtain reinforcements or contradictions to their internalized, gendered financial role patterns in school as they learn more about money. Brenner (1998) found that when comparing children's learning activities about buying and spending at home and in the classroom, children shared more of their teacher's viewpoints about finances than those of their parents.

Families and schools have continually constructed a shared reality in preparing teens for their financial future. Thus, the study's social constructionist approach focuses on two financial socialization contexts: family and school. The purpose of the present study was to investigate gender differences in financial knowledge acquisition, self-efficacy development, and behavior performance after studying a financial planning curriculum. It also investigated the gender differences in the ways money is acquired, saved, spent, and communicated within the family system.

Conceptual Framework: Social Constructivism and Financial Literacy

The constructs of reality, knowledge, and learning are basic assumptions of social constructivism (Berger & Luckmann, 1966). It is through individuals' shared understandings, which occur from interaction with others, that social meanings and realities are shaped. Knowledge is developed by the give-and-take interactions within a group's understanding of shared information. Learning is part of the social process that engages the individual who is learning with some form of social activity. Children, including adolescents, are seen as continually assimilating information from their environments and adjusting or accommodating in order to create new knowledge structures that fit with the world around them (Greene, 1990).

Gender and the way in which each gender interacts with money (in routine, methodical, and recurring ways) are social constructions relationally created within specific social and historical contexts (Lorber & Farrell, 1991). From a social constructionist perspective, the teens in this study engaged in the social activity of taking a financial planning class. Within the class, they were engaging and collaborating with peers and their instructor as a way of developing their thinking abilities about financial matters. The teens added to their knowledge by including discussions with family outside the classroom. Through their interactions within and outside the classroom, the teens negotiated a shared reality regarding finances.

Literacy, itself, is a socially constructed process. The literacy process focuses on learning interactions between adults (whether the parent in the home or the teacher in the classroom) and students; financial literacy includes the negotiation of meaning in many different contexts such as marriage, friendships, or organizations such as financial institutions (Cook-Gumperz, 1986). Evaluation studies have also taken a social perspective on literacy by assessing the demonstration of knowledge and self-efficacy through the performance of financial behaviors. Borrowing from Graham's (1980) definition of literacy and applying it to finances, financial literacy is the ability to interpret, communicate, compute, develop independent judgments, and take actions resulting from those processes in order to thrive in our complex financial world.

In taking a social constructivist perspective, we are not asking an abstract "why" regarding gender differences in financial planning education, but rather a "says who" from our historically and socially constructed realities (Berger & Luckmann, 1966). Females have tended to have a harder time successfully managing money because they face financial challenges that either are not experienced by males or are not experienced to the same degree (Anthes & Most, 2000; Chen & Volpe, 1998). Participants in a women-and-money incubator sponsored by the National Endowment for Financial Education and the American Association for Retired Persons identified social money messages that are imprinted on impressionable girls starting at very early ages and continued throughout life. Examples of socially prevalent messages in our society that they identified were that women do not deserve to have financial well-being, that girls are trained to be financially dependent and to seek safety and security rather than become risk-takers, and that if a woman is financially competent, she will end up alone (Anthes & Most, 2000). These societal messages have repeatedly been heard from sources such as teachers, peers, parents, and the media; this imprinting is often unconscious because it is so much a part of our social construction of money.

In the classroom, teachers have often perceived their actions and interactions as normal. Their actions and interactions, however, have actually been derived from socially constructed realities, such as the underlying design of instructional activities and classroom practice (Cook-Gumperz, 1986) or their own internalized norms about gender roles (West & Zimmerman, 1991). Based on a social constructivist approach, there was theoretical reason to believe that teens in this study would unconsciously be treated differently by gender within the classroom; that difference may have affected how they were taught because both implicit and explicit expectations of teachers could be different for each gender. In this study, we investigated students' group designation by gender; how their learned financial knowledge, self-efficacy, and behavior differed based on their gender; and how the teens acquired, saved, spent, and communicated about money differently by gender.

Literature Review

Financial Literacy in the Family Context

Until recently, very little has been written about the financial socialization of children within their families (Danes, 1994). Within the family, children learn how to or how not to handle their money and interact with the adult financial world. Family history, experience, and skills, as well as the beliefs and values of each distinctive family member, inform their construction of finances. This specific social setting provides rules and expectations that govern thoughts and behaviors that influence their social construction of gender and finance issues (Coltrane, 1998).

Families have provided an informal environment whereby parents teach children skills and develop shared understandings of what is acceptable behavior. Financial satisfaction-dissatisfaction has generally been a private feeling expressed within the confines of a family home; for example, marriages have been either enhanced or suffer conflict based on the level of satisfaction people have with their financial status (Parrotta & Johnson, 1998). Within this environment of financial interaction between parents, children have acquired information about how their family views financial processes by observation. Gender roles have been closely aligned with the financial information that teens acquire within the family (Hibbert, Beutler, & Martin, 2004).

Children have witnessed informal skills demonstrated by parents in their daily actions that often involve finances. In fact, Danes (1994), as well as Bowen (1995), asserted that non-formal education within the family starting with very young children sets a foundation for further financial education. Children have often become active participants with their parents on financial issues, such as a trip to the market for essential needs or to the shopping mall for wanted items. More formally, parents may have directly discussed financial choices with their children to help them understand financial decision making processes. As children grow into teens, their gender perceptions about finances have been reinforced and have become normative conceptions of attitudes and activities that they perceive as appropriate for their gender (West & Zimmerman, 1991). Bowen (2002) found that teens recognize their parents are knowledgeable regarding money issues, but that parental knowledge does not automatically influence children's knowledge. Nor has parental knowledge clearly informed us of what their teens might know (Alhabeeb, 1999; Varcoe, Peterson, Garrett, Kingston, Rene, & Costello, 1999).

There has been little research that helps us understand where and how financial roles are learned by young adults (Clarke et al., 2005; Neul & Drabman, 2001). Danes (1994) indicated that parents varied dramatically in the age they felt their 12-17 year old children were ready to learn and experience finances. This variation about what children of this age are ready to learn brings into focus the very point that family dynamics, especially around finances, are as unique and diverse as every family. There were enough consistencies across families related to gender socialization of financial roles, however, that Clarke et al. (2005) found substantial gender differences when assessing the modeling and teaching of adult financial roles to adolescents. Males repeatedly felt more prepared than females to perform financial tasks related to home-ownership, taxes, and investments. Bartholomae and Fox (2002) found that parents who modeled planning behavior contributed positively to the investment behavior of their children.

Teens have had their own ideas about what they want to be taught about financial issues, and their ideas have often been different from their parents, including their preference to learn about money in school (Varcoe et al., 1999). This latter finding was not surprising because as teens are struggling to become developmentally independent from their parents, a tension often evolves about final decision authority over a number of issues, including finances (Miller & Yung, 1990).

Financial Literacy in the School Context

It has taken more than the family sphere to influence and teach young adults about financial issues in order to adequately prepare them for the adult financial world. Society has structured many institutions that further and explicitly demonstrate or implicitly define the expectations and behaviors for men and women (Lorber & Farrell, 1991). Besides family, schools have been an important institution that teach and reinforce financial literacy and gendered financial role patterns (Berger & Luckmann, 1966).

Prior studies of the financial literacy knowledge of high school students have consistently found that students have poor financial knowledge (Bakken, 1967; Bowen, 2002; Consumer Federation of America [CFA/Amex], 1991; Harris/Scholastic Research [HSR], 1993; Langrehr, 1979; Mandell, 1998; National Assessment of Educational Progress [NAEP], 1979; Varcoe et al., 2005; Zollo, 1995). In response to this knowledge deficit, more states have developed financial standards for high schools and more personal finance is being taught in high schools (National Council on Economic Education [NCEE], 2007). Teaching financial literacy in high schools has been shown to increase financial knowledge, self-efficacy, and savings rates in the short term (Bartholomae & Fox, 2002; Danes, Huddleston-Casas, & Boyce, 1999). High school students who had studied a personal finance course performed somewhat better on a national financial literacy examination than those who had not had a course (Mandell, 2004). Bernheim, Garrett, and Maki (2001) have found a long term positive effect of financial education state mandates on saving rates and net worth during peak earning years.

On the other hand, Anthes and Most (2000) stated that lasting effects of financial literacy education appear to be inconsistent. For example, Bartholomae and Fox (2002) found that financial education prior to college was a strong predictor of financial literacy for college students. However, when college students were examined about their investment knowledge, Peng, Bartholomae, Fox, and Cravener (2007) found no significant relationship between taking a high school personal finance course and their investment knowledge; the reasearchers did find that participation in a college-level class positively impacted that knowledge.

More often than not, male students at both high school and college levels tended to have greater levels of financial knowledge than female students. In a teen financial learning experience outside the formal classroom, males' knowledge increased more than females' knowledge after studying the program content, but females reported talking to their families about money more than males (Varcoe, Martin, Devitto, & Go, 2005). In a study of college students in the late 1980s, males knew more about insurance and personal loans, but females knew more about overall financial management (Danes & Hira, 1987). In studying gender differences in credit card behavior of college students, Hayhoe, Leach, Turner, Bruin, and Lawrence (2000) found that females saved more regularly, used budgets more often, kept bills and receipts more regularly, and planned spending more regularly compared to their male counterparts. The current study, by investigating how male and female teenagers answered questions about their financial knowledge, self-efficacy, and behavior in both the family and school contexts provided additional insights into the acquisition of financial literacy.

Methods

Description of the Curriculum Studied by Students

This study used evaluation data from high school students who studied one curriculum available to teach personal finance. The National Endowment for Financial Education (NEFE) High School Financial Planning Program (HSFPP) curriculum was provided in partnership with the Cooperative Extension System and Credit Union National Association (CUNA) & Affiliates. It included an extensive Instructor's Manual and Student Guide that were provided free by NEFE. The program could be taught in as few as 10 classroom hours or extended over a longer period of time. Often the curriculum was taught in a 2- or 3- week period (17.8%), over a 4- to 6-week period (29.2%), or over a quarter or semester (53.0%) (Danes & Haberman, 2004).

The HSFPP curriculum acquainted students with basic financial planning concepts and illustrated how these concepts apply to everyday life. The goal of the curriculum was to increase the financial planning literacy of teens. The curriculum was divided into six units with each unit building upon the previous one: (1) Financial Planning: Your Roadmap; (2) Career: Labor You Love; (3) Budget: Don't Go Broke; (4) Savings and Investments: Your Money at Work; (5) Credit: Buy Now, Pay Later; and (6) Insurance: Your Protection. Each unit provided an overview of the section, a goal statement (which identified the main focus of the unit), and learning objectives that indicated the degree of mastery students were expected to demonstrate.

Evaluation Method

The students were asked the knowledge, confidence, and behavior questions using the *post-then-pre* test method (Rockwell & Kohn, 1989). This method of self-reported change took less time, was less intrusive, and avoided pretest sensitivity and response shift bias that result from pretest overestimation or underestimation (Lam & Bengo, 2003; Pratt, McGuigan, & Katzev, 2000). This testing method has been found to be more reliable in measuring changes after studying specific content than the more traditional pre-test/post-test method (pre-test given before studying subject matter with a post-test given at the end of the presentation of the subject matter) (Howard & Dailey, 1979; Howard, Ralph, Bulanick, Maxwell, Nance, & Gerber, 1979; Linn & Slinde, 1977). In the post-then-pre evaluation method, the students were first asked about what they learned from studying the curriculum content. Next, they were asked their level of knowledge, confidence, and behavior prior to studying the content; thus the questions in this section were asked in the past tense. The primary reason for the increased reliability of answers in the post-then-pre method was that students often do not know what they do or do not know before studying the material; asking them first about what they learned served as a foundation to indicate what they knew or how they behaved prior to the curriculum study. Using this method also addressed the gendered, internalized norm patterns that undergird the questions that were asked in the evaluation instrument.

Sampling Procedures and Characteristics

A sampling frame of teachers who requested the NEFE HSFPP curriculum at the beginning of the 2003-2004 academic year was developed. A stratified random sample of teachers (n = 1,511) from that sampling frame were sent a one-page participation survey to determine their use of the curriculum during the project timeframe, to obtain their commitment for participation in the evaluation project, and to determine the size of their class and the ending date for their use of the curriculum. Of the 999 surveys returned, 30% were from teachers who were completing the program outside of the project timeframe, 2% were ineligible for the study, and another 2% of the teachers were not teaching the curriculum. In total, questionnaires were sent to 483 teachers including 20,274 questionnaires for students. Each teacher was sent a packet that included a teacher survey and student questionnaires for the teacher to distribute and collect in class when the curriculum study was completed. In the end, 202 (42% return rate) of the teachers returned the surveys from 5,329 of the students. Over one-half (59%) of student respondents were juniors and seniors. The sample was comprised of 48% males and 52% females. Students were evenly distributed between urban areas with populations over 100,000 (21%), communities between 25,000 and 100,000 (26%), towns with populations of less than 25,000 (29%), and rural areas or farms (24%).

Operational Definitions of Financial Knowledge, Behavior, and Self-efficacy

The evaluation questions were selected based on the major concepts emphasized within the chapters of the curriculum that was studied. After a draft of the evaluation questions was written by the evaluation project team, input was incorporated from an advisory board comprised of teachers, students, NEFE personnel, and representatives of the major collaborating organizations utilizing the curriculum in their financial education efforts.

Teen respondents were asked four financial knowledge questions, eight financial behavior questions, and two self-efficacy questions using the post-then-pre evaluation method. Because financial behavior change was the focus of the evaluation study, more in-depth questions about the ways money was acquired, saved, spent, and communicated within the family system were asked. Although the assessment of behavior change was the primary focus of the evaluation study, a few knowledge and self-efficacy questions were asked in order to evaluate earlier stages of the learning process for important concepts from the curriculum. Knowledge and self-efficacy were the foundation for behavior change to occur; an assessment of knowledge deficit was needed to understand why behavior change is needed, and self-efficacy refers to a feeling of being able to deal effectively with a situation (Bandura, 1977). Both conditions were needed to motivate students to take action and make changes in their financial behavior.

The four knowledge questions and one of the self-efficacy questions were asked on a 5-point Likert scale from *strongly disagree* (1) to *strongly agree* (5). The four knowledge questions were (a) I understand the cost of buying on credit, (b) I know key questions to ask when shopping for auto insurance, (c) I know about investments (stocks, mutual funds, bonds, etc.), and (d) I know the difference between needs and wants. The self-efficacy question was "I believe the way I manage my money will affect my future."

There were eight financial behavior questions; there was also a second self-efficacy question ("I feel confident about making decisions that deal with money") that was asked on a 5-point Likert scale from *almost never* (1) to *almost always* (5). The eight behavior questions were (a) I track my expenses, (b) I compare prices when I shop, (c) I set aside money for future needs/wants, (d) I use a budget, (e) I repay the money I owe on time, (f) I make goals for managing my money, (g) I achieve my money management goals, and (h) I discuss money management with my family.

Analytical Procedures

Frequencies by gender were performed for all variables in the study. *T*-tests were conducted that compared the knowledge, self-efficacy, and behavior items before studying financial planning with the same items reported after studying financial planning. The *t*-tests indicated whether the difference was statistically significant. To determine whether knowledge, self-efficacy, or behavior remained the same or increased as a result of studying the curriculum, a discrepancy score was calculated for each knowledge, self-efficacy, and behavior item. This score was calculated by subtracting the before-study value from the after-study value. A positive score indicated that an individual had gained financial literacy by increasing knowledge, self-efficacy, or behavior. A score of zero indicated that the student reported the same response before and after the study of the curriculum content.

Results

Social Context of the Family

Ways in which money was acquired. On average, females received more money per week from their parents on an "as needed" basis than did males. Female students received $17.32 from their parents in an average week, whereas the males received $16.03. Only about 40% of both genders reported receiving an allowance, and of those receiving an allowance, a little over $24 was the average allowance. Forty-four percent of the male teens held part-time jobs and worked approximately 19 hours per week, with a take-home pay of $128.49, on average. Forty-three percent of the female teens held part-time jobs and worked approximately 18 hours per week, with an average take-home pay of $111.25. Sixty-four percent of females worked other jobs involving activities such as babysitting, lawn-care, snow shoveling, cleaning house, or pet care and earned $32.62 in an average week. Approximately 60% of the males worked other jobs and earned $38.93 in an average week.

Amounts of money saved and spent. There was a statistically significant difference ($p < .05$) in how the female and male students spent and saved their money. Male teens, on average, spent and saved more money than the females. Males saved $30.76, whereas females saved $25.68. Males spent $33.20, whereas females spent $30.00. However, the genders did not differ in the manner in which they decided how much money to save (see Table 1). The highest percent of females (41.7%) and males (34.3%) saved a specific amount of their earnings. About a quarter of each gender saved only when there was a specific purchase they wanted. About 14.0% of females and 16.7% of males decided together with their parents how much to save.

Amounts of debts owed. The majority of the students did not have debts or bills. Approximately 23% of males and approximately 27% of the females had debts. There was a statistically significant difference between the genders regarding the amount of debt owed. Males owed $1,040 and females owed $504 on average. The item that the students purchased to accumulate this debt load by gender was a car (28% for males and 17% for females) or a motorcycle (5% for males and 1% for females).

Table 1. Manner in Which Female and Male Teens Decided How Much to Save

Decision criteria	Female (%)	Male (%)
No source of money	3.4	6.5
Have a source of money, but do not save regularly	11.2	10.2
Decide on a specific percent or amount of earnings to save	41.7	34.3
Usually save only when there is a specific purchase I want	21.4	25.9
Parents require specific percent/amount of earnings (gifts) be saved	8.3	6.5
Parents and I decide together how much to save	14.1	16.7

Sharing information with family. When the genders were queried about whether they shared concepts that they learned in the classroom with family members, more males (72%) than females (61%) did so. Concepts they shared most often differed slightly (see Table 2). About a third of each gender shared more than one concept with family members. When comparing single concepts shared, the three shared most with the family (needs versus wants, investing and saving, and pay yourself first) were the same for each gender, but the rank order was different. Needs versus wants was first for females, and investing and saving was first for males. Over three times more females shared budgeting information with their families. Twice as many males, however, shared investing information with family compared to their female counterparts. No females shared information about entrepreneurship, whereas 3% of the males did. The concept of needs versus wants was shared twice as often with family members by females than males. Twice as many male teens as female teens shared information with family about compounding interest and about the financial planning process.

Social Context of the Classroom

The social construction of gender can play out through classroom learning in at least two ways. First, each gender comes into the classroom with a level of financial experience and internalized gender role patterns that serve as a lens through which they process information that is taught. Secondly, that lens affects both the difference between the gendered groups within each financial issue taught and the difference in the degree of increase in financial knowledge, self-efficacy, and behavior that occurs by gender group.

Table 2. Concepts Learned in the Classroom and Most Shared with Family Members

Financial concept	Females (%)	Males (%)
Pay yourself first	11.3	9.1
Credit and debt	5.6	7.6
Budgeting	7.0	1.5
Compounding interest	1.4	3.0
Financial planning process	2.1	4.5
Investing and saving	10.6	18.2
Insurance	2.1	1.5
Entrepreneurship	0.0	3.0
Needs versus wants	22.5	10.6
Goals	9.2	7.6
Shared more than one concept	28.2	33.3

Tables 3, 4, and 5 present similar types of information for financial knowledge (see Table 3), financial self-efficacy (see Table 4), and financial behavior (see Table 5). Each table includes four pieces of information: the mean before studying the curriculum content, the mean after studying the curriculum content, the percentage of those whose scores remained the same, and the percentage of those whose scores increased (gain) after the study of the curriculum content. The footnote in the first two columns indicates which gender, if there is a statistically significant difference, reported having greater knowledge, more confidence, or more frequent behavior. These two columns provide us with a view into the social construction of gender related to financial literacy.

However, this information provided only part of the picture of gendered construction of the financial literacy of teens. The differentiated, gendered perspectives may affect how and what kind of financial information is processed during the curriculum study. The last two columns of Tables 3, 4, and 5 provide additional information into the processing that occurred during the curriculum study. Of the latter two columns, the column of most interest is the "Gain" column. The column indicates the percentage of female and male students who reported an increase in financial knowledge acquired (see Table 3), an increase in financial self-efficacy developed (see Table 4), or an increase in financial behavior performed (see Table 5). An footnote adjacent to a percentage in the "Gain" column indicates that one of the gender groups reported significantly higher levels of gain in learning on that topic.

Financial knowledge. Table 3 provides distributions for the four financial knowledge questions for both male and female students. Students reported the highest scores for the difference between needs and wants, followed by understanding the cost of buying on credit and knowing about investments. They reported the least knowledge about key questions to ask when shopping for auto insurance. More females reported knowing the difference between needs and wants than did males, but the male students were significantly higher on the other three financial knowledge questions (cost of credit, investments, and car insurance) than were females.

Slightly over 60% of students reported that they increased their knowledge about credit costs, auto insurance, and

Table 3. Financial Knowledge for Females and Males

Financial questions	*M* before	*M* after	Maintain (%)	Gain (%)
Credit cost				
Female	2.75	3.81	36.5	63.5[c]
Male	2.93[a]	3.88[b]	41.4	58.6
Key auto insurance questions				
Female	2.28	3.31	38.3	61.7[c]
Male	2.57[a]	3.44[b]	45.0	55.0
Investments				
Female	2.28	3.34	37.3	62.7[c]
Male	2.72[a]	3.59[b]	46.1	53.9
Needs and wants difference				
Female	3.71[a]	4.38[b]	59.8	40.2
Male	3.64	4.27	59.1	40.9

[a]The mean before studying the HSFPP curriculum content was significantly higher compared to the other gender group.
[b]The mean after studying the HSFPP curriculum content was significantly higher compared to the other gender group.
[c]There was a statistically significant difference between the knowledge gain of the gender groups.

investments. Females increased their knowledge about credit costs, auto insurance, and investments more than males as a result of studying the HSFPP curriculum content. The students, whether female or male, learned the most about credit costs. Perhaps because they reported high levels of knowledge about the difference between needs and wants coming into the learning experience, students increased their knowledge in that area the least.

Financial self-efficacy. Two aspects of self-efficacy (see Table 4) were measured in this study: attitude (belief that managing money affects their future) and confidence (in making financial decisions). Students reported higher mean scores for their belief that managing money affects their future than they did for their confidence about making financial decisions. Females reported a higher mean score for their belief that managing money affects their future both before and after studying the course content, whereas males reported more confidence about making financial decisions both before and after studying the course content. There was no statistical difference between the genders in the self-efficacy gained in the belief that managing money affects their future. However, females increased their confidence about making financial decisions to a greater degree compared to males.

Table 4. Financial Self-Efficacy for Females and Males

Financial questions	*M* before	*M* after	Maintain (%)	Gain (%)
Belief that managing money affects future				
Female	3.94[a]	4.56[b]	55.4	44.6
Male	3.83	4.43	58.6	43.2
Confident in money decisions				
Female	3.15	3.73	57.2	42.8[c]
Male	3.34[a]	3.85[b]	61.8	38.2

[a]The mean before studying the HSFPP curriculum content was significantly higher compared to the other gender group.
[b]The mean after studying the HSFPP curriculum content was significantly higher for that gender group compared to the other gender group. [c]The gender group gained significantly more confidence in themselves compared to the other gender group.

Table 5. Financial Behaviors for Females and Males

Financial questions	*M* before	*M* after	Maintain (%)	Gain (%)
Wrote financial goals				
Female	2.68	3.20	58.7	41.3
Male	2.70	3.18	61.0	39.0
Set aside money for future				
Female	3.14	3.63	61.3	38.7
Male	3.14	3.63	62.0	38.0
Tracked expenses				
Female	2.46	2.96	59.8	40.2[c]
Male	2.53[a]	2.95	64.4	35.6
Achieved financial goals				
Female	2.63	3.07	61.9	38.1[c]
Male	2.75[a]	3.16[b]	65.1	34.9
Used a budget				
Female	2.38	2.80[b]	63.2	36.8[c]
Male	2.35	2.71	64.6	35.4
Compared prices				
Female	3.43[a]	3.86[b]	68.7	31.3
Male	3.20	3.60	67.5	32.5
Repaid money owed on time				
Female	3.52	3.90	69.4	30.6
Male	3.54	3.93	69.3	30.7
Discussed money with family				
Female	2.39	2.73[b]	69.2	30.8[c]
Male	2.35	2.62	71.8	28.2

[a]The mean before studying the HSFPP curriculum content was higher compared to the other gender group. [b]The mean after studying the HSFPP curriculum content was higher compared to the other gender group. [c]The gender group changed their behavior significantly more compared to the other gender group.

Financial behavior. Table 5 provides the frequencies for the eight financial behavior questions. After studying the course content, the three financial behaviors with the highest scores were "I repay the money I owe on time," "I compare prices when I shop," and "I set aside money for future needs/wants." The three questions with a mean score of less than three after studying the curriculum content were "I discuss money management with my family," "I use a budget," and "I track my expenses." Females reported increasing the performance of three more financial behaviors than did males after studying the curriculum content: using a budget, comparing prices when shopping, and discussing money issues with family. Male students reported achieving their financial goals to a statistically greater level than did female students. About 40% of both males and females reported that they had written financial goals and that they were tracking expenses when they did not do those things or did them less before studying the curriculum. For the other six financial behaviors, about 30% of the students increased their level of behavior. Females increased their level of four financial behaviors to a larger extent than males after studying the curriculum content: tracking expenses, achieving financial goals, using a budget, and discussing money issues with family.

Summary and Discussion

The current study of 5,329 teens who completed a financial planning curriculum investigated male/female teen differences in financial knowledge acquisition, self-

efficacy development, and behavior performance. Because the study recognized the shared reality of schools and families in constructing financial literacy, it also investigated the gender differences in the manner in which money is acquired, saved, spent, and communicated within the family system.

Social Context of the Family

About the same number of male and female teens worked part-time, and males earned more, on average, than did females. Female teens, however, received more money from their parents than did males. The study did not collect family incomes, so it is not possible to distinguish whether this difference was due to internalized gender norms of parents or to some other reason. A research question to pursue in the future relative to the acquisition of financial knowledge and expectations within gender roles is whether parents with higher incomes were providing their female teens with more money than parents with lower incomes, and, thus affecting the mean. Families with varied income levels may have different shared realities about gendered financial role expectations.

On average, males in this study saved and spent more than females. Future research about gender role financial expectations might pursue whether this finding emanates from the fact that the male teens earned more and, thus, saved and spent more; it is also possible that the items males purchased generally cost more and their future financial goals required that more money be saved to meet those goals. When answering the question about the manner in which they decided how much to save, the largest percentage (41.7% for females and 34.3% for males) of both genders reported that they decided to save a specific percentage of earnings and gifts. About a fifth of the teens had parental involvement in saving decisions, either by parental mandate or through mutual decision making. About a fourth of each gender carried debt; males carried twice as much as females. Much of the reason for that debt was ownership of a car or motorcycle. A very critical question to ask about this finding is whether male teens are being placed at greater financial peril at an early age because of socially constructed gender expectations.

The study focused primarily on the acquisition of financial literacy for teens by gender through the study of a financial planning curriculum, but attention was also given to the amount of information that flowed through these teens from the classroom to the family. Slightly more males shared curriculum concepts with family members. In fact, about a third of each gender shared multiple concepts and, in some cases, that transfer had quite an impact. One of the teachers who taught the curriculum and whose students evaluated their learning from the curriculum study had this to say about her students' financial literacy learning experience: "It is fabulous! They all enjoy learning about money. These students now have more knowledge about money than their parents! One of my students manages her entire mother's checking account and household expenses!" The individual concepts that the genders shared were quite reflective of gendered role expectations that were described by Clarke et al. (2005). Female teens shared concepts that had to do with overall financial management, whereas the male teens shared more concepts that had to do with earning or increasing the value of money, reflecting the social construction of gendered realities within families (Baca Zinn, 1991; Bowen, 2002; Hibbert, Beutler, & Martin, 2004).

Social Context of the Classroom

Males entered the study of financial planning with greater knowledge about credit costs, auto insurance, and investments compared to females, and although the scores for both genders increased after the study of those concepts, males received higher ending scores than did females. This finding follows the trend of past research such as Danes and Hira (1987), Hayhoe et al. (2000), and Varcoe et al. (2005). However, when the level of gain in knowledge in the three topic areas within this study was calculated, it was females who increased their knowledge the greater amount compared to the male students. This finding indicates that females have not been socialized in the family or other contexts to the degree that males have in those topics. Thus, for females, there is even greater benefit than for males in receiving formal financial education in high school in order to increase their financial literacy.

Female students who participated in the study were more likely then males to believe that managing money affects their future before they completed the financial planning course, and the difference remained after they completed the course. In explaining this finding, a paradox arises. Are females' beliefs the result of an unconscious imprinting into their internalized set of financial gender role norms from a very young age with reinforcements coming from continued social contexts as they have grown into teens? Or does this belief come from the responsibilities of family member care and messages that they will be cared for financially if only they manage their money well (Anthes & Most, 2000; Chen & Volpe, 1998)? On

the other hand, male teens came into the study of financial planning confident about making money decisions, and their decision confidence scores remained higher than female teens after completing the curriculum study. Female teens, however, gained a higher level of confidence in making money decisions over the course of the classroom study compared to the males. Once again, this finding is evidence of the importance for female teens to be able to study financial planning in the formal classroom setting.

There were no gender differences related to writing financial goals, setting aside money for the future, and repaying money that the teens owed on time. Females reported discussing money with family more than males after the curriculum study, and that difference was not present before studying the course content. These findings reinforce a discussion in Varcoe et al. (2005) who reported that students, excited about their new learning, shared it with family.

Comparing the performance of other financial behaviors between the genders, males came into the curriculum study reporting that they tracked expenses more than the females. Although some of the males reported increasing that behavior over the course of study, there was no statistically significant change. However, the number of female students who tracked expenses increased over the number of males who tracked expenses over the time of the curriculum study. The same trend was true for achieving financial goals. More females in the study than males reported using a budget and comparing prices over the course of the curriculum study, a replication of the findings of Hayhoe et al. (2000). There may be two ways of viewing this finding. One is to view it as a result of gender imprinting from a young age within the family. Alternatively, it may be the turning point for young women in acquiring a voice in further understanding financial skills. Whether this latter view becomes a prevalent socially constructed reality will depend on how many female teens will be taught financial planning in high school classrooms in the future or if future research replicates this study's findings that females gained greater financial knowledge and self-efficacy and increased financial behaviors more than their male counterparts.

The findings from this study should be motivation for financial professionals of all types to encourage schools to include personal finance in the school curriculum. Financial professionals might even work toward mandating that it be part of every school curriculum. Over the last 10 or so years, more states have developed graduation standards and mandated that personal finance be taught (NCEE, 2007). Thus, now is an ideal time to make a difference in the lives of youth, especially female teens, as they launch into adulthood. It certainly seems inconsistent that one of the goals of education is to prepare youth to be employable citizens, but not to prepare them adequately to manage the income they earn from that employment.

A continued systems approach of the partnerships with parents/families, schools, and community is needed as the task of preparing financially literate young adults cannot be the task of the schools alone. Enduring changes need to be approached from a systemic model (Pritchard & Myers, 1992). That means that a partnership must be developed between the schools, families, and the community of financial professionals. The discussions and actions within this partnership must be cognizant of the socially constructed financial gendered roles prevalent within our society, especially the gendered imprints unconsciously transferred to very young girls (Anthes & Most, 2000) that have lasting effects on women. Along with personal finance being taught in schools, it needs to be taught more intentionally within families to complement what is being taught in the schools. From the findings of this study, many students brought their financial learning home to family members, and reciprocal financial learning most likely was occurring. But the involvement of financial professionals from the community also is critical; they could assist with teaching in the classroom, develop media messages about finances that are targeted to teens (again being cognizant of social constructed gender realities), and create mentoring opportunities that encourage financial literacy or financial career education. As students become financially independent, they encounter an increasingly complex marketplace, earnings do not meet spending goals, and easy access to credit places young adults at risk for future financial instability. Financial management education within the high school setting can contribute one piece of the systemic approach in order to better prepare young adults of both genders to successfully meet these challenges.

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