

## An Evaluation of the Impact of Collegiate Financial Education

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### Background

College students are viewed as an important target of financial education for a variety of reasons. Key among these are the opportunities and limitations presented by the decisions they make while college students, including the impact of student loan debt on their future financial security. College is viewed as a “just-in-time” opportunity to reach college students when they are able to apply what they learn in collegiate financial education courses. As a result, there has been a proliferation of financial education courses on college campuses. Cude and Kabaci (2011) surveyed 37 land-grant universities. Of those, nearly three-quarter offered one or more personal finance courses for college credit. Danns (2014), who conducted focus groups among students enrolled at one Georgia university, found overwhelming support from students for learning personal finance through a formal course.

There is extensive research about college students’ financial knowledge, attitudes, and behaviors. Often the respondents in these studies are enrolled in collegiate financial education courses, primarily because selecting respondents from among enrolled students is convenient. However, very few studies have evaluated the effectiveness of the formal college financial education courses in which these students are enrolled. Among the universities Cude and Kabaci surveyed, only one indicated it had attempted to assess any outcome of the course other than knowledge changes based on grades. Maurer and Lee (2011) assessed learning gains and intentions to engage in future financial behaviors, but the focus was on a comparison between peer-led workshops and traditional classroom instruction.

### Purpose

This study examines the impact of a collegiate financial education course on the financial literacy (defined as financial knowledge and financial skill) and financial well-being (defined as expected future financial security and current money management stress (Netemeyer et al. 2018) of enrolled students. It also explores the influence of student characteristics (financial socialization, high school financial education, gender, self-efficacy, and involvement in paying bills) on the impact of a course on enrolled students’ financial literacy and well-being.

### Research Questions

- RQ1: Is participation in a collegiate financial education course associated with increases in financial literacy and well-being?
- RQ2: What demographic and psychographic characteristics are associated with positive impacts of collegiate financial education?

### Methodology

#### Data

Data for this study came from an online study conducted with students enrolled in a financial education course at a large public university in the U.S. during Spring 2019. Participation entailed the completion of four surveys made available throughout the 15-week semester. The first survey was completed within the first four weeks of the course. The second and third surveys were released to the students in weeks seven and ten, respectively. The final survey was released during the final two weeks

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of the semester. Survey 1 provided baseline measures of financial knowledge, skill, and well-being and was conducted early in the course and before the content turned to focus specifically on the financial education topics in the financial knowledge measure. Survey 4 provided the post-measures for these outcomes. Surveys 2 and 3 captured additional profile measures described below. A total of 82 students completed all four surveys.

#### Dependent Variables

We used four outcome measures in this study, based on students' scores in the final survey of the semester. The measures were selected as they represented objectives often stated for collegiate financial education. *Financial knowledge* was measured using the ten-item version of the Knoll and Houts (2012) financial knowledge scale *Financial skill* was measured using the item-response theory (IRT) application of the CFPB (2018) scale. We used the Netemeyer et al. (2018) scales to capture present (*current money management stress*) and future (*expected future financial security*) dimensions of financial well-being.

#### Independent Variables

Independent variables included the student's score on each of the four outcome measures in the first survey of the semester. In addition, we included binary measures for gender (coded as female = 1 and male = 0), whether they experienced financial education in high school (coded as 1 if they reported high school financial education), and involvement in paying their bills (coded as 1 if they were involved). The final independent measures used were self-efficacy (Schwarzer and Jerusalem 1995) and a count of the types of financial socialization experiences the students had (e.g., parents or caregivers spoke to me about the importance of saving, discussed how to establish a good credit rating, taught me how to be a smart shopper [Serido et al. 2014]).

#### Methods

We used a combination of paired t-tests and ordinary least squares (OLS) regression to analyze the data. All analyses were conducted using SPSS Version 26.

### Results

#### Sample Characteristics

A total of 82 students enrolled in the financial education course completed all four surveys. The respondents were 37.8% female with 3.3% freshmen, 30.5% sophomores, 44.5% juniors, and 20.7% seniors. Just less than one-half (46.3%) were responsible in some way for paying their bills and 18.3% indicated they received financial education in high school. This finding is interesting as most of the respondents were from a state in which high school financial education is mandatory for public high school seniors.

#### Overall Changes

In our comparison of pre- and post-results for the four outcome measures (i.e., financial knowledge, financial skill, expected future financial security, and current money management stress), we found no significant differences overall (Table 1). What was most interesting was the wide distribution of changes in these measures. The change in financial knowledge ranged from a low of -1.52 points to a high of 2.18 points on a -3 to +3 scale (mean financial knowledge score difference = -0.028). For financial skill, the low was -37 and the high was 30 on a scale of 0 to 100 (mean difference = 1.65). Expected future financial security ranged from -10 to +10 on a scale of 5 to 25 (mean pre/post difference = 0.086) and current money management stress from -20 to +13 on a scale of 5 to 25 (mean difference = -0.2469).

--- TABLE 1 ABOUT HERE ---

We estimated four OLS regressions to explore possible explanations for the effect of the financial education course on post-measures of financial literacy (defined as financial knowledge and financial skill) and financial well-being (defined as expected future financial security and current money

management stress), controlling for pre-measures of each variable. In each model, we included gender, high school financial education, involvement in paying bills, self-efficacy, and financial socialization as independent variables.

In each regression, the pre-measure was a significant and positive influence on the post-measure. For example, students who entered the course knowing more about financial concepts ended the course knowing more about financial concepts while students who entered the course knowing less about financial concepts left the course knowing less. The ideal finding would be that the pre-measure for financial knowledge was not significantly related to the post-measure as that would indicate that the course helped students who perhaps needed the education the most to catch up with their more knowledgeable peers. The coefficient for the pre-measure of expected future financial security was relatively large in the regression for the post-measure of that variable.

Self-efficacy was a significant and positive influence on the post-measure of financial skill controlling for the financial skill the student brought into the course. Students who entered the course with higher levels of self-efficacy were able to gain more in terms of financial skill than students with lower levels of self-efficacy when they entered the course. Financial socialization played a similar role in current money management stress. Controlling for pre-measures of current money management stress, students with greater financial socialization experiences ended the course with higher post-measures on current money management stress. The four outcome measures were not associated with any of the other independent variables – gender, involvement in paying bills, or high school financial education. The results are reported in Table 2.

--- TABLE 2 ABOUT HERE ---

### **Limitations/Conclusions/Implications**

An obvious limitation of this research is the small sample size and the use of data from a single university. However, there are significant challenges to expanding this research beyond one university. One is the assumed variability in what is taught in collegiate financial education courses and how it is taught. Kabaci (2012) provided evidence of this in her research, which used a Delphi approach and a panel of 36 experts who had knowledge of college students' financial literacy and financial needs. After three rounds of surveys, little consensus had been reached about the personal finance concepts and competencies most important for college students or segments of college students, such as first-generation. Another important limitation is that we did not control for students' learning styles. Akben-Selcuk and Altiook-Yilmaz (2014) demonstrated that the students' learning style significantly influenced their financial knowledge.

This research represents an initial exploration of the effectiveness of collegiate financial education to influence the financial literacy and well-being of the students enrolled. It is one of a very few studies evaluating the effectiveness of collegiate financial education. The intentions are 1) to lay a foundation for a systematic study of financial education using validated measures and a longitudinal design and 2) to inform the evolution of the design of such courses.

The results of the study suggest that student outcomes vary considerably. The factors associated with a given student's outcomes include their incoming level of those outcomes, whether their caregivers exposed them to financial concepts and products prior to taking the course, and their belief that they have the capacity to be successful in the financial domain. Together, the findings suggest that the students who benefit most from collegiate financial education are perhaps the ones who need such education the least. Students who had lower levels of the four outcome indicators at the beginning of the course, who did not experience financial socialization, and who had lower self-efficacy were less likely to benefit from the course. This raises an important course design question: *how might we rethink collegiate financial education to improve the effectiveness for the students who need it most?*

We are submitting this study to ACCI because we believe our findings can prompt important conversations about what is being taught, how we measure effectiveness, and how we might improve the

effectiveness of collegiate financial education. We further believe that ACCI is the proper forum for productive conversations about these topics.

### References

- Akben-Selcuk, Elif and Ayse Altioek-Yilmaz. 2014. Financial Literacy among Turkish College Students: The Role of Formal Education, Learning Approaches, and Parental Teaching. *Psychological Reports: Employment Psychology & Marketing*, 115(2): 351-371. doi:10.2466/31.11.PR0.115c18z3
- Consumer Financial Protection Bureau. 2018, September. *Measuring Financial Skill: A Guide to Using the Bureau of Consumer Financial Protection Financial Skill Scale*. Washington, DC: Author. Available at <https://www.consumerfinance.gov/data-research/research-reports/measuring-financial-skill/>
- Cude, Brenda J. and M. J. Kabaci. 2011. Financial Education for College Students. In Douglas J. Lamdin (Ed.), *Consumer Knowledge and Financial Decisions: Lifespan Perspectives* (pp. 49-66). New York: Spring Science+Business Media.
- Danns, Donna E. 2014. *Financial Education in State Colleges and Universities in the US: A Study of Program and Students' Needs*. [Dissertation]. Athens, GA: Department of Financial Planning, Housing and Consumer Economics, University of Georgia.
- Kabaci, Mary Jane. 2012. *Coming to Consensus. A Delphi Study to Identify the Personal Finance Core Concepts and Competencies for Undergraduate college students, undergraduate Student Education Loan Recipients, and First-Generation Undergraduate College Students*. [Dissertation]. Athens, GA: Department of Financial Planning, Housing and Consumer Economics, University of Georgia.
- Knoll, Melissa A. Z. and Carrie R. Houts. 2012. The Financial Knowledge Scale: An Application of Item Response Theory to the Assessment of Financial Literacy. *Journal of Consumer Affairs*, 46(3): 381-410.
- Maurer, Trent W. and Sun-A Lee. 2011. Financial Education with College Students: Comparing Peer-Led and Traditional Classroom Instruction. *Journal of Family and Economics Issues*, 32: 680-689. doi:10.1007/s10834-011-9266-z
- Netemeyer, Richard G., Dee Wamath, Daniel Fernandes, and John G. Lynch, Jr. 2018. How Am I Doing? Perceived Financial Well-Being, Its Potential Antecedents, and Its Relation to Overall Well-Being. *Journal of Consumer Research*, 45(1): 68-89. <https://doi.org/10.1093/jcr/ucx109>
- Schwarzer, Ralk and Matthias Jerusalem. 1995. Generalized Self-Efficacy Scale. Measures in Health Psychology: A User's Portfolio. *Causal and Control Beliefs*, 1(1): 35-37.
- Serido, Joyce, Soyeon Shim, Jing Jian Xiao, Chuanyi Tang, and Noel A. Card, N.A. 2014. Financial Adaptation among College Students: Helping Students cope with Financial Strain. *Journal of College Student Development*, 55(3): 310-316.

## TABLES

Table 1. Paired-Sample T-Tests

Variable	Pre-Mean	Post-Mean	Average Change	T-Statistic / p value
Expected Future Financial Security (5 to 25)	19.75	19.87	0.086	0.250 / 0.838
Current Money Management Stress (5 to 25)	12.63	12.41	-0.247	-0.477 / 0.634
Financial Knowledge (-3 to +3)	-0.266	-0.295	-0.028	-0.393 / 0.695
Financial Skill (0 to 100)	53.22	54.87	1.65	1.325 / 0.189

Table 2. OLS Regression Results

Variable	Financial Well-Being							
	Financial Knowledge		Financial Skill		Expected Future Financial Security		Current Money Management Stress	
	B	se	B	se	B	se	B	se
Pre-Measure	0.465***	0.129	0.392***	0.104	2.363**	3.877	0.484***	0.087
Female	-0.001	0.145	-0.185	2.341	0.426	0.787	-0.430	0.888
Pay Bills	0.218	.0148	1.020	2.377	1.494	0.789	-1.087	0.898
H.S. Fin Ed	-0.023	0.215	-2.389	3.375	-1.296	1.133	1.442	1.349
Self-Efficacy	0.029	0.020	0.994**	0.314	0.270	0.105	-0.103	-0.119
Fin. Soc	0.067	0.044	-0.768	0.710	0.060	0.235	-0.629**	0.269
Constant	-1.517*	0.769	5.579	10.561	2.363	3.877	13.135**	4.310
R <sup>2</sup>	0.295		0.378		0.305		0.422	
Adjusted R <sup>2</sup>	0.222		0.313		0.233		0.362	
F-Statistic	4.039		5.869		4.235		6.947	
P value	.002		< .001		.001		.001	

\*\*\* Significant at  $p < .001$ ; \*\* Significant at  $p < .01$ ; \* Significant at  $p < .05$