

## **A Comparative Study of an Abbreviated and Extended Youth Financial Education Program**

**Kimberly Watkins**

University of Alabama

**Adenola Osinubi**

University of Georgia

**Kenneth J. White, Jr.**

University of Georgia

**Tammy Williams**

University of Georgia

**Michael G. Thomas, Jr.**

University of Georgia

**John E. Grable**

University of Georgia

### **Abstract**

The need for financial education continues to be warranted due to low financial knowledge scores, high bankruptcy rates, large levels of household debt, and other negative outcomes associated with poor financial management. Researchers and educators have advocated for financial education programs and interventions for youth to decrease the likelihood of poor financial management behaviors in adulthood. The purpose of this paper is to present findings showing that weeklong extended financial education camps and an abbreviated version of those camps can be used to increase financial knowledge and confidence among youth. Using a specially designed financial education curriculum for middle-school-aged youth, the researchers condensed a 5-day, 6-hour-per-day schedule into a 4-day, 1-hour-per-day program. A pre-assessment was given to participants to measure each participant's financial knowledge and financial confidence. At the conclusion of each camp, participants were asked to answer the same questions in a post-assessment. Results were used to measure differences in financial knowledge and financial confidence scores. Findings from the post-assessments showed that participants who attended the abbreviated session exhibited higher financial knowledge scores. There was also a significant increase in financial confidence among participants in both camps.

**Keywords:** financial confidence, financial education, financial knowledge, program effectiveness, youth

## Introduction

The United States is a country fueled by an extensive commerce economy, with a \$20 trillion gross domestic product (International Monetary Fund, 2018), ranking the United States as the largest economy in the world. Consumers living in the United States spend billions of dollars on goods and services, which in turn drives high amounts of household debt. According to a report issued by the Federal Reserve Bank of New York (2018), during the first quarter of 2018, total household debt equaled \$13.21 trillion. High debt levels often lead to problematic outcomes. For example, between June 2016 and June 2017, 796,037 businesses and households filed for bankruptcy, with most of those filers being families and individuals (United States Courts, 2017). In 2017, there were 676,535 properties that were filed as foreclosures (ATTOM Data Solutions, 2018). These alarming numbers can be seen as indicators of money mismanagement throughout the economy, which might be related to low levels of financial knowledge at the household level.

Due to the negative consequences associated with poor financial management, a fundamental area of concern for policy-makers is how to improve consumer financial education. The Financial Industry Regulatory Authority (FINRA) reported that Americans demonstrated relatively low levels of financial literacy and had difficulty applying financial decision-making skills to real-life situations (Lin et. al., 2016). In fact, 63 percent of those surveyed were unable to answer more than three of five questions covering aspects of economics and finance correctly (Lin et. al., 2016). Addressing this knowledge deficit is not and has not been easy. One proposed initiative involves providing financial education to youth. This has had limited impact. To date, according to the Council on Economic Education (2018), only one third of states require youths to complete a personal finance course prior to graduating high school.

Given the adverse outcomes resulting from a lack of financial knowledge and capability, it has been argued that financial education should be focused on helping young people learn more about personal finance topics. Consider what McCormick (2009) wrote in the *Journal of Financial Counseling and Planning*: “Moments of financial trouble are teachable opportunities for children and youth to learn about personal finance and to improve their own money management skills. However, comprehensive strategies for educating them about personal finance have not yet emerged.” Since McCormick penned this statement, researchers and those working in the Cooperative Extension System — a nationwide, non-credit education network operated through the Land-Grant University System that provides learning activities to individuals and families through the United States — have taken steps to fill this educational need by creating programs to counter the ill effects associated with problematic financial behavior. The purpose of the study discussed in this paper was to test whether an abbreviated version of a youth financial education curriculum can be used as an effective financial education intervention.

## Background

In response to findings in the literature, a youth personal finance program was developed in 2015 by researchers and educators at a large southeastern United States university. The motivation underlying the program was the need to make financial education accessible, valuable, and fun for middle-school-aged youth. A review of the existing educational marketplace, in 2015, showed that nearly all youth financial management programs were either focused on youth who were of grade-school age or high school students. Materials for possible inclusion in the program were obtained from Extension services, federal agencies, and research initiatives directed by the curriculum team. What emerged was a 1-week personal finance camp curriculum, designed around the importance of financial education for youth in a state lacking mandatory financial education standards (Camp 1.)

Similar to what has been reported in the literature (e.g., Johnson, Guo, & Elliott III, 2011), the camp developers and team leaders recognized the need for youth to be introduced early to financial topics as a way to understand the value of making sensible financial decisions. The goal of the camp is to create an engaging learning environment, to teach participants positive financial habits, and provide relevant information that participants could immediately use and/or share to start family discussions about money. Since its 2015 inception, the financial education camp has been offered annually as a 1-week (Monday through Friday), 6-hour-per-day youth summer academy sponsored by a public university in the southeastern United States. The curriculum is designed so that each day of the camp focuses on a particular financial theme, with related activities ranging from field trips to a local bank where participants learn how the local banking system works, to a grocery store where participants are charged with creating a budget and shopping based on limited funds. Topics for the camp include activities related to savings, debt management, credit, budgeting, investing, and charitable giving.

Three program goals (outcomes) were used to guide the camp development and assessment process. The first goal was to bring an educationally rich, yet fun, experience to middle-school-aged youth. The second goal was to move beyond the classroom by engaging youth outside of a university structure (thus providing access to education to those who may have been constrained by costs, time, or transportation). The third goal was to document the effectiveness of the developed financial program to determine if the educational approach underlying the camp concept could be expanded broadly to other communities. The following represent learning outcomes associated with the program goals:

- Help participants understand that financial success requires a strong conceptual foundation.
- Help participants understand the history of money, how money is given value, and how people obtain goods and services without money.
- Teach participants about the value of saving and planning for emergencies.

- Ensure that participants understand credit scores and identity theft.
- Reinforce the importance of communication to achieve financial goals.
- Learn the importance of managing money and spending wisely.
- Understand a general overview of how the stock market works.
- Teach participants about risk, diversification, inflation, time value of money, and compounding interest.

Since diversity and inclusion were key elements of the original camp design, the education team partnered with a national nonprofit organization to expand the program to local youths who may have been resource-constrained. The goal of this partnership was to provide educational resources to middle-school-age youth who may not have had access to or the ability to participate in the university program. Due to time constraints imposed by the partnering organization, the program was condensed from 6 hours, 5 days a week to 1 hour, 4 days a week (Camp 2.)

### **Literature Review**

When examining the effectiveness of youth financial education programs on financial knowledge, results from the literature are mixed. While some researchers have documented an increase in financial knowledge following the delivery of financial education (e.g., Bruhn, de Souza Leao, Legovini, Marchetti, & Zia, 2014; Danes & Brewton, 2014; Danes & Haberman, 2007; Danes, Huddleston-Casas, & Boyce, 1999; Johnson, Guo, & Elliott, 2011; Lührmann, Serra-Garcia, & Winter, 2015; Varcoe, Martin, Devitto, & Go, 2005; Walstad, Rebeck, & MacDonald, 2010), others have noted small or insignificant changes in educational program participants' financial knowledge (e.g., Berry, Karlan, & Pradhan, 2015; Mandell & Klein, 2009; Peng, Bartholomae, Fox, & Cravener, 2007). It has been hypothesized that results are mixed due to a lack of homogeneity in how financial knowledge is measured and how financial literacy topics are taught (Lusardi & Mitchell, 2014; Walstead, 2013). Even so, the effects of financial knowledge are known to be associated with engagement in positive financial management behaviors, with some researchers using financial knowledge to predict the likelihood of engaging in positive behaviors (e.g., Fernandes, Lynch, & Netemeyer, 2014; Hogarth & Anguelov, 2003), which is a hoped-for outcome of any financial education program.

In addition to knowledge, exhibiting financial confidence is also important to ensure a young person believes in her or his ability to achieve financial goals (Walstad et al., 2010). Bandura (1997, 2006) wrote that self-efficacy is important for student achievement. However, in a comprehensive review of youth financial education programs, Amagir, Groot, Maassen van den Brink, and Wilschut (2018) found only one program measured a youth's financial confidence while others predominantly focused on financial knowledge and behaviors. In Amagir et al.'s (2018) review of the literature, they were able to find only three out of 36 studies that focused on

confidence in addition to behavioral outcomes. Like financial knowledge, these studies also reported mixed results when assessing students' financial confidence. It is evident, based on this literature, that there is a need for research on youth financial confidence.

## Methods

For this study, data were collected from two groups of middle-school-aged youth during summer 2017. The first group was composed of 20 participants who attended a 1-hour, 4-day financial education program at a local affiliate of a national nonprofit organization. The camp was one of many hour-long activities participants engaged with during the week. The second group was composed of 13 participants who attended a university-sponsored 6-hour, 5-day financial education camp.

A pre-assessment was given to participants to measure financial knowledge and financial confidence. At the conclusion of the camp, participants were given the same questions in a post-assessment to measure differences in their financial knowledge and financial confidence scores. Since participants were minors at the time of the study, consent forms were collected from each participant's guardian. Also, each participant was given an assent form, verbally informed that answers were confidential, and she or he could opt out at any time. To protect participants' data, participants were assigned a unique identifier known only to the researchers.

The following questions were used to measure objective financial knowledge (see Lusardi & Mitchell, 2011): "Buying a single stock provides a safer return than investing in a mutual fund?" and "Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 percent per year. After 1 year, how much would you be able to buy with the money in this account?" Each financial knowledge question was dummy coded as 1 for correct and 0 for incorrect responses. Participants' responses were then summed to create an index measuring their financial knowledge. Scores could range from zero to eight. Higher scores indicated elevated levels of financial knowledge.

Participants also answered general questions written to measure financial knowledge in the areas of saving, budgeting, and credit scores. The following questions were used:

- Which is better, simple or compound interest?
- What is the most important component of a credit score?
- Credit scores affect interest rates,
- Money saved today is worth more tomorrow,
- A surplus is when you have more expenses than income, and
- Generally, what is the recommended amount of your income to save?

Each participant's financial confidence was measured by asking a single question: "How confident are you in your ability to achieve a financial goal?" Financial confidence was an ordinal variable with three answer choices coded as (1) Not Confident, (2) Somewhat Confident, and (3) Very Confident. Higher scores indicated higher levels of financial confidence. Demographic data were also collected. Participants reported their age, gender, and ethnicity. Due to the size of both samples, Wilcoxon signed-rank tests were conducted to test for significance in the differences in participants' pre- and post-assessments on objective financial knowledge and financial confidence. The Wilcoxon signed-rank test is a nonparametric analytical measure used when sample sizes are too small to meet the requirements of a paired sample t-test (Pett, 2016). The sample size for Camp 1 consisted of 19 participants, whereas for Camp 2, 13 participants gave consent for their data to be used.

## Results

In Camp 1, of the 19 participants, seven identified as girls, and nine identified as boys. Ethnicities included African-American ( $n = 9$ ), Latino ( $n = 1$ ), White ( $n = 4$ ), Asian ( $n = 1$ ), and other ( $n = 1$ ). Age ranges for the group were 10 to 12 ( $n = 13$ ) and 13 to 15 ( $n = 3$ ). (Three participants did not disclose their age.) In Camp 2, of the 13 participants, seven identified as boys, and six identified as girls. Ethnicities included African-American ( $n = 4$ ), White ( $n = 6$ ), Asian ( $n = 1$ ), and other ( $n = 2$ ). Age ranges for these participants were 10 to 12 ( $n = 5$ ) and 13 to 15 ( $n = 8$ ).

Financial knowledge scores showed that participants scored higher on the post-assessments compared to the pre-assessments for Camp 1 ( $Z = -2.736$ ,  $p = .006$ ). The median test score for the pre-assessment was 3.05 and 4.58 for the post-assessment. However, there was no significant difference in overall financial knowledge scores for participants who attended Camp 2. A significant difference in scores was found, however, for three questions among Camp 2 participants: (a) What amount of income should be saved (pre-assessment 62 percent correct; post-assessment 100 percent correct,  $Z = -2.236$   $p = .025$ ); (b) Which is better, compound or simple interest (pre-assessment 38 percent correct; post-assessment 69 percent correct,  $Z = -2.000$   $p = .046$ ); and (c) Money saved today is worth more tomorrow (pre-assessment 38 percent correct; post-assessment 77 percent correct,  $Z = -2.236$   $p = .025$ ). Financial confidence among participants in Camp 1 showed a significant increase in median scores over the course of the week. The median score for the pre-assessment was 1.89 whereas the post-assessment score was 2.58 ( $Z = -2.970$   $p = .003$ ). Those participating in Camp 2 exhibited a small, but significant, increase in financial confidence. The median pre-assessment score was 2.15, whereas the post-assessment score was 2.46 ( $Z = -2.000$ ,  $p = .046$ ).

## Conclusion

Three outcomes were expected from this study. First, the hope was to bring an educationally rich and fun experience to middle-school-aged youth residing in a southeastern U.S. city. A second outcome was to adapt a traditional educational program to meet the needs of youth who were resource-constrained (i.e., time, money, and access). A third expectation was to document the effectiveness of the financial curriculum to determine whether the educational approach underlying the camp concept might possibly be expanded more broadly to other communities. The use of pre- and post-assessments was the primary way these outcomes were assessed. The results from the tests support three conclusions from literature (e.g., Batty, Collins, & Odders-White, 2015). First, financial education does not have to be lengthy to be impactful. Second, financial education, whether offered in an educational setting or in a place that is geographically related to where youth live, can be effective. Third, financial education leads to increased confidence among youth participants.

The results from this study suggest the use of a targeted financial education program that is developed and delivered appropriately can be effective in increasing financial knowledge among middle-school-aged youth. Consider the following statistics. The 1-week, 1-hour-per-day participants scored 38 percent correct on the pre-assessment compared to 57 percent correct on the post-assessment. Although the results were not exceptionally high (i.e., participants, on average, would still have failed a comprehensive examination), scores did improve. This provides some evidence that even a shortened curriculum can have a positive impact on increasing financial knowledge scores for middle-school-aged youth.

## Implications and further research

Educational policy-makers and Extension educators likely will find the results from this study of particular importance as attempts are made to determine how to deliver financial education across the K-12 curriculum. Currently, some school districts require youth to enroll in and pass one or more personal finance courses as a graduation requirement. Whether this approach works in improving financial capabilities is still a matter of debate. For example, an actual class might not be the most efficient method to improve financial knowledge. Alternatively, embedding financial education lessons in a broader curriculum or set of activities might provide an unconventional, yet effective, method of educational intervention. Additionally, expanding financial education conversations beyond high school to include middle-school-age youth should be considered.

Based on the study results, financial knowledge does appear to be related to changes in financial attitudes. Participants from both camps finished the week more confident in their ability to achieve a financial goal. Those in Camp 1 increased their confidence by nearly 37 percent,

whereas those in Camp 2 boosted their confidence by 14 percent. Additionally, the participants in Camp 1 improved their attitudes about saving. Whether this confidence increase is warranted or whether the outcome results in financial overconfidence is worth testing in future studies. For example, it would be helpful to follow similar groups of participants across time to determine if confidence levels remain high and to evaluate the relationship between confidence and decision making.

Those wishing to use a condensed teaching curriculum are encouraged to consider potential obstacles to program success. For example, participants often had problems understanding verbiage used in assessments. For instance, terms like “savings” and “allocate” almost always needed to be defined. Future research should focus on ways to rephrase common personal finance terms for younger audiences. Second, unexpected time delays happened throughout each weekly period as participants shifted from one activity to another during camp. These time delays resulted in shorter lessons for some activities, which may have negatively impacted testing performance. Educators are encouraged to build in realistic timing into any shortened curriculum.

Although the results from this study are noteworthy, in that some evidence that the shortened financial camp format was effective, some limitations exist that should be addressed in future studies. For example, the measurement instruments may have been too complicated for the participants, especially at the pre-test stage of the study. Second, no attempt was made to follow up with participants to determine the stability of scores over time. It is possible that confidence and knowledge scores may have fallen after each camp concluded. Third, future studies should take special care to ensure that measurements, activities, and materials are appropriate for participants from targeted low- and moderate-income households. Fourth, no attempt was made to determine how parental influence may have impacted participant outcomes. It is possible that participants who received reinforcement at home may have been at an advantage when completing pre- and post-assessments. These possibilities are worth considering in future studies.

## References

Amagir, A., Groot, W., Maassen van den Brink, H., & Wilschut, A. (2018). A review of financial-literacy education programs for children and adolescents. *Citizenship, Social and Economics Education*, 17(1), 56-80. doi:10.1177/2047173417719555

ATTOM Data Solutions. (2018, January 16). US foreclosure activity drops to 12-year low in 2017. Retrieved from <https://www.attomdata.com/news/foreclosure-trends/2017-year-end-u-s-foreclosure-market-report/>

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.



Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.), *Self-Efficacy Beliefs of Adolescents* (pp. 307-337), Greenwich, Connecticut: Information Age Publishing. Retrieved from <http://www.uky.edu/~eushe2/BanduraPubs/BanduraGuide2006.pdf>

Batty, M., Collins, J. M., & Odders-White, E. (2015). Experimental evidence on the effects of financial education on elementary school students' knowledge, behavior, and attitudes. *Journal of Consumer Affairs*, 49(1), 69-96. doi:10.1111/joca.12058

Berry, J., Karlan, D., & Pradhan, M. (2015). *The impact of financial education for youth in Ghana* (Working Paper No.w21068). National Bureau of Economic Research. Retrieved from <http://www.nber.org/papers/w21068>

Bruhn, M., de Souza Leao, L., Legovini, A., Marchetti, R., & Zia, B. (2014). *The impact of high school financial education: large-scale experimental evidence from Brazil* (Working Paper No. 88388). Finance & PSD impact evaluation note; no. 26. Washington, DC: World Bank Group. Retrieved from <http://documents.worldbank.org/curated/en/914181468222599607/The-impact-of-high-school-financial-education-large-scale-experimental-evidence-from-Brazil>

Council for Economic Education. (2018). *2018 Survey of the States: Economic and personal finance education in our nation's schools*. New York, NY: Council for Economic Education.

Danes, S. M., & Brewton, K. (2014). The role of learning context in high school students' financial knowledge and behavior acquisition. *Journal of Family and Economic Issues*, 35(1), 81-94. doi:10.1007/s10834-013-9351-6

Danes, S. M., & Haberman, H. (2007). Teen financial knowledge, self-efficacy, and behavior: A gendered view. *Journal of Financial Counseling and Planning*, 18(2), 48-60. Retrieved from: <https://ssrn.com/abstract=2228406>

Danes, S. M., Huddleston-Casas, C., & Boyce, L. (1999). Financial planning curriculum for teens: Impact evaluation. *Journal of Financial Counseling and Planning*, 10(1), 26-39. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.503.9761&rep=rep1&type=pdf>

Federal Reserve Bank of New York. (2018). *Household debt and credit report*. Retrieved from <https://www.newyorkfed.org/microeconomics/hhdc.html>

Fernandes, D., Lynch Jr, J. G., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60(8), 1861-1883. doi:10.1287/mnsc.2013.1849

Hogarth, J. M., & Anguelov, C. E. (2003). Can the poor save? *Journal of Financial Counseling and Planning*, 14(1), 1-18. Retrieved from <http://afcpe.org/assets/pdf/vol1411.pdf>

International Monetary Fund. (2018). *World economic outlook database*. Retrieved from <http://www.imf.org/external/pubs/ft/weo/2011/01>

Johnson, L., Guo, B., & Elliott III, W. (2011). Financial capability in children: Effects of participation in a school-based financial education and savings program. *Journal of Family and Economic Issues*, 32, 385-399. doi:10.1007/s10834-010-9220-5

Lin, J. T., Bumcrot, C., Ulicny, T., Lusardi, A., Mottola, G., Kieffer, C., & Walsh, G. (2016). *Financial capability in the United States 2016*. Finra Investor Education Foundation. Retrieved from [http://www.usfinancialcapability.org/downloads/NFCS\\_2015\\_Report\\_Natl\\_Findings.pdf](http://www.usfinancialcapability.org/downloads/NFCS_2015_Report_Natl_Findings.pdf)

Lührmann, M., Serra-Garcia, M., & Winter, J. (2015). Teaching teenagers in finance: Does it work? *Journal of Banking and Finance* 54, 160–174. doi:10.1016/j.jbankfin.2014.11.009

Lusardi, A., & Mitchell, O. S. (2011). *Financial literacy and planning: Implications for retirement wellbeing* (Working Paper No. 17078). Cambridge, MA: National Bureau of Economic Research.

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5–44. Retrieved from <https://www.nber.org/papers/w17078>

Mandell, L., & Klein, L. S. (2009). The impact of financial literacy education on subsequent financial behavior. *Journal of Financial Counseling and Planning*, 20(1), 15-24. Retrieved from <https://ssrn.com/abstract=2224231>

McCormick, M. H. (2009). The effectiveness of youth financial education: A review of the literature. *Journal of Financial Counseling and Planning*, 20(1), 1-14. Retrieved from [http://afcpe.org/assets/pdf/martha\\_henn\\_mccormick.pdf](http://afcpe.org/assets/pdf/martha_henn_mccormick.pdf)

National Financial Educators Council. (2015). *National financial literacy test*. Retrieved from <https://www.financialeducatorsCouncil.org/national-financial-literacy-test/>

Peng, T. M., Bartholomae, S., Fox, J. J., & Cravener, G. (2007). The impact of personal finance education delivered in high school and college courses. *Journal of Family and Economic Issues*, 28(2), 265-284. doi.:10.1007/s10834-007-9058-7

Pett, M. A. (2016). *Nonparametric Statistics for Health Care Research* (2<sup>nd</sup> ed.). Los Angeles, CA: Sage.

United States Courts Administrative Office. (2017, July 21). June 2017 bankruptcy filings down 2.8 percent. *Judiciary News*. Retrieved from <http://www.uscourts.gov/news/2017/07/21/june-2017-bankruptcy-filings-down-28-percent>

Varcoe, K. P., Martin, A., Devitto, Z., & Go, C. (2005). Using a financial education curriculum for teens. *Journal of Financial Counseling and Planning* 16(1), 63–71. Retrieved from <https://ssrn.com/abstract=2255109>

Walstad, W. B. (2013). Economic understanding in US high school courses. *American Economic Review*, 103(3), 659–663. doi:10.1257/aer.103.3.659

Walstad, W. B., Rebeck, K., & MacDonald, R. A. (2010). The effects of financial education on the financial knowledge of high school students. *Journal of Consumer Affairs*, 44(2), 336-357. doi:10.1111/j.1745-6606.2