

College-Based Personal Finance Education: Student Interest in Three Delivery Methods

Joseph Goetz, Brenda J. Cude, Robert B. Nielsen, Swarn Chatterjee, and Yoko Mimura

Using online survey responses from 509 undergraduate students, three financial education methods (on-campus financial counseling center, online financial management resources, and in-person educational workshops) were examined. Using a social constructionist framework, the analysis controlled for various demographic and financial factors. The results of three logistic regressions indicated that having taken a personal finance course was positively associated with interest in all three delivery methods. Having higher debt, being African American, and believing that finances will affect college completion were positively associated with at least one but not all three delivery methods. Recommendations for implementing financial education programming for college students are provided.

Key Words: college students, financial education, financial literacy

Introduction

College students face high tuition costs and increasingly complex financial decisions. As Lusardi (2010) notes, choosing when and how to invest in education is in and of itself an extremely complicated decision. One half of all freshmen borrow to pay for their educations and in the process make decisions that will affect their financial futures in ways they likely do not yet understand (Gladieux & Perna, 2005). Without exposure to financial education or counseling, many students find the variables involved in making accurate financial decisions abstruse or inaccessible (Adams & Moore, 2007; Avard, Manton, English, & Walker, 2005; Chen & Volpe, 1998). This lack of financial knowledge and difficulty in making good financial decisions is evident even after young adults graduate and move into the workforce (Volpe, Chen, & Liu, 2006). Financial-related stress, which has become increasingly common among students (Phinney & Haas, 2003), can lead to poor academic performance and productivity (Pinto, Parente, &

Palmer, 2001; Ross, Niebling, & Heckert, 1999; St. John, 1998) and even leaving college to work additional hours to manage debts (Roberts & Jones, 2001; U.S. General Accountability Office, 2001). Each of these outcomes adversely affects retention rates at colleges and universities and hinders students' career potential.

College students face decisions that are likely to be new to them in a new environment but without direct parental support and supervision. Researchers (Chen & Volpe, 1998; Jump\$Start Coalition for Personal Financial Literacy, 2008) have demonstrated that college students, like many subpopulations, have inadequate financial management knowledge. Anecdotal evidence of the long-term consequences of their choices, such as NFL quarterback Drew Brees' citing the effect an unpaid cell phone bill during college had on his first mortgage's interest rate (Alderman, 2010), rings true for professionals who work with the college student population.

Joseph Goetz, Ph.D., Assistant Professor, Department of Housing and Consumer Economics, 205 Dawson Hall, University of Georgia, Athens, GA 30602, goetz@uga.edu, (706) 542-2066

Brenda J. Cude, Ph.D., Professor, Department of Housing and Consumer Economics, 205 Dawson Hall, University of Georgia, Athens, GA 30602, bcude@uga.edu, (706) 542-4857

Robert B. Nielsen, Ph.D., Assistant Professor, Department of Housing and Consumer Economics, 205 Dawson Hall, University of Georgia, Athens, GA 30602, rnielsen@uga.edu, (706) 542-8885

Swarn Chatterjee, Ph.D., Assistant Professor, Department of Housing and Consumer Economics, 205 Dawson Hall, University of Georgia, Athens, GA 30602, swarn@uga.edu, (706) 542-4722

Yoko Mimura, Research Professional, Department of Housing and Consumer Economics, 205 Dawson Hall, University of Georgia, Athens, GA 30602, ymimura@fcs.uga.edu, (706) 542-4758

The Credit Card Accountability Responsibility and Disclosure Act of 2009 includes provisions designed to limit credit card marketing to college students. However, inevitably college students still will have credit cards even after implementation of the law. As is true today, many will find their income and the amount of credit available to them to be poorly matched, creating a problem especially for students predisposed to overspending or those who lack other financial resources to pay credit card balances (Chen & Volpe, 1998). Students' financial decisions are further complicated by various unforeseeable expenses and the difficulty of projecting future income levels. Students who graduate with low credit scores face barriers in finding employment, because prospective employers for positions with fiduciary or financial responsibilities frequently check applicants' credit reports. Furthermore, students' credit histories affect their ability to rent an apartment and qualify for an auto or home loan as well as the insurance premiums and interest rates they pay (Insurance Information Institute, 2009).

Much attention has been given to college students' use of credit cards and rightly so. The vast majority of undergraduate students (84%) have at least one credit card; the average number of cards per student is 4.6 and one half of students have four or more credit cards (Sallie Mae, 2009). According to a 2003-04 American Council on Education analysis (ACE, 2006), a substantial proportion (48%) of student cardholders carried a balance by their last year of college. Furthermore, the ACE analysis showed that students who used their credit cards to pay tuition were more likely to carry a balance (55%) than those who did not (38%). The average student credit card debt held by undergraduate cardholders has increased by 46% since 2004 (Sallie Mae, 2009).

Although credit card debt may be the most visible financial concern for college students due to high interest rates and fees, students are increasingly servicing other types of debt, such as auto and education loans. Students are borrowing more money to finance their educations with all forms of student aid rapidly increasing (The Project on Student Debt, 2010). Research has shown some groups of students are "financially at-risk" for accumulating large amounts of debt and misusing credit after graduation; these include financially independent students, low-income students, women and minorities, and first-generation students (Lyons, 2004). One fifth of borrowers drop out of college and 19% of those students came from families with incomes below poverty level (Gladieux & Perna, 2005). Clearly, students' management of debt and related financial

stress is an issue that should be of great concern to financial educators and financial planners. Students who leave their university with less debt, some basic investment knowledge, and a financial plan for the future may be more likely to reach their life goals and experience a higher level of financial well-being.

Statistics over the past decade corroborate a disturbingly low level of financial literacy among college students (Chen & Volpe, 1998; Jump\$art Coalition, 2008; Mandell, 2002). Combined with increasing levels of debt, there is a cogent argument that college students should have access to financial education and/or counseling. Previous research has indicated that 91% of college students believe that financial counseling and education services should be available to all students on campus and that 48% of college students would use such services (Moore, 2004). However, college students' degree of interest in the various financial education delivery methods is unknown.

The current study aims to address an important gap in knowledge by presenting data on college students' desired delivery method to receive financial education. Knowledge of the factors affecting the likelihood that college students will seek financial knowledge and guidance is informative for both financial planning practitioners and financial educators. This knowledge is particularly useful to those seeking to implement and market financial education and counseling programs on college campuses.

Literature Review

The literature review focuses on two specific areas. The first section describes the limited academic literature related to the three financial education delivery models (financial counseling centers, online resources, and workshops) that are the focus of this research. The second section describes the even more limited research reporting individual-level characteristics related to utilization of financial education delivery methods.

Financial Education Delivery Models

Cude et al. (2006) described several approaches to delivering financial education to college students. These included the integration of a personal finance course within the general education curricula offered on college campuses as well as workshops and seminars, financial counseling centers, peer education, and online resources. In follow up work, Cude, Lyons, and Lawrence (2007) outlined the advantages and disadvantages of several of these delivery models.

Most of the previous empirical research evaluating financial education delivery methods has centered on demonstrating outcomes rather than assessing student preferences. For example, previous research has suggested that providing financial education to students is worthwhile as students who participate in a financial education program are more successful financially (Baek, 2001; Doll, 2000; Varcoe et al., 2001), know more (Fox, Bartholomae, & Lee, 2005; Huddleston & Danes, 1999), are less likely to be at-risk financially (Lyons, 2003), and behave more responsibly with their finances (Fox et al., 2005; Huddleston & Danes, 1999; Tennyson & Nguyen, 2001).

The majority of the previous research focused on formal personal finance courses. Researchers (e.g., Avard et al., 2005) often have concluded that the remedy for low financial literacy among college students is to require a course or incorporate personal finance topics into courses most students take, such as general education courses. However, these recommendations are generally based on assumptions about efficient and effective methods to reach students rather than knowledge of students' desired method of access to this information.

Research on other financial education delivery methods to reach college students is rare. Borden, Lee, Serido, and Collins (2008) and Austin and Phillips (2001) studied financial education seminars. Borden et al. revealed that students who attended a financial education seminar presented by Students in Free Enterprise (SIFE) increased their responsible attitudes toward borrowing and decreased their harmful attitudes toward finances. Changes were measured using pre and posttests. The posttests also suggested that students increased their willingness to practice responsible financial behavior and reduce risky financial behavior. The results suggested that financial education seminars may be effective in improving financial behavior among college students. Further, seminars can be an efficient way to reach a wide audience on a college campus. Austin and Phillips reported that financial education seminars that included information regarding the negative consequences of frequent credit use and owning more credit cards, along with information about best practices for payment of credit card debt, could improve students' ability to manage financial debt more effectively. However, neither study provided insights into the characteristics of students who might prefer to receive financial education through in-person workshops.

Previous research also has explored the merits of online resources but provides limited knowledge about which college students might prefer this delivery method. Researchers have demonstrated the method can be effective; for example, Gartner and Schiltz (2005) reported that a one-credit online credit education course was effective in improving college students' understanding of responsible borrowing. On the other hand, Johnson and Sherraden (2007) suggested that financial education classes may not effectively fit the learning styles of some students and instead recommended exposing them to activities such as opening a savings account – activities that presumably would take place offline. While their observations may be relevant to college students, their focus was primarily younger students.

Finally, although Elliehausen, Lundquist, and Staten (2007) did not study college students, their research is informative relative to financial counseling centers. In their study of the impact of credit counseling on adults' financial behaviors, individuals who received financial counseling improved their financial management skills. Receiving financial counseling was positively associated with a substantial reduction in debt and appeared to be of greater benefit to borrowers who had the least ability to manage debt prior to counseling. Financial counseling on a university campus may be offered by peers, usually students who major in financial planning and related disciplines (Goetz, Tombs, & Hampton, 2005).

Student Receptiveness to the Various Models of Delivery

Most educators know that offering financial education does not mean that anyone will take advantage of it. Understanding who will respond to the offer is important. Only one study has directly examined the factors that influence personal finance help-seeking behavior (Joo & Grable, 1999) and that study used a random sample of working adults rather than students. Joo and Grable (1999) identified three factors associated with individuals being more likely to seek financial help: (a) experiencing more financial stressors, (b) exhibiting more maladaptive financial behaviors, and (c) not owning one's own home. Rhine and Toussaint-Comeau (2002), also using a random sample of adults rather than college students, found differences in preferences for the delivery of financial information based on socioeconomic and demographic factors. For example, African Americans and other non-Whites were significantly more likely to prefer Internet-based information than Whites. In addition, women were less likely than men to prefer online financial management information over other delivery methods.

Limited research exists that examined response by college students to specific delivery methods. Doll (2000) and Jariah, Husniyah, Laily, and Britt (2004) reported research specific to financial counseling centers. In a survey conducted among faculty, staff, and students at the Ohio State University, Doll (2000) reported the results of a logistic regression in which the only two characteristics associated with use of a financial counseling center staffed by students were having used a financial planner (positive) and having no income (negative). However, Doll did not report a separate analysis for the student respondents; nor is it known how the responses might have been different had the question not specified student staffing of the center. In a study of Malaysian college students, the majority of both males and females expressed interest in financial counseling services (Jariah et al., 2004).

Lyons and Hunt (2004) and Lyons (2004) reported research regarding college students' preferences for financial education delivery methods. Lyons and Hunt found that Illinois community college students preferred to receive financial information in person from a financial professional (59.5%). The second and third choices were a campus workshop (54.8%) and the Internet (47.6%). Just more than one fourth wanted to take a course and only 7% wanted to take that course online rather than in person. Lyons reported that Midwestern college students, who were financially at-risk and specifically those who were delinquent on credit card payments by at least two months, were more likely to say they would use campus-based financial services and they preferred online access to information. Overall, the students responding to Lyons' survey expressed the strongest preference for financial education via informational materials, followed by online information, seminars/workshops, and finally counseling services. A course was not among their listed options.

Conceptual Framework

A social constructionist perspective was used as an overarching framework for this research. Social constructionism views meaning and identity as interpersonally produced as human beings engage with the world they are interpreting (Gergen, 1985). Thus, in the current study, the hypotheses were based in part on a participant's past experiences (e.g., personal finance course), self-identities (e.g., race, spending behavior), and current situational factors (e.g., level of debt, concern about the effect of finances on completing college), as these variables are assumed to influence how students view various social constructs, including various methods of receiving financial education.

The social constructionist perspective would suggest that what most students understand reality to be is actually a consensus worldview created through social and cultural interaction (Berger & Luckman, 1966; Gergen, 1985). Thus, variables such as race, gender, and financial success are constructed by people based on observable phenomena and social interactions. Social constructionism also embraces the notion of human plasticity, and as such adheres to the possibility of change. In other words, deconstruction and reconstruction can occur to what has already been constructed. Students' interest in different formats of information seeking should be understood as varying and able to change based on past and future social interactions, rather than as biologically predetermined tendencies.

Based on the previous literature and using a social constructionist perspective, the hypothesis was that the presence of interest in receiving financial education among college students can be explained in part by variations in the study participants' self-identities, current situational factors, and past experiences. More specifically, the hypothesis was that the following variables are associated with the likelihood of being interested in different financial education methods (i.e., on-campus financial counseling center, online financial resources, and in-person educational workshops): student's financial independence, age, sex, race, grade point average, school withdrawal history, whether the student generally avoided overspending, perceived money management skills, whether they believed finances will affect their completion of a degree, whether they had a revolving balance on a credit card, whether they had debt in excess of \$10,000, and whether they had ever attended a personal finance course.

Because the different delivery methods require different levels of institutional commitment, understanding the likelihood that students with varying characteristics will use a particular financial education delivery method is important. Toward a better understanding of these characteristics, this research seeks to answer two questions. First, what are the correlates of students' interest in receiving financial education? Second, how are these correlates related to students' interest in each of three financial education delivery methods: financial counseling centers, online financial management resources, and educational workshops?

Methods

Description of Data

Data used in this research were collected from a random sample drawn from the University of Georgia undergradu-

ate student population. The sample was limited to students who were 18 years of age or older and degree-seeking U.S. citizens or permanent residents. Students with rural permanent addresses and non-White students were oversampled by 10% to ensure a sufficient representation of these two populations and to satisfy sample composition requirements of the funding agency. The first solicitation, which was emailed, instructed students who were willing to participate in this research to click on a survey link embedded in the email. The survey instrument was based largely on the questions asked by Lyons (2004), with modifications in wording to match the specific terminology used at the University of Georgia and to reflect the research interests of the project. To encourage participation, students were informed that completion of the survey would enter them into a drawing for a \$50 gift certificate to the University of Georgia Bookstore. One additional e-mail solicitation was sent to the full sample during the survey period.

Of the 3,261 students drawn for the random sample, 652 (20%) completed the online instrument. A listwise deletion of the cases that had missing data on the outcome and explanatory variables used resulted in a sample of 509 students. Missing values on each variable ranged from 15 to 40 cases and exhibited no discernable pattern (see Table 1). The actual response rate was assumed to be somewhat higher than the reported response rate because some of the email messages sent to students were undeliverable; however, the Office of Student Financial Aid, which sent the emails, would not track the number not delivered. Regardless, the response rate is similar to that reported for other online surveys of students and consistent with a trend of declining response rates and lower response rates for lengthy surveys (Sax, Gilmartin, & Bryant, 2003; Sax, Gilmartin, Lee, & Hagedorn, 2003). In addition, incentives offered after completion of a survey, the approach used in this study, have less effect on response rates than prepaid incentives (Clarkberg, Robertson, & Einarson, 2008), and even prepaid incentives have limited and inconsistent outcomes (Szelenyi, Bryant, & Lindholm, 2005).

Empirical Plan

The analyses proceeded as follows. First was a descriptive profile of the respondents' characteristics, including academic information, their perceived levels of financial wellness, and indicators of any prior experience with financial education courses. Next, bivariate analyses assessed associations between student characteristics and their interest in receiving financial education via a financial counseling center, online resources, or in-person work-

shops. Finally, multivariate analyses assessed the unique contribution of each of the students' characteristics to their interest in receiving financial education via each of the delivery methods, controlling demographic, socioeconomic, academic, and financial independence characteristics. Specifically, three logistic regressions assessed the relative importance of individual-level characteristics to interest in each of the three financial education delivery methods. The probability that a student expressed interest in any given delivery method was defined as shown in Equation 1.

$$P(\text{delivery method}) = \frac{1}{\left\{ 1 + \exp \left[-(\alpha + \sum B_i X_i) \right] \right\}} \quad (1)$$

Delivery method was a dichotomous variable equal to 1 when the student reported interest in a given delivery method and 0 when no interest in that method was recorded. For example, when a student expressed interest in using a financial counseling center then delivery method (in this case the use of a financial education center) equaled 1, and 0 otherwise. X was a vector of explanatory variables that included the demographic, academic, and financial characteristics of the student. As stated previously, these included indicators for the student's financial independence, age, sex, race, grade point average, school withdrawal history, whether the student generally avoided overspending, perceived money management skills, whether they believed finances will affect their completion of a degree, whether they had a revolving balance on a credit card, whether they had debt in excess of \$10,000, and whether they had ever attended a personal finance course. Alpha (α) was the log odds when each X_i was equal to zero, and Beta (β) was the vector of estimated odds ratios. The remaining two equations estimated respondents' interest in online financial management resources and personally attending workshops on campus, respectively.

Results

The 509 respondents who provided complete information on all variables of interest were predominantly traditionally-aged female college students (see Table 1). Eighty percent of respondents were between ages 18 and 21 at the time of the survey and about 75% were female. While not representative of the university's undergraduate population (58% were female in the year of the survey), a higher response rate among women than men is common for surveys (Clarkberg, Robertson, & Einarson, 2008) and for online surveys of students (Sax, Gilmartin, & Bryant,

Table 1. Descriptive Statistics (N = 509)

Variables	<i>M</i>	<i>SD</i>	Range	Missing ^a Value
Interested in learning at a counseling center (1 = yes; 0 = no)	0.257		0 – 1	39
Interested in learning via online resources (1 = yes; 0 = no)	0.798		0 – 1	35
Interested in learning at a workshop (1 = yes; 0 = no)	0.426		0 – 1	34
Financially independent from parents (1 = yes; 0 = no)	0.165		0 – 1	15
Age				39
18-19	0.297		0 – 1	
20-21	0.501		0 – 1	
22-23	0.159		0 – 1	
24-25	0.043		0 – 1	
Sex:				40
Female	0.747		0 – 1	
Male	0.253		0 – 1	
Race:				39
White	0.749		0 – 1	
African American	0.081		0 – 1	
Other	0.171		0 – 1	
B or better letter grade average (1 = yes; 0 = no)	0.778		0 – 1	40
Ever withdrawn from school (1 = yes; 0 = no)	0.049		0 – 1	20
Avoids spending more than he or she has ^b	1.717	0.930	1 – 5	34
Manages money well ^c	2.085	0.896	1 – 5	35
Regularly sets aside money ^d	2.905	1.301	1 – 5	36
Finances likely to affect completion (1 = yes; 0 = no)	0.208		0 – 1	35
Has revolving credit card balance (1 = yes; 0 = no)	0.281		0 – 1	36
Total debt:				25
No debt	0.440		0 – 1	
Less than \$10,000	0.391		0 – 1	
\$10,000 or more	0.169		0 – 1	
Has had a personal finance course (1 = yes; 0 = no)	0.299		0 – 1	35

^a Listwise deletion on the full sample of 652 cases resulted in an analytic sample of 509 students.

^b Participants responded to the following: “I avoid spending more money than I have.” Response categories ranged from 1 = “Always” to 5 = “Never.”

^c Participants responded to the following: “I manage money well.” Response categories ranged from 1 = “Always” to 5 = “Never.”

^d Participants responded to the following: “I regularly set money aside for savings.” Response categories ranged from 1 = “Always” to 5 = “Never.”

2003; Sax et al., 2003; Underwood, Kim, & Matier, 2000). Seventy-five percent were White; as expected due to the oversampling, a higher proportion of the respondents (8%) were African American than was true among the university's undergraduate population (6%). As is typical among surveys of college students (Dey, 1997; Porter & Whitcomb, 2005; Sax et al., 2003), respondents were generally successful students, with nearly 80% reporting that their grade average was 'B' or better and about 95% reporting that they had never withdrawn from school. In terms of finances, about one fifth of the respondents believed that their finances were likely to affect their degree program completion. Approximately 17% of the respondents had debt levels of \$10,000 or more, about 40% had debt levels below \$10,000, and the remaining 44% reported having no debt at all. Overall, about one fourth of all respondents carried a revolving credit card balance and about 30% reported having previously taken a personal finance course of any kind.

To assess students' interest in various methods of delivering financial education, each was asked to respond to the following statements in this order:

"If a financial counseling center were available on campus I would use it on a regular basis."

"If personal financial management workshops were available on campus, I would attend them."

"If personal financial management resources were available on a [university] website for students, I would use them."

For each of these statements, responses of "strongly agree" or "agree" were set equal to 1 and responses of "disagree" or "strongly disagree" were set equal to 0. As shown in Table 1, 25.7% (131) indicated an interest in a counseling center, 79.8% (406) responded favorably to online financial management resources, and 42.6% (217) agreed that they would likely attend workshops on campus. The results are consistent with previous research in which there was strong support among students for campus-based financial education and counseling (Lyons, 2004; Lyons & Hunt, 2004), and many indicated they would use such services if they were available (Moore, 2004).

Pearson's chi-square tests of independence were conducted to assess any bivariate differences between the three dependent variables—use of a financial counseling center, online financial management resources, and face-to-face workshops—and each of the independent variables. As

shown in Table 2, several characteristics were significantly associated with interest in use of a financial counseling center. Ethnicity was significant; 51.2% of African Americans and 21.5% of Whites expressed interest. Grade point average, being financially independent from parents, and a positive perception of money management skills were also significant. Smaller proportions of those who were financially dependent, students with higher grade point averages, and those who thought they managed money well were interested in a financial counseling center than their counterparts. Interest in a campus-based counseling center was higher among those who had ever had to withdraw from school for financial reasons and those who expressed concern that their financial situation might affect their ability to finish their degree program. Students who were \$10,000 or more in debt were more likely than those with lower debt levels to indicate an interest in a financial counseling center, as were those who had ever had a personal finance course.

There were fewer significant associations between the independent variables and respondents' interest in online financial management resources, which likely reflected strong overall agreement about the utility of this delivery method. Students who expressed concern about the possibility that finances would affect their completion of the degree program, those who had outstanding debts as opposed to having no debt, and those who had taken a personal finance course disproportionately expressed interest in accessing resources online.

The third set of chi-square tests assessed the relationship between the independent variables and respondents' interest in receiving financial education via on-campus workshops. As shown in Table 2, older students were more likely than younger students to indicate that they were interested in attending workshops. Among the three race groups, the percentage of African American respondents who expressed an interest in workshops was the largest (66%) and the percentage of White respondents was the lowest (38%). The following also were associated with interest in financial education workshops: a history of avoiding overspending, concern that finances will affect completion of the student's degree program, and reporting either high levels or low levels of debt.

The survey did not query students' opinions about whether the three methods of delivering financial education could be viewed as substitute or complementary delivery methods. However, as shown in Table 2, each of the three

Table 2a. Characteristics of Respondents Interested in Receiving Education from Three Sources (N = 509)

	Counseling center		Online		Workshop	
	%	Pearson's correlation	%	Pearson's correlation	%	Pearson's correlation
Financially independent	33.3	3.038*	84.5	1.412	50.0	2.233
Financially dependent	24.2		78.8		41.2	
Age: 18-19 ^a	24.5	0.900	81.5	5.231	41.7	6.460*
Age: 20-21	25.1		76.1		38.8	
Age: 22-23	28.4		86.4		53.1	
Age: 24-25	31.8		86.4		54.5	
Female	26.1	0.078	76.7	0.976	43.4	0.381
Male	24.8		80.8		40.3	
Race: White ^b	21.5	14.079***	78.5	1.554	38.3	11.520***
Race: African American ^b	51.2	15.150***	82.9	0.276	65.9	9.831***
Race: Other ^b	32.2	2.282	83.9	1.116	50.6	2.706
B or better grade average	23.2	5.854***	78.8	1.054	41.4	1.083
Lower than B grade average	34.5		83.2		46.9	
Ever withdrawn from school	44.0	4.588**	80.0	0.000	52.0	0.943
Never withdrawn from school	24.8		79.8		42.2	
Counseling center			24.8	29.462***	21.2	114.308***
Online	24.8	29.462***			40.5	53.907***
Workshop	21.2	114.308***	40.5	53.907***		
Total number who expressed an interest in the delivery method	131		406		217	

^a 4x2 chi-square test of difference between all four age categories.

^b 2x2 chi-square tests: White v. African American and other, African American v. White and other, and other race v. White and African American for each financial education delivery method.

* $p < .10$. ** $p < .05$. *** $p < .01$.

methods of delivering financial education was significantly different from the others. Further, as shown in Table 3, the Spearman correlation coefficients for counseling center and workshop ($p = .47, p < .01$), counseling center and website ($p = .25, p < .01$), and workshop and website ($p = .33, p < .01$) were all positive and significant. Together, these results suggest that students view the alternative delivery methods as distinct, positive, and complementary. This possibility was further explored in the multivariate results.

Multivariate Results

To more fully assess the relationships between the three financial education delivery methods and the students' characteristics, three multivariate logistic regressions were specified that controlled for students' personal characteristics. In the regressions, several variables that were significantly associated at the bivariate level were no longer significantly associated with the likelihood that students showed interest in a financial education delivery method.

Table 2b. Characteristics of Respondents Interested in Receiving Education from Three Sources (N = 509)

	Counseling center		Online		Workshop	
	%	Pearson's correlation	%	Pearson's correlation	%	Pearson's correlation
Avoids overspending ^a	23.1	8.428***	79.8	0.003	40.4	4.705**
Overspends ^b	37.6		79.6		52.7	
Manages money well ^c	22.0	9.445***	79.4	0.108	40.9	1.507
Does not manage money well ^d	35.2		80.7		46.9	
Regularly sets aside money ^e	24.1	0.437	78.5	0.287	43.5	0.085
Does not set aside money ^f	26.7		80.5		42.1	
Finances likely to affect completion	36.8	8.562***	87.7	5.271**	52.8	5.693**
Finances unlikely to affect completion	22.8		77.7		40.0	
Credit card revolver	28.7	0.896	81.8	0.520	48.3	2.568
Not a credit card revolver	24.6		79.0		40.4	
Debt: None ^g	24.1	0.556	74.1	7.932***	38.0	3.592*
Debt: Less than \$10K	24.1		82.9		47.2	
Debt: \$10K or more ^h	33.7	3.452*	87.2	3.554*	44.2	3.592*
Had personal finance course	32.2	4.791**	85.5	4.458**	48.0	2.578
No personal finance course	23.0		77.3		40.3	
Counseling center			24.8	29.462***	21.2	114.308***
Online	24.8				40.5	53.907***
Workshop	21.2		40.5	53.907***		
Total number who expressed an interest in the delivery method	131		406		217	

^a “Always” or “usually” avoids overspending.

^b “Sometimes, seldom or never” avoids overspending.

^c “Always” or “usually” manages money well.

^d “Sometimes, seldom or never” manages money well.

^e “Always” or “usually” sets money aside for savings.

^f “Sometimes, seldom or never” sets money aside for savings.

^g 2x2 chi-square test: those with no debt and those with any debt at all.

^h 2x2 chi-square test: those with greater than \$10K debt and those with less than \$10K debt (including no debt).

* $p < .10$. ** $p < .05$. *** $p < .01$.

Table 3. Correlations Among the Three Sources of Financial Education (N = 509)

	Counseling center	Online	Workshop
Counseling center	1.00		
Online	0.25***	1.00	
Workshop	0.47***	0.33***	1.00

Note. 87 students did not select any source.

* $p < .10$. ** $p < .05$. *** $p < .01$.

As shown in Table 4 (Model 1), four individual characteristics were associated with a greater likelihood of interest in a campus financial counseling center: race, managing money well, believing finances were likely to affect completion of the degree program, and having had a personal finance course. Compared to White students, African American students were more than three times more likely to have indicated an interest in a financial counseling center (odds ratio = 3.59). Students of other racial groups were about 1.71 times as likely as White students to have indicated the same (odds ratio = 1.71). Two variables that described students who had some comfort or familiarity with financial management were significantly and positively associated with interest in a financial counseling center. First, respondents who indicated that they managed money well were about 40% more likely than those with less confidence in their financial management skills to have indicated interest in utilizing a financial counseling center. Second, students who had taken a personal finance course were 80% more likely to have indicated interest in a financial counseling center than those who had not taken such a course. Finally, respondents who indicated that their finances were likely to affect degree completion were nearly 80% more likely to have shown interest in a financial counseling center than those who were not concerned about their academic future.

As shown in Table 4 (Model 2), all three variables that were significantly associated with expressing an interest in online financial management resources at the bivariate level remained significant when controlling for other variables. Specifically, those who responded that finances were likely to affect degree completion were 90% more likely to have indicated an interest in online resources than those who were not concerned about completion of a degree program. Interestingly, relative to those who reported no outstanding debt, students with debts in excess of \$10,000

were about 2.5 times more likely and debtors with balances less than \$10,000 were about 17% more likely to have indicated an interest in online resources. Once again, familiarity with personal finance concepts remained significantly associated with interest in online resources. Respondents who had taken a personal finance course were 80% more likely than those who had not taken a personal finance course to have reported an interest in accessing resources online.

Model 3 in Table 3 shows how personal characteristics were associated with students' interest in receiving personal finance education in a face-to-face workshop. Among the variables that were significant in the bivariate analyses, only race and completing a personal finance course remained significantly associated with the response variable after controlling for all other characteristics. Relative to White respondents, African Americans and those of other races were 2.7 times and 1.5 times more likely, respectively, to have expressed an interest in face-to-face workshops. Those who had taken a personal finance course were about 50% more likely to be interested in a workshop than those who had not taken a course.

After controlling for all other variables included in these models, race (African American or other relative to White), one's ability to manage money, concern over one's ability to complete one's degree, and having had a personal finance course all were significantly and positively associated with an interest in a financial counseling center. The model for accessing resources online performed the least well, with a model $\chi^2(15, p < .10)$ of just 23.7. Nevertheless, concern about one's ability to complete a degree, having any level of debt, and having had a personal finance course all increased the likelihood of expressing an interest in online financial management resources. Finally, race (African American or other relative to White) and

Table 4. Logistic Regression Results of Interest in Financial Education Method (N = 509)

	Counseling center		Online		Workshop	
	<i>b</i>	Odds	<i>b</i>	Odds	<i>b</i>	Odds
Financially independent	0.351 (0.307)	1.42	0.272 (0.365)	1.31	0.125 (0.273)	1.13
Age	0.000 (0.159)	1.00	0.020 (0.167)	1.02	0.196 (0.136)	1.22
Male	-0.041 (0.252)	0.96	-0.387 (0.261)	0.68	-0.126 (0.218)	0.882
Race (White omitted)						
African American	1.278*** (0.365)	3.59	0.123 (0.457)	1.13	0.990*** (0.361)	2.69
Other	0.539** (0.275)	1.71	0.322 (0.327)	1.38	0.430* (0.246)	1.54
B or better grade average	-0.172 (0.268)	0.84	-0.225 (0.312)	0.80	0.024 (0.241)	1.02
Ever withdrawn from school	0.497 (0.503)	1.64	-0.382 (0.592)	0.68	0.132 (0.472)	1.14
Avoids overspending ^a	0.111 (0.143)	1.12	-0.134 (0.154)	0.87	0.086 (0.128)	1.10
Manages money well ^b	0.362** (0.159)	1.44	0.118 (0.173)	1.13	0.176 (0.141)	1.19
Regularly sets aside money ^c	-0.095 (0.094)	0.91	0.020 (0.100)	1.02	-0.148* (0.082)	0.86
Finances likely affect completion	0.568** (0.258)	1.76	0.645** (0.332)	1.91	0.473 (0.234)	1.61
Credit card revolver	-0.219 (0.279)	0.80	-0.268 (0.312)	0.77	-0.033 (0.241)	0.97
Debt (no debt omitted)						
\$10K or more	0.153 (0.345)	1.17	0.896** (0.419)	2.45	-0.019 (0.308)	0.98
Less than \$10K	-0.296 (0.263)	0.74	0.534** (0.276)	1.71	0.191 (0.223)	1.21
Had personal finance course	0.612*** (0.232)	1.84	0.609** (0.270)	1.84	0.395** (0.205)	1.48
Constant	-2.117*** (0.527)		0.926* (0.556)		-1.221*** (0.457)	
LR χ^2 (15)	49.89***		23.70*		32.59**	
Pseudo R^2	0.0859		0.0462		0.0469	

* $p < .10$. ** $p < .05$. *** $p < .01$.

^aEquals 1 when respondent “always” or “usually” avoids overspending and 0 otherwise.

^bEquals 1 when respondent “always” or “usually” manages money well and 0 otherwise.

^cEquals 1 when respondent “always” or “usually” sets money aside for savings and 0 otherwise.

having had a personal finance course were significantly and positively associated with the odds of expressing an interest in receiving financial education in face-to-face workshops. If one regularly sets money aside, there was a significant decrease in the likelihood of desiring a face-to-face workshop. All three models suggested the presence of a familiarity bias where students who had already received personal finance education via a traditional course were more likely to express an interest in each of the three delivery methods.

Finally, because of the bivariate evidence that the three delivery methods may be complementary, three post-hoc regression models were investigated. In each of the three models the two delivery method alternatives not serving as the dependent variable were included as independent variables. With positive and significant coefficients resulting in odd ratios that ranged from 4.0 to 9.0, these post-hoc analyses suggest that the three methods of financial education remain complementary when included in multivariate models that controlled for all other variables in the models. However, the post-hoc results must be considered carefully due to the high correlations among the delivery methods (see Table 3), relatively small sample sizes for two of the regressions (see Table 3), and the concomitant specification issues that arise when independent variables are highly correlated.

Discussion and Conclusions

This study examined associations between students' characteristics and their interest in three financial education delivery methods: a counseling center, online, and workshops. The fact that there was interest among undergraduate students in some form of financial education is informative in itself and consistent with previous research (Lyons, 2004; Lyons & Hunt, 2004; Moore, 2004). In terms of the type of education, the strongest interest was in online resources, followed by workshops, and then a financial counseling center. This is consistent with Lyons' (2004) research which reported that all students, as well as financially at-risk students, expressed greater interest in online information than seminars/workshops or counseling services. However, substantial interest in all three delivery methods analyzed suggests colleges and universities should aspire toward a multipronged approach to financial education and counseling assistance. This notion is further supported by the findings that the delivery methods are complementary in nature.

As is true in many surveys of college students, the sample was not representative of the student population. In particular, females and those with above-average grades were overrepresented. One could argue that the same "cooperativeness" characteristics (Clarkberg, Robertson, & Einarson, 2008) that may be responsible for their willingness to respond to the survey makes the survey respondents an ideal population to query as they may be the most likely to know about and perhaps use campus-based financial education and counseling in any form. Further, neither gender nor grade average significantly explained the variations in the response variables.

When considering the usefulness of this information, it is important to note that the question about use of a center asked whether students would frequent the center "on a regular basis" whereas the other questions only implied repeated use of workshops or online resources. The 26% of students who indicated they would use a financial counseling center on a regular basis likely understates the proportion that would use a center at least infrequently. In fact, in the same survey when the same question was framed as use of a center if "in a crisis," 80% of respondents agreed or strongly agreed. The three questions used in the analysis may not be perfectly parallel in meaning, but they all implied more than one use of the specified delivery model and therefore the comparison still is meaningful. On the one hand, creation and maintenance of a center is a resource-intensive initiative that cannot easily be undertaken without evidence that students will use it. However, that does not require individual students to be repeat users, as suggested by the wording of the question. Parallel wording of the three questions may have produced different results.

To make the greatest impact on students' personal finance knowledge and well-being, colleges and universities should consider the implementation of all three delivery models discussed in this article. The strong interest in accessing resources online may be due to a number of factors. Today's students are increasingly comfortable with technology and learning through technology, and they also may desire the greater flexibility of this mode of pedagogy. When controlling for personal characteristics, students' higher level of debt was significantly associated with the odds of desiring financial management resources online but not through a workshop or counseling center. Those students may believe that they can receive assistance online that is specific to their financial situation, while workshops are more likely to be designed for the general population and thus less helpful to their unique

financial predicaments. This supposition is substantiated by the finding in the current study that students have significant preferences for a financial counseling center or online resources when they believe their finances could adversely affect completion of their degree program, while this more serious concern is not a significant correlate of interest in an educational workshop. Finally, these students may be intimidated by the prospect of visiting a financial counseling center or simply prefer the convenience and anonymity of online resources available 24/7.

It is important to note that although there was a strong interest in online financial management resources, this delivery model may not be the most effective. Past research indicates high attrition rates for online education programs (Angelino, Williams, & Natvig, 2007). Thus, future research should differentiate the goals of providing online resources and levels of technological delivery if online courses are offered (e.g., interactive vs. passive education).

After controlling for students' other personal characteristics, non-White students, particularly African American students, reported significantly greater interest in receiving financial education at a campus-based financial counseling center. This also was true for interest in a financial workshop. In contrast, Joo and Grable (1999) did not find ethnicity to be a significant factor associated with financial help-seeking behavior in their sample of adult workers. However, Sheu and Sedlacek (2004) reported that African Americans have positive views toward help seeking as compared to other ethnic groups. Moreover, previous research suggests African American students experience higher levels of financial and academic stress as compared to Whites (Pliner & Brown, 1985) and have the lowest financial literacy scores across several financial topics (Chen & Volpe, 1998). In addition, African Americans may be more interested in financial education through a center or workshop than Whites due to family socioeconomic background, which was not a control variable in this study. Consistent with a social constructionist view, if students come from lower socioeconomic backgrounds they may have less opportunity to model or learn adaptive financial behaviors, and therefore may be more interested in personal interactions that can lead to greater personal finance knowledge in college.

Having higher levels of debt was significantly associated with the odds of being interested in online resources, but not workshops or counseling centers. A socially constructed stigma related to debt may explain this preference.

Students who reported that they had completed a personal finance course and/or managed money well also expressed greater interest in a financial counseling center. In fact, across all forms of financial education delivery, previous experience with a personal finance course was a significant explanatory variable when controlling for all other factors. Based on the Transtheoretical Model for Change (Kerkmann, 1998; Prochaska, DiClemente, & Norcross, 1992; Shockey & Seiling, 2004), it may be that students who acquire a certain level of personal finance knowledge possess heightened awareness of the utility that can be derived from further financial education or assistance and thus are more likely to seek out additional knowledge and support across financial education delivery methods. If so, the result suggests that those interested in building comprehensive campus-based financial education programs would do well to invest in personal finance courses for freshmen who subsequently might take advantage of other forms of financial education and even other financial education courses during their remaining years on campus. On the other hand, students who self-selected to take a course in personal finance already may have had an interest in the topic that continued after the course. The data do not include information about whether students who reported having taken a personal finance course chose to or were required or coerced into doing so by curricula or parents. In addition, there may be other shared characteristics of those who chose to complete a course in personal finance. For example, future research may want to examine specific populations that may be at greater financial risk in college, such as those from lower socioeconomic status families or those who have lost a merit-based scholarship.

Also noteworthy is that this research was conducted on a campus where in-state students are eligible to receive a merit-based scholarship. Previous research (Goetz, Mimura, Desai, & Cude, 2008) suggested that at least 75% of the sample had the merit-based scholarship at the time of the survey. Yet, one fifth of the respondents indicated that finances likely would affect the completion of their degree; this is consistent with previous research (Gladieux & Perna, 2005). However, it is inconsistent with the conventional wisdom that a merit-based scholarship removes much or all of the financial stress of attending college and suggests that financial education is valued even among these college student populations.

Finally, this research examined only three financial education delivery methods. Future research should examine others. For example, some researchers have suggested

financial education through campus-based promotional campaigns. Gartner and Schiltz (2005) reported a successful “What’s My Score” credit score education campaign on a college campus. Adams and Moore (2007) suggested promoting financial education awareness jointly with health education on college campuses as students with high-risk financial behavior also demonstrated high-risk health behavior. Braunsberger, Lucas, and Roach (2004) also suggested promotional campaigns to educate college students about the negative consequences of irresponsible borrowing. Another question for investigation is whether any or all of these efforts should engage today’s “helicopter” parents, and if so how? In addition, experimental research examining the efficacy of different models of financial intervention is greatly needed.

The results of this study indicated substantial demand from students across all three delivery methods, and that these methods may be complementary. Thus, colleges and universities should strongly consider making financial education available through multiple formats. To the extent educational institutions have both the goals of higher student retention and greater attention toward experiential education, with admittedly some substantial requirements in terms of supervision, students majoring in financial planning and related disciplines can be utilized to meet the needs of hundreds of students via a center or educational workshops at relatively low cost to the institution (see Goetz, Durband, Haley, & Davis, 2011). Models for financial counseling centers and peer-education programs already exist at Kansas State University, Texas Tech University, the University of Georgia, and Utah State University. Alternatively, an institution could hire a professional financial planner to be available to students on an ongoing basis, using a model similar to the one many universities now use to have an attorney on staff to provide student legal services. In terms of online financial management resources, many are available. The National Endowment for Financial Education currently offers an online educational component available at no cost to the institution.

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