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The Impact of Financial Education on the Lives of Cherokee Nation Citizens

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This is to certify that the doctoral dissertation by

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Abstract

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MPhil, Walden University, 2019

MBA, Philadelphia University, 2003

BS, University of Arkansas, 2002

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Financial literacy is something that is important for financial well-being for individuals, but it is lacking, leading to problems such as inadequate saving and poor financial decision making. This research was conducted to examine the impact of financial education for citizens of Cherokee Nation on saving and financial decision making and was grounded in prospect theory and quasi-rational economics. Accordingly, the research questions focused on the extent of differences between individuals with and without financial education for decision making and saving as well as the extent demographic factors play a role. The research design was non-experimental causal comparative with financial literacy and saving data gathered from a survey instrument via mail in the 14-county jurisdiction of Cherokee Nation. To be included in the study participants had to be citizens of Cherokee Nation. The total sample size for the study was 302 with participants placed into groups of those who had financial education or did not. Differences between these groups for the number of financial literacy questions that were answered correctly, and reported savings behavior were analyzed with chi-squared tests for differences of means, independent samples *t* tests, multiple regression analyses, and multinomial logistic regression analyses. Results of the study indicated that financial education leads to an increase in saving and better financial knowledge and decision making and that demographic factors play a role. This research has implications for positive social change as it can be used to create financial education programs that will lead to better financial well-being for Cherokee Nation citizens as well as greater resources for Cherokee Nation to use in the community from a reduced need for economic assistance programs.

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Dedication

This scholarly work is dedicated to Cherokee Nation. It is hoped that the information presented here may be of some use for the mission of improving the quality of life for the next seven generations of Cherokee Nation citizens. Gadugi. Wado.

Acknowledgments

To prevent myself from spending many years trying to figure out how to write the perfect Acknowledgments page, I will instead endeavor to keep this as brief as possible. First, I wish to thank my dissertation committee. Their guidance was instrumental in helping me to reach this point. Committee member Dr. Mohammad Sharifzadeh and university research reviewer Dr. Aridaman Jain both served with wisdom and provided me with greatly beneficial assistance when needed. My chair and mentor Dr. Steven Tippins went above and beyond to help me with everything during my entire doctoral journey. Second, I wish to thank my form and style review editor Angie Drennen for providing guidance for revisions to improve my work and my advisor Dr. Richard Hay for providing support for all administrative issues during my journey. Finally, to all my family, friends, colleagues, acquaintances, and others with whom I have interacted along the way, there is no way I can thank all of you enough, but all of you know who you are and how you have helped me tremendously. Thank you very much.

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Chapter 1: Introduction to the Study

This study dealt with financial literacy and the impact of financial education. I focused on a population group in society that has yet to be substantially analyzed regarding these issues: citizens of the Cherokee Nation. The study was focused on aspects related to individuals and financial education, including demographic factors for Cherokee citizens.

This chapter contains the background of the study, problem statement, purpose of the study, research questions and hypothesis, theoretical foundation, conceptual framework, nature of the study, definitions, assumptions, scope and delimitations, limitations, and the significance of the study. The background of the study discusses the relevance of financial education and its impacts that have been analyzed, including both benefits and potential drawbacks. The problem statement lays out the lack of understanding of Cherokee Nation citizens and the need that they have for improvements in financial literacy. The Theoretical Foundation and Conceptual Framework sections explain the details behind how financial education is believed to impact financial knowledge and ability of individuals. The remaining sections of the chapter include a discussion on key terms for the study, and things that are understood as well as limits of the study, such as factors related to time, scale, and scope. The chapter ends with a summary.

Background of the Study

Financial education is something that has been discussed regarding potential benefits and drawbacks. There are many complex parts of financial education, including

different financial and social aspects that interact with individual and societal factors. The discussion is not merely about providing education, but also there is a need to affect personal behavior as well (Hensley, 2015). Further, overall general financial knowledge has many benefits for individuals, but specialist areas of finance such as investments should be left to professionals (Alsemgeest, 2015).

The primary purpose of financial education is to improve financial outcomes for individuals, such as retirement planning and household wealth. Greater financial knowledge results in improved financial decision making with regard to things such as investment choices (Hibbert et al., 2012). In general, financial education can lead to greater financial knowledge, literacy, and awareness, which in turn should lead to better financial decision-making ability as well as actual choices and actions regarding financial matters for individuals in the modern economic environment (Lusardi & Mitchell, 2014). Thus, financial education has an impact on savings rates for individuals (Grinstein-Weiss et al., 2015). Financial education can also improve wealth accumulation when controlling for other factors such as demographics (van Rooij et al., 2012). Conversely, a lack of financial education tends to lead to greater economic problems for individuals (Hastings et al., 2013).

Though financial education has potential benefits, there are issues regarding its implementation. It is not clear which objectives should be included or how and when they should be included. According to Fraczek (2014) the next stages of implementing financial education can only happen when there is an established hierarchy of priorities to be included within financial education. Evaluation and timing of programs are also

concerns. The timing of when financial education is given as well as the tools needed to properly evaluate programs are areas that need more work in order to advance the goals of financial education (Collins & Odders-White, 2015). For instance, though financial education had little impact, research has shown that greater mathematics education in high school led to greater financial outcome results for individuals (Cole et al., 2016), which includes improved financial ability, particularly with usage of credit cards (Agarwal & Mazumder, 2013). Others have suggested that optimal time for financial education appears to be when individuals reach higher education (Geddes & Steen, 2016). At the stage of higher education, individuals are almost ready to fully assume future careers and thus are in need of financial education (Jobst, 2012).

In addition to timing, a major factor that impacts the financial ability of individuals is the various relationships they have during their lives. Factors that impact individual financial knowledge, ability, and behavior appear to be directly correlated in many instances with key lifetime relationships such as the education system. However, it is perhaps family relationships, particularly the experience and knowledge of parents, that are most important for financial education (Grohmann & Menkhoff, 2015; Tang & Peter, 2015). Education and parents can combine to impact individual financial knowledge and ability (Grohmann & Menkhoff, 2015).

It is also important that financial education be analyzed with regard to its ability to impact behavior. Financial education seems to impact perception and behavior (Anderson & Card, 2015). Financial education can increase one fundamental key aspect of financial decision making: financial participation, such as savings and investing (Cole

et al., 2014). But financial education needs to address the various psychological aspects of things such as investing (West, 2012). It is also not clear if greater financial knowledge results in improved behavior (Hensley, 2015).

Another consideration for financial education is its real-world application. One of the areas where financial education is both easy and immediately relevant for implementation is the work environment. It is with employment that individuals often must make important decisions (or at least have the opportunity to do so) with regard to things such as retirement savings. When financial education is included at work, individuals are significantly more likely to have positive financial behaviors such as budgeting and increased financial retirement plan contributions (Prawitz & Cohart, 2014). For financial education to be effective, the environment has to align, allowing individuals to apply the concepts they learned.

There is an increased need for understanding of global aspects of financial education. Financial literacy is low in many countries, and there is a need for financial education (Fraczek, 2014). A structured approach could help not only domestically but internationally as well. The most important aspects leading to improvement include life-long learning and education focused on individual needs (Marta-Christina & Liana, 2013). This study was therefore conducted to improve understanding of the impact of financial education on the lives of individuals.

Problem Statement

This study focused on the problem of financial literacy and the large gap in capability levels with a minority in the United States—citizens of the Cherokee Nation.

When it comes to financial stability and wealth accumulation and management, financial literacy is important for decision making (Lusardi & Mitchell, 2014; Saboe-Wounded Head, 2014). However, research has shown that Native American students performed worse than other groups in financial literacy with a mean score of 37.7 and 88.8% failing compared to a mean score of 41.3 and 89.1% failing for African American students, a mean score of 45.1 and 83.4% failing for Hispanic American students, a mean score of 47.2 and 77.2% failing for Asian American students, and a mean score of 52.5 and 64.4% failing for White students (Mandell, 2008). More recent surveys have also shown lower levels of financial capability for Native Americans, with 27% being highly financially literate (Dewees & Mottola, 2017). In addition, financial knowledge confidence levels or an individual's beliefs about their own financial knowledge were lower for Native Americans at 65% compared to 74% for African Americans, 75% for both Hispanics and Asian Americans, and 77% for Whites (Dewees & Mottola, 2017).

There is a need for improving the levels of financial literacy as well as improving financial decision making for many individuals (Collins & Odders-White, 2015). But one key to its effectiveness is to improve its objectives regarding how they are implemented in a system (Frączek, 2014). Research has indicated that there is a strong correlation with the ability of individuals and the financial understanding of people who play key roles in their lives, particularly parents (Tang & Peter, 2015). Demographic factors of financial literacy have also been examined regarding factors such as geography (Bumcrot et al., 2013) and age groups (Henager & Cude, 2016). The general management problem

examined in this study is how to improve financial knowledge and financial capability for the general population.

The specific problem that was studied with this research is how financial education impacts Cherokee Nation citizens' financial literacy, savings, and financial decision making. There has been little to no research on this topic regarding this demographic segment of society, and it is likely that as with other Native American groups (Mandell, 2008), there are significantly low levels of financial literacy. This research may enhance understanding that can improve low levels of financial literacy for Native Americans in general and Cherokee Nation citizens specifically. This information could also help policy decision makers in general and for Cherokee Nation. Cherokee Nation decision makers could use this information for improving any existing programs for promoting and enhancing financial security for individual citizens of Cherokee Nation or for creating any potential additional programs. The information from this study could also be used by decision makers that represent groups of individuals who are Cherokee but are not part of the Cherokee Nation for the same purpose.

Purpose of the Study

The purpose of this study was to further examine the effects of financial education with regard to financial understanding and decision making as it applies to citizens of the Cherokee Nation. Previous studies have examined financial education with regard to minorities but have not looked at Cherokee Nation citizens nor examined full effects on financial decision making for all ages or backgrounds (Barcellos, 2016; Saboe-Wounded Head, 2014). To address this gap, I conducted this quantitative study with multiple

groups and survey instruments for data collection. The approach for this study was derived from previous works on measuring the effects of financial education, including single point measurements (FINRA Investor Education Foundation, 2020; Lusardi & Mitchell, 2017) and where individuals have been measured both before and after an experimental financial education treatment (Batty et al., 2015; Reich & Berman, 2015). It was expected that financial education increases financial understanding and improves financial decision making for Cherokee Nation citizens.

Research Questions and Hypotheses

RQ 1: To what extent does financial education affect individual savings?

$H_0$1: Financial education does not affect individual savings.

H_a1: Financial education affects individual savings.

RQ 2: To what extent does financial education affect financial planning and decision making?

$H_0$2: Financial education does not affect financial planning and decision making.

H_a2: Financial education affects financial planning and decision making.

RQ 3: To what extent do demographic factors affect financial planning and decision making?

$H_0$3: Demographic factors do not affect financial planning and decision making.

H_a3: Demographic factors do affect financial planning and decision making.

RQ 4: To what extent do demographic factors affect financial planning and decision making after financial education?

$H_0$4: Demographic factors do not affect financial planning and decision making after financial education.

H_a4: Demographic factors do affect financial planning and decision making after financial education.

RQ 5: To what extent do demographic factors affect savings?

$H_0$5: Demographic factors do not affect savings.

H_a5: Demographic factors do affect savings.

RQ 6: To what extent do demographic factors affect savings after financial education?

$H_0$6: Demographic factors do not affect savings after financial education.

H_a6: Demographic factors do affect savings after financial education.

Theoretical Foundation

The theoretical base for this study was centered around economic theories indicating that individuals make choices based on what maximizes utility throughout their lives in accordance with their knowledge, capabilities, and rational decision making. Specifically, this study was guided by prospect theory and cumulative prospect theory (Tversky & Kahneman, 1992), which relate individual choice to factors of risk aversion and framing effects apply to financial education effects on financial literacy and behavior. The problem of low levels of financial literacy for all individuals, and in particular disadvantaged groups such as Cherokee Nation citizens, can be traced to factors that relate to individual choices and backgrounds both financially and psychologically aligned with prospect theory. Though there are several impacts on

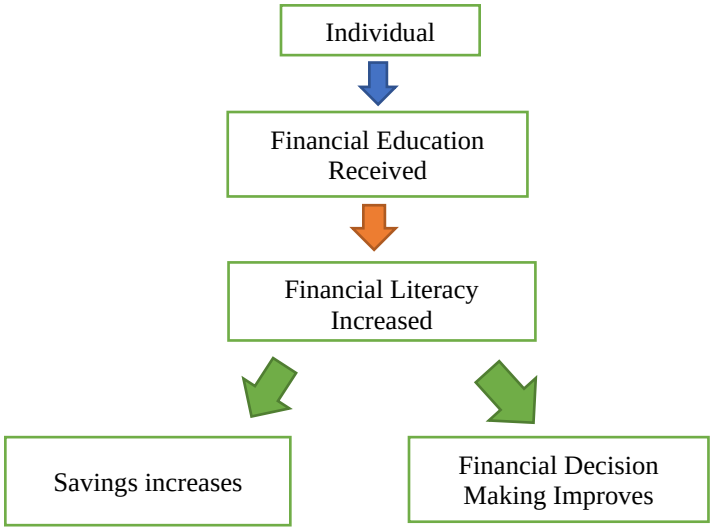
occupational choices (i.e., education level, major, industry, employer, or job) such as personal utility, satisfaction, location, or life factors, one factor that plays a role is financial education.

Conceptual Framework

Financial education is a crucial aspect of financial literacy that enables individuals to make well-informed decisions regarding various financial alternatives (such as investment choices) in relation to their own individual situation combined with market and environmental conditions. Though gaining more information and a better understanding is beneficial for individuals, there are other considerations than just information and learning alone. The relevance and use of information is impacted by psychological aspects (García, 2013). In addition, other factors such as experience can shape how individuals process financial information and make decisions (Tannahill, 2012). The financial education framework can be captured by the following figure.

Figure 1

Financial Education Framework



Nature of the Study

The nature of the study was quantitative. The underlying fundamentals of the issue of financial education and corresponding financial capability and performance revolve around numerical concepts and quantities. In addition, the research questions were more related to the degree of things, with measurable outcomes, that lend more to a quantitative approach. The study was non-experimental using ex post facto research to test the effects of financial education on savings and financial planning and financial decision making.

Definitions

For this study, there are five definitions that are relevant to clarify:

Demographic differences: These consist of the various categories of identifying groups of people, including factors such as age, education, race, and gender.

Financial education: This is the process by which individuals gain an understanding or increase their understanding with regard to financial topics including products and strategies in order to make better decisions and improve their financial well-being (Becchetti et al., 2013).

Financial literacy: This is the aspect of understanding financial topics and related financial systems and financial products, being knowledgeable about various financial concepts (Becchetti et al., 2013).

Financial planning and decision making: This is the aspect of making various choices with regard to both the present and future as they relate to an individual's financial situation in relation to the individual's understanding of financial concepts and their expectations about various financial products, institutions and options aligned with important personal factors such as risk tolerance, goals and objectives, and personal satisfaction.

Savings: Money from any income source such as employment or inheritance that is set aside for future consumption for purposes such as emergencies or retirement through some sort of investment such as savings accounts, retirement plans, stocks, bonds, treasuries, and commodities.

Assumptions

It was assumed that individuals have the capacity to learn and thus make better choices if given access to information and provided a thorough understanding of the information. In addition, it was assumed that individuals will be able to grasp and properly apply information that is given to them. It was also assumed that individuals in

the study are providing an honest reflection of their knowledge and ability as well as the decisions that they would actually make or have actually made in their lives inside and outside the scope of the study. Finally, it was assumed that no individuals are making decisions based on any type of approach unrelated to their knowledge, education, or experience and that the information provided in survey responses is accurate and reliable.

Scope and Delimitations

The scope of this study centered around financial education and its impact on savings and financial decision making. These aspects were chosen as they relate to a general knowledge of financial literacy and the key factors that impact financial aspects for an individual's well-being. Various other aspects such as advanced investment strategies or approaches were not included as these relate more to the possibility of attempting to acquire wealth as opposed to managing well-being. In addition, this study focused on Cherokee Nation citizens, as previous studies include samples of general populations and are not adequate for understanding this particular demographic group. Generalizability of the findings may thus be limited as a result.

Limitations

The limitations of this study include population, time, and instrumentation. Survey questions used for analysis in the study as well as the financial education individuals may have received prior to the study are inherently limited. The validity of these instruments cannot be fully tested but are assumed to be valid. The entire population is not feasible to study regarding cost, and it is assumed that the sample of the study is representative, though limitations may arise due to the nature of Cherokee Nation

citizens being from various backgrounds ranging from genealogy to culture. Finally, time is a limitation with regard to cost to analyze individuals over the course of their lives to track potential long-term impacts.

Significance of the Study

This study addressed the effects of financial education regarding an understudied minority group of society. This research provides further insight into the aspects of financial understanding and decision making that could lead to significant improvements in the lives of individuals, which can correlate to improvements in their surrounding communities. The findings of this study may provide an understanding to policy decision makers for what might work with regard to financial education for various segments of the population, leading to significant improvements in the financial aspects of society and positive social change by helping reduce the problems associated with poverty, high amounts of debt, and retirement planning and funding problems.

Significance to Theory

This study impacts financial theories in several ways. First, the results of this study serve to confirm current understandings of the impact of financial education as well as expose potential fallacies or misunderstood ideas and concepts. It may be that financial education itself is sufficient or lacking in one or more ways or that the results observed after financial education are not fully understood.

Significance to Practice

This study has several implications for practice. Results of this study might lend support to include financial education in various societal institutions and programs.

Likewise, results of this study might also help for making potential changes to financial education as well as potential alternative approaches and solutions that could be considered. It is also possible that financial education may be effective only for certain individuals or under special conditions, and these could be further analyzed.

Significance to Social Change

This study has many implications for positive social change. Gaining a better understanding of both financial education in general as well as the impact on Cherokee Nation citizens provides benefits for both individuals as well as society. It is possible that this study could be used for improving existing programs or creating new ones to help with financial literacy and the financial well-being of Cherokee Nation citizens. These individuals would then be in a better position for helping themselves as well as contributing to society in better and enhanced ways.

Summary and Transition

The impact of financial education on individuals is an important topic. The objective of this study was to add to the literature by examining financial education as it relates to Cherokee Nation citizens. Financial education has been analyzed for the general population but not for this group. In this chapter a discussion about the background of financial education impact on individuals was included. In addition, key definitions of financial education, financial literacy, demographic differences, and financial decision making were defined. Key assumptions for factors related to individuals and instrumentation as well as scope and limitations for the demographic group and timeframe of the study were also described. Finally, the key significances of this study

for theory, practice, and social change relating to understanding, program planning, and impact on individuals and society were discussed.

In Chapter 2, a literature review is provided for a detailed look at the issues surrounding financial education and studies that have been conducted as well as results that have been obtained. Various factors such as the need for financial literacy, the use of financial education, and benefits and drawbacks are examined. Corresponding theories such as behavior theories and educational theories are also examined.

Chapter 2: Literature Review

The literature shows that there is a significant need for financial education as financial literacy levels are lacking in society. However, there is debate about how to address financial literacy, with results providing support for financial education but no clear guidance on what form it should take. There is also a myriad of demographic factors that play a key role in the financial education process that could be influential in obtaining the desired results. This research addressed a lack of financial literacy in the general population, which has been problematic for the long-term economic benefit of individuals and society (Fraczek, 2014). This problem appears to be worse for minorities, including citizens of the Cherokee Nation. But there is a significant lack of research regarding the impact of financial education on the economic and financial well-being of Cherokee Nation citizens. The purpose of this study was to examine the effects of financial education on Cherokee Nation citizens in regard to financial literacy and decision making using a quantitative method with a non-experimental design.

This chapter contains a section for the literature search strategy used, including databases and sources as well as methodological approaches. The chapter also describes the theoretical and conceptual foundations for the research, including theories from Tversky and Kahneman and Thaler. Chapter 2 further discusses the research for financial education and literacy and the key variables and factors. These factors include saving, investing, financial markets and products, spending, debt, assets, employment, income, wealth, generations, life cycle, relationships, education, policies, society, demographics, and factors for minorities and Cherokee Nation citizens.

Literature Search Strategy

The following is a list of accessed library databases and search engines used: Thoreau Multi-Database Search, Academic Search Complete, Expanded Academic, ASAP, ProQuest Central, ScienceDirect, ABI/Inform Collection, Directory of Open, Access Books (DOAB), Directory of Open Access Journals (DOAJ), Dissertations & Theses @ Walden University, EBSCO ebooks, Education Source, ERIC, Google Books, Google Public Data Directory, National Bureau of Economic Research, Open Book Publishers, Open Library, Oxford Education Bibliographies, ProQuest Dissertations & Theses Global, Psychology Databases Simultaneous Search, SAGE Journals, SAGE Research Methods Online, SAGE Stats, World Bank Open Knowledge Repository, Google Scholar. The following is a list of key search terms used: *financial literacy*, *financial education*, *saving*, *investment*, *wealth*, *employment*, *debt*, *consumption*, *financial markets*, *financial products*, *behavioral economics*, *policies*, *education*, *behavior*, *psychology*, *assets*, *society*, *Cherokee*.

In general, the literature search strategy consisted of searching for these terms as well as combinations of these terms among all the databases listed. The search consisted of looking for relevant articles and other types of sources within the last 5 years as well as major relevant works for any time. When relevant articles were located, a scan of references used for the article was conducted and these references were searched among the databases as well. In addition, searches were conducted for any articles that had also referenced the article that was being examined for the sources it had used. Searches were

also conducted for known major theorists of behavioral economics and behavioral finance with relation to financial education in the literature.

Theoretical Foundation

The theoretical foundation for this study revolves around the ideas, concepts, and theories advanced by Thaler, Tversky, and Kahneman. In particular, these theories include prospect theory and cumulative prospect theory as well as quasi-rational economics (choice architect). The theoretical foundation includes concepts of general education, financial education, and financial literacy.

Cumulative prospect theory is an improvement on prospect theory, which itself is built around solving issues with expected utility theory. Expected utility theory explains decision making of individuals under uncertain conditions, but it does not provide a sufficient explanation for actual observed behaviors of individuals with regard to decision making. Prospect theory takes these observed behaviors into account for risky prospects in regard to choices among outcomes. It consists of a concave value function for gains and convex value function for losses and nonlinear transformation of probability (Tversky & Kahneman, 1992). The value functions of prospect theory show that there is a greater effect for a loss than there is for a gain. In addition, the probability of a small probability outcome is given much more consideration than those that have greater likelihoods. Though these aspects of prospect theory represent a significant improvement on analyzing choice behavior, it is limited in the number of outcomes. Cumulative prospect theory takes into account unlimited outcomes as well as cumulative probability (Tversky & Kahneman, 1992).

The specifics of values for cumulative functions depends on the framing of choices and values assigned to various outcomes. When dealing with matters of choice for individual behavior, the factors that a model should consider consist of framing effects, nonlinear preferences, source dependence, risk seeking, and loss aversion (Tversky & Kahneman, 1992). Framing effects impact individual choice when individuals make different choices depending on how information is presented to them, even if the information is identical. Nonlinear preferences show that the scale of probability has different effects on individual choice depending on where it lies on the scale, whereas increases at higher levels have greater effect than increases at lower levels, even if the increment of the increase is identical. Source dependence shows that individuals place value on not just the information they receive but also on where the information comes from. Risk seeking observations show that individuals prefer small probability of success for a large outcome and that relatedly, loss aversion shows that individuals avoid loss far more than seek gain. Both of these factors are counter to expectations of risk aversion principle assumptions in traditional economic analysis.

In general individuals are both risk-seeking and loss-averse. As a result, the values that individuals place on these possibilities are overweighed to the point that individuals will choose these options over other choices that may be deemed more rational (Tversky & Kahneman, 1992). Prospect theory and the enhanced cumulative prospect theory propose that although individuals have methods and reasons for their choices, the decisions are normally not in accordance with the traditional assumptions of rational decision making, in particular as it relates to choices of extremes for small

chances of gain or to avoid a loss rather than a choice in between the extremes. Individuals are also susceptible to various aspects of information regarding the probabilities of the choices they are given, such as framing, so individuals often rely on heuristic procedures.

Economic theory has developed to the point where predictions can be reasonably made on an aggregate basis under certain conditions and assumptions; however, one aspect that has traditionally been left out is the human factor of behavior. Traditional models for life-cycle economic decision making and analysis can be enhanced by incorporating additional human behavior tendencies. Traditional theories need to account for how individuals actually make decisions in addition to how they should make decisions. Factors that are error related both for the individuals and many predictive models are inaccurate consideration of opportunity cost, considerations of sunk cost, and behavior related to regret and self-control (Thaler, 1980). Adding in elements from aspects of self-control, mental accounting, and aspects of framing form the basis of Shefrin and Thaler's (1988) behavioral life-cycle hypothesis can help analyze an individual's willpower, timeframes and planning, and options for choices. As a result of these behavioral factors, similar to aspects of cumulative prospect theory, individuals tend to divide factors of income and assets into time periods and give more weight to present factors than future factors (Shefrin & Thaler, 1988).

Further, individuals often make decisions based on their own perceptions as well as lack of awareness regarding many personal factors as they relate to overall factors (Thaler, 1985). As a result, they often make illogical decisions for either doing things

they should not do or not doing things that they should do. Some examples of these instances include when individuals attach labels to money, topic and time related errors, issues with self-control, and a valuation of positive value to gifts received when the gift would not be purchased directly by the individual. Making decisions based on money simply because it can be classified as another category, such as a windfall rather than an earnings increase, or a valuation of an instance of time over a longer period when conditions and factors are related represent individual errors. Similarly, these individual errors can become group errors for things like gifts, when both the person receiving the gift and the person giving the gift share funds, as in the case of spouses for instance.

Individual issues with self-control are well studied in many fields. However, in terms of economic and financial behavior, a good approach for a model to approximate temporal differences between present and future decisions is to consider an individual as a two-person model (Thaler & Shefrin, 1981). In this model, one of the two halves of the individual represent a planner, and the other represents a doer. Essentially the planner is concerned with long-term decisions and actions for utility, and the doer is concerned with utility of present actions. Though it is possible for extremes to exist, most individuals incorporate a set of rules or guidelines for which both the planning and doing mentalities interact and exert control over decision making and behavior. As a result, there is some degree of a trade-off for which the individual reaches their derived utility and acts accordingly. Individuals make different choices according to the relative waiting period for these various timeframes, such as today and next week compared to 2 years from now and 2 years and 1 week from now. This difference in choices is known as dynamic

inconsistency. Individuals need a much larger gain in terms of percentage in order to properly concern themselves with smaller rewards, and individuals place value on actual costs but consistently undervalue factors that are related to opportunity costs (Thaler, 1981).

Additionally, individuals make many decisions that are both seemingly rational as well as irrational; psychology and various psychological factors therefore play a key role in individual decision-making processes (Thaler, 1987). Choices are often considered independent, but there is a need to consider the joint nature of dependence for many choices even when they appear to be independent. In addition, there are many factors that influence the inputs for choices such as values. Values can be weighted according to individual preference, which leads to the possibility of seemingly irrational choices. Closely related is the aspect of framing, which sets up a different perspective of alternatives depending on they appear to the individual. Choice is also impacted by certainty and uncertainty or confidence about certainty for each individual. Choices are often based on judgments, and judgments face the same factors that relate to choices in terms of being skewed for accuracy and rationality for individuals. Incentives can often play a role for both individuals making decision as well as finding information about them for studies and theories, yet monetary incentives have been shown to have little impact in terms of necessity for the most part for revealing accurate information but does have an impact on choices. A final factor impacting individual psychology and choice is that of learning, and individuals seem to incorporate mistakes as well as success into future decision making, with both having a significant impact.

Literature Review

Financial Literacy

Financial literacy is not something that is common for many individuals in society. There are many financial options available to individuals and as a result, it is often difficult to make decisions. This is particularly true for individuals who lack any sort of fundamental understanding of financial literacy (Fraczek, 2014). Even highly educated members of society often lack financial literacy due to a relative lack of financial education. This problem is greater for individuals without high levels of education. There is also a question of whether individuals in America are financially literate or illiterate on average. Though it seems likely that the majority are illiterate, many individuals are actually literate, though this is related to age with older individuals scoring better (Grable & Rabbani, 2020).

Economic conditions and a complex environment increase the need for financial literacy (Reich & Berman, 2015). Though it may have been acceptable to be more passive for individuals managing their money due to societal and economic conditions along with a simplistic landscape, this is not necessarily a good approach in a global economy. There is a need for people to be able to handle money not just on a reactionary basis but on a basis of being proactive (Marta-Christina & Liana, 2013). The ability to be proactive requires an understanding of related concepts as well as options.

Financial literacy is related to what an individual knows about the relative topics, but it is also closely related to what individuals can do with that knowledge. Financial literacy is knowledge, and financial capability incorporates behavior (Collins & Odders-

White, 2015). Being able to incorporate knowledge and translate that to behavior is not always an easy thing to do. The first concern is that there is a need to acquire knowledge. The second concern is figuring out what to do with that knowledge and applying it to their daily life. The primary model for literacy is that financial education improves financial literacy and thus financial behavior (Alsemgeest, 2015). However, the relationship between literacy and behavior has been shown unclear in some studies, and there is a lack of literature supporting financial literacy and actual behavior (Alsemgeest, 2015). If there is a link, there does not appear to be a strong link between literacy and behavior (Hensley, 2015).

Examining the link between financial literacy and behavior involves multiple aspects. One of these aspects is actual financial literacy of individuals and the other is the perception that individuals have about their own financial literacy. Allgood and Walstad (2016) examined these aspects and found no causal relationship between financial literacy and behavior, though there were some correlations. In general, it appears that perceptions individuals have about their own ability tend to play a role in financial behavior of individuals in addition to any actual financial literacy that they may have, and as a result both of these factors should be considered together when assessing financial literacy or financial education (Allgood & Walstad, 2016).

For financial education programs to be effective, an accurate understanding of financial literacy is needed. Financial education is the method most often adopted to increase financial literacy, but there have been mixed results (Fernandes et al., 2014). This is likely because there are many factors involved such as communication (Hanson &

Olson, 2018), creating a need more research and understanding. Previously, most efforts have been constrained to a limited field of financial knowledge as the primary, if not only, indicator of financial literacy. This view is limited though, as knowledge does not always lead to ability. Furthermore, ability does not always lead to action. There is reason to believe that these two aspects, ability and action, should be incorporated into measures and discussions of financial literacy for financial education purposes (Warmath & Zimmerman 2019).

Financial Education

Financial education is needed, but there is debate about what form financial education should take or how it should be implemented. There are examples of success with financial education and also examples of limited results (Fernandes et al., 2014). There are also questions about when and where financial education should be implemented.

Financial education is something that can be a part of the larger overall education system. Most states now focus on personal finance at some point in education (Collins & Odders-White, 2015). In addition, it seems it may be better to begin financial education at a younger age, so there is now a greater focus on personal finance and younger students (Collins & Odders-White, 2015). Financial education needs to begin as early as possible and be an ongoing learning experience (Marta-Christina & Liana, 2013). However, financial education itself is not currently normally a singular course, but rather it is part of other learning experiences. Financial education is not normally offered as a standalone course (Collins & Odders-White, 2015).

Despite focus on financial education beginning earlier, it is also offered to individual later in life as well. Many researchers and policymakers agree that financial education at all levels of school can improve financial behavior of adults (Collins & Odders-White, 2015). In addition, financial education can have benefits when it is offered outside of the traditional school environment.

One other aspect to consider in addition to the timing of financial education and the content of financial education is that of the provider of the financial education. Depending on the source of the information, individuals can be more or less receptive to learning knowledge and skills. Generally, the better the reputation of the individual or organization that is providing the information or education, the more likely an individual will be to accept the information and to learn from it. With regard to financial advice, it is thus important for any advisor or educator to provide good quality information upfront, and to make a resoundingly good impression (Agnew et al., 2018).

Financial education is not simply a domestic issue, but it is a focus of the international community as well. Financial education is deemed an important issue within the European Union and principles have been created for its use in education (Marta-Christina & Liana, 2013). Despite the instance of some guidelines and principles and some regions, there remains a wide spectrum of financial education. There is a large variety within how financial education programs are implemented (Collins & Odders-White, 2015).

There is a need for measuring long term impact (Collins & Odders-White, 2015). Without knowing the long-term impact, it is difficult to judge the ultimate effectiveness

of financial education as well as determine what aspects are most beneficial and in what ways and formats. Financial education evaluation has been focused on individual measures that are not as effective for measuring actual behavior (Reich & Berman, 2015).

Previous studies have lacked the use of a control group for financial education (Reich & Berman, 2015). As a result of the lack of use of control groups, it is hard to say what effects are the results of financial education rather than some external factor. In addition, it is difficult to measure the actual potential of financial education itself. Reich and Berman (2015) conducted an experimental design using a control group for financial education benefits. They found from a sample of homeless individuals and families in a housing program that financial education course increased financial literacy and capability.

Financial capability can be thought of in terms of both literacy as well as behavior. In general, financial education seeks to impact both literacy and behavior of individuals, so it is important to consider both in terms of overall financial capability of individuals. Xiao and O'Neill (2016) measured the impact of financial education across variables of objective and subjective financial literacy, perceived financial capability and desirable behavior. Results indicated that there was a significant effect of financial education on financial capability. These results were true for both educational settings as well as workplace settings.

The important outcome for financial education is to influence actual individual financial behavior. There are two important considerations for this objective, which are short-term and long-term measures. The effects of financial education may or may not be

the same with regard to these time frames and may be different for individuals as well. According to Wagner and Walstad (2019) financial education has differing levels of significance depending on the type of short-term and long-term behavior. Short-term behavior that has relatively quick feedback is more likely to result in situations where financial education is not as effective. For long-term behavior, financial education has been found to be significant when there is a delay for feedback for the corresponding behavior.

Savings Levels

Many individuals do not save at all. Still others save, but do not save enough to meet their future needs, or future wants. Low levels of saving are often associated with lower levels of financial literacy, which can be alleviated by financial education. It is important for everyone to save in order to obtain their financial goals. However, it is perhaps even more important for individuals with less resources. Financial education has been shown to increase saving for individuals with low income (Reich & Berman, 2015).

Saving for future needs and wants is an important financial behavior. Despite this importance, it appears that the overall trend for saving with regard to financial decisions has been decreasing. There are many factors contributing to this situation, including less attractive savings options and increasing debt. These trends have had a major impact on younger individuals, both with regard to current savings as well as what can be expected from future savings activities and financial results. The amount of savings is significantly less than average calculated needs for most working individuals presently, which is a

problem resulting not only from actual activity but a lack of perceived need to save as well (Brüggen et al., 2017).

A low rate of savings is known to be problematic for individuals both for the present as well as the future. One of the problems associated with an individual's seeming inability to save an appropriate amount for future needs is a lack of an association with specific objectives related to their needs and wants. As a result, it may be beneficial if individuals are able to look at their own savings through the lens of objectively measured goals. One such method developed to help individuals to match behavior with goals is a personal saving orientation approach. Results of this method indicate that individuals are better able to understand and achieve savings, and programs designed to aid individuals attain a higher understanding of individual needs and tendencies (Dholakia et al., 2016).

Investing

Many individuals do not invest, or do not invest rationally. This is often a result of a lack of financial education. Furthermore, when individuals do invest, they often do so passively, relying on industry experts to handle everything for them. Although in some ways this can be fine, it can create problems when individuals have low levels of financial literacy and do not know what options may be available to them as market conditions change of life events occur.

Investing can take the form of many objectives for various groups of people over the course of their lifetimes. Normally, most investment is goal related in close relation to major life events. For example, many people invest for their own future or for those they

choose to support with regard to the purchase of a house, paying for education, and retirement planning. According to Walstad et al. (2017) studies involving college students who received financial education not only had increased savings but also had increased amounts of investment knowledge and better related investment activity tendencies. This was not only true for long term effects such as retirement planning, but students with financial education also appear to benefit from a greater understanding involving the details related to the investment of their education with potential effects for retention rates.

Financial Markets & Products

There are many financial markets and many more financial products in existence. The vast number of markets and products can often make financial topics seem more complex than they really are to a lot of individuals. Financial education, combined with an emphasis on particular markets and products, can make financial topics more easily understood and applied by the general population.

One issue for individuals making financial decisions appears to be the ability to narrow down options. There is an oversaturation of choices for consumers (Alsemgeest, 2015). As a result, it can be difficult to obtain all valid information for decision making purposes, or to be able to quickly analyze all of the information that is available in a timely manner for investment purposes.

Over the years, the dynamics of financial markets and responsibility for important issues such as retirement have shifted. For retirement, individuals now face a situation where the market demands more individual control than before, as seen by the prevalence

of defined contribution plans rather than the previous prevalence of defined benefit plans. This trend increases the importance of financial decisions for individuals at all stages of life but has larger impacts for decisions made when younger as time can compound the benefits gained or missed from certain decisions. As a result, it is important for individuals to have a focus on investing in financial knowledge to understand how to make proper asset allocation decisions over time with respect to their options and goals (Lusardi et al., 2017).

Spending & Consumption

It is often accepted as a part of human nature or behavior that individuals desire instant gratification. As a result, most people consume more than they save. This is not an inherent problem, but if consumption level is too high relative to income, it can become a problem. A greater understanding of financial topics could be beneficial.

Teaching individuals about saving and investing is beneficial but would matter little if an individual cannot control the other side of the equation, namely the expenses arising out of spending and consumption. One of the keys in teaching financial education to individuals is to help them control compulsive spending (Anderson & Card, 2015). When people are better able to control their spending habits, or at least be aware of them to make better informed decisions, they can benefit more by understanding and choosing the proper relationship between spending and investing for them according to their own situation.

Spending habits can vary by individual as well as for the individual over time. Anderson and Card (2015) examined spending habits of college students as well as

financial education. For first year college students, men were found to be less likely to be compulsive buyers than women. Students who received some sort of financial education intervention were less likely to have urges to spend money. Students were also found to enjoy spending money but enjoyed spending money less after financial education (Anderson & Card, 2015).

Consumption is something that is often overlooked when individuals plan their future financial needs and outcomes. In addition, individuals often make faulty assumptions and decisions regarding current and future expenses in relation to income and overall financial matters. Berman et al. (2016) found that individuals often give significantly less weight to the effect of future expenses in regard to financial impact than they should. In general, individuals who desire to spend less are less prone to this error while individuals who are likely to spend more are more prone to the error. The significance of this error also increases in strength with relation to the duration of when these expenses occur, with higher amounts of error for longer time frames than for shorter time frames.

Debt Amount

Many individuals have very high levels of debt. Much of this debt consists of credit card debt or student loans. Often, these debts are taken on by individuals without a true understanding of the ramifications of debt. Debt can also be used to generate wealth instead of take away from it, but a high level of financial literacy is needed.

Although debt is an issue globally for all individuals, it appears to be a bigger problem when it easier to obtain. Debt is extremely high in developed nations with more

supply of credit (Alsemgeest, 2015). The problem can be exacerbated by not only the availability of credit, but by the amount of credit that is available to individuals, especially when they have lower income and assets and less ability to manage the debt they take on.

The amount of debt is an issue, but it is better examined as a percentage. Higher percentages of debt related to assets or income indicate both short term and long-term problems for individuals. Global household debt as a percentage of income has increased (Alemgeest, 2015). This increased debt percentage decreases the likelihood that individuals are able to properly save or invest in order to meet financial goals in the present as well as over time.

Debt is a big issue with college students, particularly student loans and credit cards. Both forms of debt are major barriers for college students to overcome for being able to invest appropriate amounts for long enough time periods to meet their financial objectives. Credit card debt is more common that student loan debt (Anderson & Card, 2015).

There appears to be a problem that consists of two parts pertaining to debt and younger individuals. For one thing, they have a high amount of debt and a corresponding reliance on using it. To go along with this problem, they are also less aware of the issues pertaining to debt, as their financial literacy levels are lower (Brown et al., 2016). This means that they are not only more likely to have problems with debt in the present, but that this problem is likely to carry over to the future and in other areas of financial well-being. A likely indicator of this is how the debt is repaid, and a significant number of

individuals are struggling to handle their debt with regard to student loans (Brown et al., 2016).

One of the largest issues overall for debt for most individuals is a lack of understanding, or debt literacy. According to Lusardi and Tufano (2015) this lack of knowledge applies in general to the overall population, as less than half of individuals have an adequate understanding of compound interest. There is an overall relationship between debt levels and debt understanding. The less an individual knows about debt, the higher their debt level is likely to be, which impacts all areas of their financial decision making. This applies to all forms of debt held by individual as well (Lusardi & Tufano, 2015).

Assets Held

Purchasing assets is something that is important for developing and maintaining wealth. However, many individuals often purchase assets that depreciate in value over time and rarely purchase assets that appreciate in value. A greater level of financial education may alleviate this problem.

With regard to assets, there is an obvious relationship to wealth. In general, individuals with more wealth are able to purchase more assets, which in turn leads to the generation of additional wealth. It's therefore reasonable to assume that individuals with less wealth would have less assets and a greater need to acquire assets and build wealth. Many programs, known as individual development accounts, seek to address this issue, among others. There is evidence to support that these types of programs can lead to a significant increase in assets for individuals when they are used in conjunction with

financial education. One such program, the Assets for Independence Program, had a much higher impact for individuals after one year for assets as well as correspondingly less financial hardship for individuals in the treatment group compared to the control group (Mills et al., 2019).

Employment

For most individuals, employment is the primary source of income during their lifetime. As a result, it is imperative that individuals have sufficient financial literacy to manage their current income as well as their future income. In addition, the employment environment provides a gateway to providing financial education to many individuals that may not have had access to it before or could benefit from further discussion and education.

In modern times, there has been a significant shift in retirement planning obligations from that of the employer to that of the employee. As a result, it is imperative that individuals gain an adequate financial understanding in order to meet this need. This has led to a greater prevalence of access to financial literacy programs through an individual's workplace. However, despite this there is a continued lack of financial literacy for many workers as there is often difficulty in grasping the increasing complexity of the body of financial knowledge and the variety of corresponding available financial products. This is true for employees in all types of employment, but it is perhaps a bigger problem for employees who work in the public sector rather than other sectors (Kamakia et al., 2017).

Perhaps one of the biggest impacts of financial education with regard to employment can be found with the effects related to financial education and self-employment. Ćumurović and Hyll (2019) found that there is a positive correlation between the amount of financial education an individual has and the likelihood that they will be self-employed. One reason for this could be that one of the biggest hurdles to entrepreneurial success is proper financial management for the new venture, as resources are less likely to be available to compensate for any mistakes. Individuals who have a greater financial literacy are thus more likely to understand how to properly manage the finances of the new venture, increasing the chance for success and the likelihood that an individual will be able to be self-employed. Furthermore, these individuals who understand financial topics are more likely to understand the details surrounding risk and thus more willing to undertake the challenges of becoming and staying self-employed (Ćumurović & Hyll, 2019).

Financial education has differing degrees of effectiveness depending upon the type of employment an individual has. While most forms of employment offer potential opportunities to be exposed to financial education, individuals tend to have different levels of behavior and understanding according to the nature of their employment. Clark et al. (2017) found that individuals who were employees of the Federal Reserve system were both more likely to exhibit positive financial behaviors as well as have higher levels of financial literacy than employees in the general population. This indicates that financial education is useful for all types of employees, but it may be more or less needed

or perhaps need to be tailored according to the general experience and type of employment individuals have.

Income Levels

There are other sources of income other than employment. For many individuals, this becomes important when they reach retirement age, as they are no longer capable, or no longer desire, to work. As a result, financial education is needed for individuals to be able to sufficiently manage their retirement goals while they are working, and their retirement income when they have retired.

Income has a large impact on financial ability and financial decision making for individuals. There are distinct differences in individual behavior depending on the amount of wealth that they possess. It is common for those with less economic resources to make worse decisions that individuals that have more economic resources, and in addition to the decisions being worse, they are often also very poor decisions that exacerbate financial problems. There are several factors that impact these decisions, including financial factors as well as educational and temporal factors. Individuals often make different decisions based on the timing of when they have financial resources, such as a payday. Individuals tend to prefer choices that favor the present before a payday, though overall choices for individuals are similar both before and after a payday (Carvalho et al., 2016).

Income has multiple effects on an individual. One of the major effects is related to the amount of stress that an individual may experience both at a given moment as well as during their lifetime. The stress is something that impacts current well-being as well as

future well-being and has an impact on money management and financial decision making. Whereas the effect tends to be there for most individuals, there is a point in which it is minimized or no longer has a significant impact, depending on the amount of income an individual receives and the likelihood of future prospects. Individuals who receive less income face more stress and would benefit the most from programs designed to relieve the money management stress they face as a result (Netemeyer et al., 2017).

Wealth Amounts

True wealth for individuals and families can only be developed and maintained with a sufficient understanding of financial literacy. Understanding money management issues enables individuals to build wealth over the course of their lives. It also allows individuals to pass on wealth to later generations, whereby the wealth often is enhanced over time.

Individuals are likely to treat financial knowledge and decision making as a means to an end, in order to feel content or secure with their life in relation to their overall goals and happiness. As a result, it is important to understand what factors have the biggest influence on this perception. Income and investments have an impact, as does overall level of debt. However, according to Ruberton et al. (2016) the biggest factor that contributes to overall financial well-being is the amount of liquid wealth that they possess. This effect was found to hold true across all demographics.

Generations

One of the predictors for individuals is their background. For financial literacy and education, there is often a case of individuals having insufficient knowledge and

skills due to a background of generational poverty. As such, the cycle often repeats itself, and outside intervention is needed to break the cycle.

There is research to support that financial impacts and outcomes interact with other variables such as education and relationships over a period of time to have multiple results on not just current generations but future generations as well. Children that grow up in poverty have a higher likelihood of poor financial decisions and outcomes as well as passing these characteristics on in continuing cycles. These impacts are not just financial, but related to a number of other factors as well, such as emotional well-being and relationship building and maintenance such as marital satisfaction. Such cycles are difficult to overcome for individuals not just from an internal perspective, but also in conjunction with external factors such as economic opportunity and environment (Hubler et al., 2016).

Life Cycle

Individuals go through many stages of development as well as activity in life. Financial education is complex, but the basics can still be taught even at an early age. Such topics as spending and saving can be taught to children at a very young age. Topics can be continually built upon and enhanced over the course of an individual's life from early to late stages.

In general, individuals tend to acquire more knowledge and experience as they age, and as a result their literacy and capabilities tend to increase over time in regard to various topics and choices. Xiao et al. (2015) found that after controlling for various external and internal factors, older individuals showed increased objective and subjective

financial literacy levels than younger individuals. This trend is also true for financial capability. Conversely, financial behavior tends to be less for older individuals than younger individuals. There is thus likely a mixture of internal factors and external factors that need to be considered with regard to age and financial education programs (Xiao et al., 2015).

The trend for individuals to acquire greater levels of knowledge over time may hold true for financial knowledge as a result of need. Different periods of time also have the potential to impact decisions for people of different ages. Henager and Cude (2016) found that age had the second largest impact on behavior after income. For both short-term and long-term behavior, objective and subjective financial knowledge are significant for all age groups. Both types of knowledge tend to increase according to age. However, both types of knowledge and corresponding behavior were found to be significant for all individuals of every age (Henager & Cude, 2016).

With regard to older individuals, there is an overall cognitive ability factor that needs to be considered when assessing financial literacy and capability. In general, humans have two major types of cognitive ability. These consist of fluid intelligence regarding the ability to think logically and apply logic to new situations and crystallized intelligence regarding the ability to use previous experience and knowledge. Finke et al. (2017) found that for individuals over the age of 60 there is a decline in financial literacy for all major demographic categories. This does not appear to have an impact on financial confidence, however.

Relationships

Relationships play a key role in the lives of individuals for all human activities. Financial literacy and education can often be enhanced when an individual has relationships with other individuals that have a grasp of financial topics. This is especially true when these relationships play a significant role in the lives of an individual, such as parents.

Perhaps the biggest impact for individuals with regard to relationships is the one they form with their significant other. Spouses have a large impact on the life an individual across all categories, and as a result financial knowledge and results are certainly impacted by this relationship, either positively or negatively. According to Ward and Lynch (2019) there is a lack of financial literacy for many individuals and this lack of literacy can often be directly linked to the role they have within their relationship with their significant others for various responsibilities such as financial issues. Those individuals who do not play a part in financial decisions or activities in their relationships often have less financial literacy than individuals who assume these responsibilities. In addition, this result tends to be more pronounced with longer durations for the relationship and financial responsibility dynamics.

Another very important relationship in the lives of most, if not all, individuals is that which they form with their parents. Parents generally are the first relationship that individuals have, and as a result they have a large impact in all areas of life. It is thus an important consideration when determining the role and effects of financial education. There is significant evidence to suggest that parents who have greater levels of financial

literacy tend to pass on this knowledge to their children who then also have higher levels of financial understanding (Moreno-Herrero et al., 2018).

General Education

Financial education is a rather complex topic. It is not something that is easy to implement and teach, nor is it something that can be easily understood without a corresponding level of understanding general topics, such as mathematics. As a result, financial education is likely something that can only be truly beneficial when combined with general education efforts.

In general, education reflects a level of learning, and as a result it tends to increase potential knowledge and capability for individuals with regard to many subjects. One of the general education topics that perhaps has one of the highest potential impacts on financial education and financial literacy, as well as corresponding financial behavior, is that of numeracy. Financial topics, by nature, involve a lot of numbers. It would therefore seem that individuals who have a greater understanding of mathematical principles or numbers might fare better with regard to financial education and literacy, as well as behavior. According to Skagerlund, et al. (2018) financial literacy programs generally have little direct impact on improving financial literacy for individuals unless there is another factor present. Usually, this factor is either an affinity for numbers or something closely related, or more broadly cognitive ability.

Policies

There are some policies in place to help with matters related to financial education and literacy. Many of these policies relate to retirement planning, while some

relate to education. Some of the more successful retirement planning policies include things such as automatic enrollment in retirement plans. Generally, the results have been for increased contributions as a result of these plans. However, Butrica and Karamcheva (2019) found that these plans have led to a greater number of participants enrolled in plans, but that they still contribute less than those who willingly sign up for such plans. This is true even when considering that employers also contribute more as a result of these plans. While they may be contributing less than other individuals, it is still likely that these individuals are benefitting from the automatic enrollment as otherwise they may be contributing nothing to their retirement plans.

Policies can range from direct to indirect, as well as part of formal requirements or informal suggestions, from various types of organizations and government. Some of the more formal government requirements recently include requirements for high school students to take some form of financial education, usually a personal finance class, before graduating from high school (Harvey, 2019). Many consumers, usually those who are less educated or with less resources, are those who use alternative financial services that are not traditionally offered through a mainstream source such as a bank such as payday loans. Harvey (2019) found that those who had personal finance courses generally had an increase in financial literacy and less reliance upon these alternative financial services than those who did not.

Policies for indirect participation can be helpful for financial education as well. However, for these policies there is an associated risk that individuals may choose not to participate. Chin and Williams (2020) found that a website that was dedicated to the

purchase of homes and mortgage education had participants who already generally had a greater knowledge. Thus, there appears to be a correlation between individuals possessing some degree of financial knowledge and participation in educational programs that should be considered when designing optional financial education resources.

Society Factors

Financial education is something that is needed in society but is still far from being accepted or implemented broadly. Money management and wealth are generally topics that are left for wealthy individuals or professionals. It is not something that is usually taught as a core subject in school, or something that is commonly passed on from parents to children.

There are several aspects to society, and many of these have either a direct or indirect impact on financial education. A linear perspective of society leads to an interpretation that financial education is a means to achieve an objective. This is related to the goals of financial education that individuals should obtain better financial well-being not just for themselves but also for society (Rinaldi, 2016). This would lead to a direct relationship between financial education programs and financial behavior or results. In general, this also leads to a general approach, with little consideration given to specific individual differences due to human factors such as demographics (Rinaldi, 2016).

Another view of the relationship between financial education and society is one that is based on conflict. In this regard, there is a relationship of control between one group of society and another group or groups. The manifestation of this situation with

regard to financial education could be represented with financial organizations who provide education in general to groups of lower income individuals who do not have the means to take advantage of the particular knowledge that is provided (Rinaldi, 2016). This represents a criticism not necessarily of the accuracy of the knowledge provided, but rather one that is more based on appropriateness, where such programs should be careful to consider recommendations based on the current life situation of the individuals who receive the information.

Yet another view of the interaction of society and education is one that is based on negotiation. This is the view that the various interactions within society are complex, and thus there is often a mixture of the direction of the interactions, such as individuals relying on society and society relying on individuals (Rinaldi, 2016). This seems to be the general representation of most aspects of society. With regard to financial education, this would indicate the need for individuals to have an awareness to raise issues for what they lack and need as well as for organizations and programs to provide information in general as well as adapt to individual circumstances as needs arise.

Demographics

As with many issues, financial education follows a general path of society for financial education and demographics. Those who have higher education levels are usually more capable and successful in general. Also, men tend to have more success with financial issues than women. Older individuals have often accumulated more experience, but younger individuals are better at adapting.

There is generally a significant gender difference in financial outcomes between men and women. However, as with all individuals, there are many factors that determine overall financial behavior. According to Farrell et al. (2016) the biggest indicator of financial performance and behavior for women is financial self-efficacy. In general, it was found that an overall awareness and knowledge of financial information tends to have a significant impact on commonly accepted positive financial outcomes. This is true even when compared to other possible factors such as education, age, and income.

The differences between men and women with regard to financial literacy seems to be common and consistent on a relative global scale for multiple countries and cultures. In general, women are found to possess less overall financial literacy and ability. This is true across all age ranges from younger women to older women in retirement. This also appears to hold true even when considering situational factors that create a necessity for information and ability, such as being single in retirement or any other situation in which women may have no partner to rely on. This issue is significant for women as they are likely to outlive men and thus be forced to be independent more often (Bucher-Koenen et al., 2017).

There also appear to be significant gender differences with regard to the relationship between financial literacy and investments and risk tolerance. Bannier and Neubert (2016) found that there is a correlation for men with regard to risk tolerance and both standard as well as sophisticated types of financial products. However, for women this correlation only holds for standard types of financial products. In addition, both perceived and actual financial literacy impacts men with regard to standard financial

products, while for women only actual ability matters. However, both men and women have a correlation between perceived financial literacy for more advanced types of investments (Bannier & Neubert, 2016).

Minorities

Minorities are generally the group that usually have lower rates of education and income. They are more prone to generational poverty. Financial education is needed, but general education is likely needed as well. There is a significant gap in wealth with regard to race, as minorities in general have much less overall accumulated wealth than the white majority. In addition, this wealth gap has continued to widen in recent years. Financial education is generally considered a method to help alleviate this problem. Al-Bahrani et al. (2019) found that whites have higher amounts of financial literacy than minorities. Although everyone seems to benefit from financial education irrespective of race, there is significant evidence to indicate that whites gain more with regard to financial literacy and associated financial behavior from financial education than minorities do for financial literacy and behavior (Al-Bahrani et al., 2019).

Cherokee

Native American individuals and societies suffer many of the same afflictions as other minorities, and in many ways, are worse off. Education rates are often lower, and as a result income is usually lower as well. In addition, there is often a lack of resources, which lead to a lack of solutions. Cherokee Nation citizens often fit into these broad generalizations, but there is a greater diversity.

To the best knowledge of this researcher, there have been no prior direct studies for financial education with Cherokee Nation citizens. However, the FINRA Investor Education Foundation has gathered data on Native Americans through its national financial capability study. Dewees and Mottola (2017) found that the level of financial distress for Native Americans is at a higher level when compared to several other groups. They also have lower levels of financial knowledge. There is a significant majority of young individuals in high school who have a failing degree of financial knowledge. The problem is exacerbated by individuals belonging to generations possessing little financial knowledge and resources or assets. Most also do not have adequate liquid financial assets to meet any unexpected needs that might arise. Household income also tends to indicate difficulty to pay bills, particularly those who also have dependents. Native Americans also score the lowest among subgroups of the American population when it comes to future financial planning. Demographically within the Native American group individuals who tend to have higher levels of financial literacy are male, older, and have higher incomes (Dewees & Mottola, 2017).

Summary and Conclusions

In this chapter the literature search strategy, the theoretical foundation, and the literature review were discussed. The literature search strategy consisted of accessing multiple databases and search engines as well as using search terms related to financial education and searching based on results of findings and references used in previous research. The theoretical foundation consists of work advanced by Kahneman, Tversky, and Thaler regarding prospect theory, cumulative prospect theory, and quasi-rational

economics (choice architect) as well as additional concepts of general education, financial education, and financial literacy. The literature review consisted of previous research for financial education and financial literacy as well as concepts related to the variables of interest for this study including saving, investing, financial markets and products, spending and consumption, debt, assets, employment, income, wealth, generations, life cycle, relationships, general education, policies, society, demographics, minorities, and Cherokee individuals. The examination reveals that there is some debate regarding the effectiveness of financial education as well as uncertainty regarding how and when it should be conducted. This is especially true when examining subgroups of the population and is something that the current study will help to fill in the gap for understanding financial education related to demographics as a further study in general and a primary study for Cherokee Nation citizens.

In Chapter 3 the methodology related to the previous research and used for this study is discussed. There is also a discussion for the research design, population, sampling strategy, recruitment procedures, and operationalization of constructs used in this study that is similar to previous research studies. A discussion of the threats to validity as well as ethics is also provided.

Chapter 3: Research Method

The purpose of this study was to examine the effects of financial education. I looked at the impact on an individual's financial understanding as well as the related financial decisions that they make. Specifically, I analyzed the impact to individuals who are citizens of the Cherokee Nation to add to the literature and understanding of the impact of financial education for minorities.

This chapter includes a discussion of the research design and rationale for the study, the methodology, the data analysis plan, and threats to validity. The research design includes the research questions and variables as well as the connection to research designs used in the relevant field of knowledge. The methodology includes a discussion on the target population for this study, sampling and sampling procedures, procedures for recruitment and data collection, and instrumentation and operationalization of constructs. The data analysis plan includes a discussion on the statistical software used as well as relevant statistical tests and results interpretation plans. The threats to validity include a discussion on the relevant threats to both internal and external validity relevant for this study. Ethical procedures are also discussed in detail.

Research Design and Rationale

The research design for this study was a quantitative nonexperimental design—a causal comparative study using ex post facto research. This approach was selected for its ability to analyze the following research questions:

- To what extent does financial education affect individual savings?

- To what extent does financial education affect financial planning and decision making?
- To what extent do demographic factors affect financial planning and decision making?
- To what extent do demographic factors affect financial planning and decision making after financial education?
- To what extent do demographic factors affect savings?
- To what extent do demographic factors affect savings after financial education?

The dependent variables are savings and financial planning and decision making. Savings involves the amount that individuals save for future purposes. Financial planning and decision making involve the financial decisions individuals make with regard to their present and future objectives and circumstances. The independent variables are financial education and demographic factors including age, gender, education level, income level, marital status, and dependents.

This research design is one that is common for investigating the effects of financial education in the literature. Some form of comparative study, or similar, has been used in many studies analyzing the effects of financial education on individual knowledge and behavior (Fernandes et al., 2014). These types of research approaches are also common for studying the effects of financial education within a school environment in addition to a general environment for individuals domestically as well as globally (Kaiser & Menkhoff, 2019; Klapper & Lusardi, 2019).

Methodology

The methodology for this study consisted of a survey approach. The survey was a one-time survey to capture current information. The survey was sent via the U.S. Postal Service to addresses obtained via Cherokee Nation election records to reach residents living within Cherokee Nation areas in Oklahoma. Anonymous mailing methods can be useful for small or specific geographic regions and are likely to have similar response rates to first-class mail survey methods (Grubert, 2019). There can also be lower costs involved and significant anonymity.

Population

The target population for this study was individuals who are citizens of Cherokee Nation. According to Cherokee Nation (2019) there are approximately 370,000 citizens of the Cherokee Nation. This number represents the majority of individuals who are Cherokee; however, Cherokee Nation is just one of three overall Cherokee tribes. The other two tribes of Cherokee are the United Keetoowah Band and the Eastern Band. The number of citizens for each of these other two tribes is much smaller, and the combined number of citizens of all three Cherokee tribes is approximately 400,000. Though there are many Cherokee Nation citizens who live elsewhere, most live within the Cherokee Nation's jurisdiction. This area comprises 14 counties in northeastern Oklahoma, with the city of Tahlequah being the capital. As a result, though there are common differences through history and cultural integration with other native American tribes and American society in general, there is also still a strong presence of a shared history and culture as

well as language that is representative of Cherokee Nation as a whole. This made the population easier to analyze for purposes of this study.

Sampling and Sampling Procedures

The sampling strategy for this study was a combination of non-random sampling strategies including convenience and quota sampling. The sampling frame consisted of individuals who are Cherokee Nation citizens and reside within Cherokee County, Oklahoma. According to Cherokee Nation (https://www.cherokee.org) there are more than 141,000 tribal citizens within its jurisdictional territory in northeastern Oklahoma. This represents a significant percentage of the overall population of Cherokee Nation citizens. As a result, it was convenient to sample from this territory. The Cherokee Election registration records were used to increase the likelihood of reaching larger numbers of Cherokee citizens. The list was divided into orders of residential areas in order of size from large to small with a random selection from each area until the required sample size was reached. This was done to meet quotas for participants for both individuals with higher levels of financial education and individuals with lesser levels of financial education or no financial education.

The calculated sample size for this study was 278 participants. This represented a sample of 139 participants for both major groups consisting of individuals with at least some amount of financial education and those without financial education. This was determined through an a priori analysis using G*power software. This was determined using inputs of 0.3 for effect size, an alpha level of 0.05, and power of 0.80 for a difference between two independent means t test. A meta-analysis of more than 200

studies for financial education revealed only a very small effect size (Fernandes et al., 2014). Other research indicated that financial education can have moderate effects for objective and subjective financial literacy and corresponding financial behavior and financial satisfaction (Xiao & Porto, 2017). There has also been a sizeable effect for financial education (Kaiser & Menkhoff, 2019). For these reasons, an effect size of 0.3 was chosen to be able to detect small to slightly medium effects. The alpha and power levels were chosen to be reflective of most research as reflected and set by default standards in G*power software or common to social science research, where an alpha of 0.05 has been commonly used as the standard and power is usually within the range of 0.80 to 0.95 (Djimeu & Houndolo, 2016; Miller & Ulrich, 2019; Sovacool et al., 2018). As the study focused on the effects of financial education for a comparative design, with expectations that financial education results in improvements, a one tail *t* test was selected rather than a two-tailed *t* test.

Procedures for Recruitment, Participation, and Data Collection (Primary Data)

The procedures for recruitment of participants involved surveys sent to individuals by mail. Surveys were sent to individuals who reside within the largest areas in Cherokee County based on Cherokee election records. Individuals were recruited to the study based on whether they are citizens of Cherokee Nation. Information was provided about the study and participant recruitment criteria. The demographic data that were collected included age, gender, race or ethnicity, education, marital status, geographic location, living arrangements, dependent children, household annual income, and employment status.

After the survey was completed for the required number of participants in the sample size, answers to the study questions were provided. This included answers to each of the financial literacy and behavior-based questions. This information was sent to all individuals who completed the survey, which served as debriefing and exit for the study.

Instrumentation and Operationalization of Constructs

Financial education, financial literacy, and financial behavior are difficult to measure and analyze. There is no standard or formalized approach for studying these factors or for implementation for programs for them to be administered. In general, many studies devise their own methods for measurement and analysis. One of the most reliable sources for measuring financial literacy is a survey developed by Lusardi and Mitchell (2017). I used and built on earlier questions for measuring financial literacy that Lusardi and Mitchell developed, referred to as the big three questions. These questions are concept checking questions that ask about the amount of money that would be in a savings account after a certain amount of time given a beginning principal amount and interest rate, a similar question about interest on a savings account but with additional information for inflation rate, and a question designed to check understanding of investments by asking about company stock compared to a stock mutual fund. The reliability of these questions is relatively strong as evidenced by their use in several previous studies by Lusardi and Mitchell as well as other studies, including the FINRA Investor Education Foundation.

Lusardi and Mitchell (2017) also developed additional questions beyond the three to expand on the measurement of financial literacy. These questions were grouped

according to skills associated with a basic level of financial understanding and that of a more advanced level of knowledge of financial topics. The basic questions include questions related to numeracy, compound interest, inflation, time value of money, and inflation/money illusion. The advanced questions include questions related to stock market functioning, knowledge of mutual funds, the link between interest rates and bond prices, risk and safety of investment alternative choices, long period returns, fluctuation and volatility, and risk diversification. In their study, the three questions related to stock and bond comparison, bond prices and interest rates relationship, and risk diversification had the word order reversed at random to improve upon internal consistency and reliability.

Lusardi and Mitchell (2017) also implemented questions to gauge individual perception about economic understanding as well as previous exposure to financial education. A question to assess the amount of time spent thinking about retirement as a way to judge the correlation between retirement planning and saving compared to financial literacy is included. The FINRA Investor Education Foundation has used the three basic questions created by Lusardi and Mitchell as well as expanded on them in their national financial capability studies in 2009, 2012, 2015, and 2018. These studies are conducted to analyze financial capability of individuals from a national level as well as individual state levels. The primary component of the study is the state-by-state individual surveys that contains a lot of breadth and therefore limited depth for topics covered, with a secondary follow-up survey of investors to measure investing decisions in more detail (FINRA Investor Education Foundation, 2020).

For purposes of this study, the research survey used the questions devised by Lusardi and Mitchell (2017) as well as the questions used by the FINRA Investor Education Foundation (2020). Both of these studies have been used with general populations including broad demographics. The FINRA studies have also been used regionally with geographic factors of each individual state in addition to an overall national analysis, with added reliability from the use of the study in multiple surveys over many years. These questions allowed for adequate analysis and comparison of the study groups that have received at least some financial education and those that have received no financial education, as well as provided for the possibility of comparison to previous results. Permission from both of these sources is included in appendix B and appendix C respectively.

Data Analysis Plan

As stated in chapter one, the research questions and hypotheses for this study consisted of the following:

RQ 1: To what extent does financial education affect individual savings?

$H_0$1: Financial education does not affect individual savings.

H_a1: Financial education affects individual savings.

RQ 2: To what extent does financial education affect financial planning and decision making?

$H_0$2: Financial education does not affect financial planning and decision making.

H_a2: Financial education affects financial planning and decision making.

RQ 3: To what extent do demographic factors affect financial planning and decision making?

$H_0$3: Demographic factors do not affect financial planning and decision making.

H_a3: Demographic factors do affect financial planning and decision making.

RQ 4: To what extent do demographic factors affect financial planning and decision making after financial education?

$H_0$4: Demographic factors do not affect financial planning and decision making after financial education.

H_a4: Demographic factors do affect financial planning and decision making after financial education.

RQ 5: To what extent do demographic factors affect savings?

$H_0$5: Demographic factors do not affect savings.

H_a5: Demographic factors do affect savings.

RQ 6: To what extent do demographic factors affect savings after financial education?

$H_0$6: Demographic factors do not affect savings after financial education.

H_a6: Demographic factors do affect savings after financial education.

The software that was used for the analyses was SPSS. The data were screened for consistency, accuracy, and completeness. Data for demographic information and survey responses were screened for valid responses, and data were inspected for completeness of responses. The design of the survey to included closed ended responses to reduce any potential invalid responses, and there were no invalid responses found in

the return survey responses. All responses on scaled questions included whole number responses, so no rounding was required. For each data analysis scenario, only completed responses were considered.

To determine the extent that financial education impacts savings, survey participants were divided into two groups consisting of those who have received at least some amount of financial education and those who have not received any financial education. These groups were analyzed using a chi-squared test for differences between groups, based on survey questions for saving and retirement.

To determine the extent that financial education impacts financial planning and decision making, the survey participants were divided into groups consisting of those with at least some amount of financial education and those without any financial education. These groups were analyzed using a difference between means independent samples *t* test, based on survey responses to the financial literacy questions and retirement planning for the total number of questions answered correctly.

To determine the extent that there are demographic differences for savings and financial planning and decision making the survey participants were analyzed based on demographic factors. For financial planning and decision making, a multiple regression analysis was used to examine the impact of various demographic factors on the total number of financial planning and decision making questions answered correctly. This was done for two groups, the first consisting of the individuals who did not have any financial education and the second group consisting of individuals who had at least some amount of financial education. The first group allowed for an analysis on the impact of

demographic factors for individuals with financial education and the second group for the impact of demographics on individuals without financial education, respectively.

A similar approach was used for analyzing the impact of demographic factors for savings. The overall data were analyzed according to two groups, those with at least some amount of financial education and those without any financial education. These groups were analyzed according to the impact that demographics had on the amount of spending versus income for the last year for individuals using a multinomial logistic regression analysis.

In addition to the various analyses conducted for survey participants, results of this study were also qualitatively compared to the results of the two surveys used for this study, which are the survey by Lusardi and Mitchell (2017) and the state survey conducted by the FINRA Investor Education Foundation (2020). For comparison to the results of the FINRA Investor Education Foundation, the state survey for the state of Oklahoma was used as the survey participants for this study reside in the state of Oklahoma. In addition, this comparison also included a look at results of this study compared to the Oklahoma state survey results over time for the years of 2009, 2012, 2015, and 2018. Also, results of this study were compared to the FINRA Investor Education Foundation financial capability insights for Native Americans (Dewees & Mottola, 2017).

Threats to Validity

External Validity

According to Marquart (2017) the primary goal of researchers for external validity is to be able to generalize results to things that are outside of the study, such as other groups, other measures, different locations, and different times. A primary threat to external validity for this study was that of population validity or sampling bias. The study was a causal-comparative study so the participants were not selected for various treatment groups on a pure random basis as would be done with an experimental design. This led to the possibility that findings of the study may not correspond to the actual population of citizens of Cherokee Nation. This could not be completely controlled but could be partially mitigated by sampling based on a large geographic area and using data that were returned based on criteria that was representative of the population. The study thus attempted to obtain a relative number of participants based on the various demographic factors such as age and gender. The other category of financial education or no financial education also had potential generalizability issues based on the true reflection of the extent of financial education exposure for individuals in the community. Collecting multiple participants for each of the various categories allowed for a greater possible generalization to all citizens of Cherokee Nation than would be possible without this demographic emphasis.

Internal Validity

The primary threat to internal validity for this study was based on participant selection. For the causal-comparative research design in this study, the participants were

not randomly assigned. According to Busk (2014) a major difficulty of this research approach is to find comparable groups. A lack of comparable groups can result in differences in the observed findings being due to differences that are inherently an aspect of the groups themselves, rather than being due to any differences as a result of the variable being analyzed. While there may still be an actual difference in the groups because of the variable of interest, it is not possible to say for sure that this is actually the case or the primary reason for the difference. Accordingly, a causal-comparative research design can be strengthened by finding groups that are similar or comparable. Internal validity for this research method can be strengthened through a number of potential measures. One approach would be to use homogenous groups, where there are no differences, or the differences are minimal. Another method would be to use subject matching or pairing similar individuals within the groups for analysis. Yet another approach would be to use statistical methods, such as analysis of covariance or adjusted averages (Busk, 2014).

This study primarily used subject matching, when it was possible to do so. As the study looked at differences for demographic factors within the same primary group of Cherokee Nation citizens, overall group homogeneity was expected to be similar for different subsets of the overall group, though there could also be significant differences. As a result, the study looked at differences among subgroups while controlling for other factors. For example, examining gender differences were done with the only difference based on gender, comparing individuals who have similar demographics for other factors

such as age. These grouping methods and analysis were sufficient as the survey respondents were similar for factors of interest.

Construct Validity

The primary concern regarding construct validity was the ability for the survey to actually measure the effects of financial education. There are several potential methods to deal with this concern, including the use of multiple tests such as a pretest and posttest or a pilot study. Another way that validity can be improved is by measuring over time, as suggested for an improvement to financial satisfaction measurement (Xiao & Porto, 2017). Multiple measurements can also be used to determine the variance that is due to a particular construct by having multiple constructs measure the same thing (Kenny, 2019). This study used previous survey questions that have been used multiple times in previous research studies as well as by multiple researchers. The questions designed by Lusardi and Mitchell (2017) have been used multiple times by those researchers and others including the FINRA Investor Education Foundation, leading to multiple measurements and improving construct validity through different studies. The questions used by the FINRA Investor Education Foundation (2020) have been used in multiple studies consisting of the same design over many years, increasing validity through repeated measurements. As this study used a combination of these questions, threats to construct validity were reduced.

Ethical Procedures

This study relied upon the participation of individuals on a voluntary basis. There is some discussion related to the general approach and particulars of ethics that should be

considered when undertaking quantitative research. In general, it is good practice to allow for data to drive any conclusions or values rather than derive values before collecting data. To some extent, there are always ethical considerations with regard to research, and various designs limit possible problems to varying degrees and despite these imperfections lead to reasonable methods and conclusions (Powell, 2019).

The materials used for recruitment of participation for individuals within the mail explicitly stated the voluntary nature of the study. As the study was a causal-comparative one in nature, there was not expected to be any adverse effects due to the lack of treatment. However, for all participants, a follow-up of standard correct answers to questions related to financial outcomes and knowledge were provided at the conclusion of data collection. This served as confirmation of participation and conclusion of data collection as well as provided a fair service to all participants to have access to financial knowledge related to the study.

The data that were collected were completely anonymous. While addresses were used to send recruitment material, it was necessary to receive addresses upon returned materials as postage paid envelopes were supplied for return and no identifying information were required or collected. All of the data collected were stored and accessed solely by this researcher. Correspondingly, upon completion of this study, all individual data collected were arranged to be thoroughly and completely destroyed according to accepted data destruction standards after required storage times. The IRB approval number for this study is 12-30-20-0124269.

Summary

In this chapter, the research design and rationale, methodology, population, sampling and sampling procedures, procedures for recruitment, participation, and data collection, instrumentation and operationalization of constructs, data analysis plan, threats to external validity, threats to internal validity, threats to construct validity, and ethical procedures for the study were examined. The research design was a quantitative non-experimental design that was comparative in nature. It was based on similar research design approaches used in other studies for financial education. The methodology was a survey approach. The population of interest for the study were individuals who are members of the Cherokee Nation. The sampling and sampling procedures consisted of non-random sampling strategies. The combination consists of convenience and quota sampling specifically drawn from the largest geographic areas for Cherokee Nation territory. The procedures for recruitment, participation, and data collection involved surveys sent through the mail. The instrumentation and operationalization of constructs involved the use of survey questions developed and used extensively by previous researchers. The data analysis plan was to analyze each research question with either an independent sample *t* test, chi-squared test, multiple regression, or multinomial regression as appropriate for each research question. The software chosen to be used for these analyses was SPSS. The threats to external validity revolved around generalizability and were somewhat mitigated by the collection of participants based on multiple demographic categories. The threats to internal validity were based on group selection and handled by pairing and statistical methods. The threats to construct validity were

reduced by using survey questions that have been used multiple times. The ethical procedures consisted of recruitment upon a voluntary basis with anonymous data collection.

In Chapter 4 the data that were collected for this study are provided. The data collection and a presentation of the results from analysis of the data is also provided. In addition results for the groups analyzed for financial education as well as demographic considerations for financial planning and decision making and savings are discussed.

Chapter 4: Results

The purpose of the study was to examine the effects of financial education with regard to citizens of Cherokee Nation. The research questions related to the extent that financial education affects individual savings and financial planning and the extent that demographics affect savings, and financial planning in general and after financial education. This chapter presents the results of the study. It includes a discussion of the data collection for this study as well as some descriptive statistics for the sample, followed by a presentation of the results of the study organized by research question.

Data Collection

Data collection for this study had no discrepancies from the original data collection and recruitment plan. Data were collected over a period of 12 weeks. Surveys were sent out based on random selections of 300 addresses from the Cherokee election records each week until the required number of responses based on calculated sample size was received. Three thousand six hundred surveys were sent out via USPS and a total of 302 valid responses (survey responses that answered the survey questions and that did not contain any obvious implausible answers for any of the survey questions) were received, for a response rate of 8.4%. Two invalid responses consisting of surveys that were returned blank and statements that the individuals did not wish to participate or were unable to participate were also received.

The number of participants in the study was 302. There was a greater percentage of females (57.3%) than males and older age groups were more represented than younger age groups, with individuals over the age of 65 being the largest group (26.2%). Most

individuals were high school or equivalent educated (35.4%) or had only some college education without a degree (22.5%). Most (67.9%) had incomes of less than 50,000 a year. Only 34.1% spent less than their income for last year, and 25.8% spent more than their income. One hundred and forty had some amount of financial education, whereas 162 did not have any financial education. More individuals were not married (57.9%) and had no dependents (61.3%). Many had a savings account, money market account, or certificate of deposit (65.2%), but most individuals did not have emergency funds (71.9%) or a non-employer sponsored retirement plan (80.8%). See Tables 1 and 2 for a summary of demographic information.

Table 1

Demographics for Study Sample

Demographic	%
Gender	
Male	42.7%
Female	57.3%
Age	
18–24	8.9%
25–34	11.6%
35–44	14.9%
45–54	17.2%
55–64	21.2%
65+	26.2%
Highest education level	
Below high school	13.6%
High school or equivalent	35.4%
Some college	22.5%
Associate degree	8.3%
Bachelor's degree	13.9%
Post-graduate degree	6.3%
Income	
Under 50k	67.9%
50k or more	32.1%
Spending versus income	
Spending less	34.1%
Spending equal	40.1%
Spending more	25.8%

Table 2

Yes or No Responses Regarding Demographics

	Yes	No
Had Financial Education	46.4%	53.6%
Married	42.1%	57.9%
Have Dependents	38.7%	61.3%
Have Emergency Funds	28.1%	71.9%
Have Savings	65.2%	34.8%
Have Employer Retirement Plan	46%	54%
Have Non-Employer Retirement Plan	19.2%	80.8%
Contribute to Retirement	23.2%	76.8%
Have Other Investments	21.2%	78.8%

The descriptive information for financial knowledge and decision making for this study showed that on average Cherokee Nation citizens were able to answer a total of 7.3 financial knowledge and decision-making questions correctly (see Table 8). Those with financial education answered an average of 11.6 questions correctly, whereas those without financial education answered an average of only 3.6 questions correctly. A greater number of total questions on average were answered correctly by men (7.8) than women (6.9). Those with less education, such as high school or equivalent (4.5) or no high school (2.3), performed worse than those with greater education, such as a bachelor's degree (12.6) or graduate degree (13.7). Individuals under age 45 performed better than older individuals, with age groups for under 45 all answering more than 10 questions correctly on average compared to 3.9 questions correct on average for those 65 and older. Marital status was similar for individuals married (7.1) and not married (7.5). Individuals with dependents (8.8) performed better than individuals without dependents (6.4). Individuals who earned an income of at least 50,000 a year were able to answer an average of 11.8 questions correctly, whereas individuals who earned less than 50,000 a

year answered an average of 5.2 questions correctly. In addition, only 29.7% of Cherokee Nation citizens were able to answer more than 10 questions correctly, with 70.3% of individuals answering 10 or fewer questions correctly.

Table 3

Average Total Number of Financial Knowledge and Decision-Making Questions Answered Correctly

	Mean	*SD*	95%CI
Total	7.3	5.0	[6.7, 7.9]
Financial Education	11.6	3.1	[11.1, 12.1]
No Financial Education	3.6	2.8	[3.2, 4.0]
Men	7.8	5.2	[6.9, 8.7]
Women	6.9	4.8	[6.2, 7.6]
No HS	2.3	1.5	[1.8, 2.8]
HS or Equivalent	4.5	4.3	[3.7, 5.3]
Some College	8.3	2.9	[7.6, 9.1]
Associate	10.9	3.4	[9.5, 12.3]
Bachelor	12.6	2.5	[11.8, 13.4]
Graduate	13.7	2.1	[12.7, 14.8]
18-24	10.1	3.5	[8.7, 11.5]
25-34	10.7	3.5	[9.5, 11.9]
35-44	10.9	3.6	[9.8, 12.0]
45-54	8.2	4.9	[6.9, 9.6]
55-64	5.1	4.5	[4.0, 6.3]
65+	3.9	4.0	[3.1, 4.8]
Married	7.1	4.8	[6.2, 7.9]
Not Married	7.5	5.1	[6.7, 8.2]
Dependents	8.8	4.6	[7.9, 9.6]
No Dependents	6.4	4.9	[5.6, 7.1]
50K or More	11.8	3.6	[11.1, 12.5]
Less than 50K	5.2	4.0	[4.6, 5.7]

Note. Number of questions answered correctly could range from 0 to 16.

Study Results

RQ1: To What Extent Does Financial Education Affect Individual Savings?

A chi-squared test of independence was used to examine differences between groups of individuals who had financial education and those who did not for spending compared to income for last year as well as various types of savings including having emergency funds for three months, having a type of savings account, having an employer retirement plan, having a non-employer retirement plan, contributing to a retirement account, and having investments outside of a retirement account. For individuals with financial education, the percentage of people spending less than their income (63.6%) was higher compared to individuals without financial education (8.6%). Individuals with financial education also had a lower percentage (9.3%) spending more than their income compared to individuals without financial education (40.1%; see Table 4). These results were significant, χ^2 (2, N = 302) = 104.97, p < .001.

Table 4

Financial Education Impact on Spending Versus Income for the Last Year

	Spending Less	Spending Equal	Spending More	Total
Financial Education	89	38	13	140
No Financial Education	14	83	65	162
Total	103	121	78	302

The percentage of individuals with emergency funds to cover expenses for three months was higher for individuals with financial education (57.9%) than for individuals

without financial education (2.5%) and the percentage of individuals without emergency funds was lower for those with financial education (42.1%) than those without financial education (97.5%; see Table 5). These results were significant, χ^2 (1, N = 302) = 111.20, $p < .001$.

Table 5

Financial Education Impact on Emergency Funds

	Have Emergency Funds	Not Have Emergency Funds	Total
Financial Education	81	59	140
No Financial Education	4	158	162
Total	85	217	302

The percentage of individuals with a savings account, money market account, or certificates of deposit was higher for individuals with financial education (96.4%) than for individuals without financial education (38.3%) and the percentage of individuals without any of these was lower for those with financial education (3.6%) than those without financial education (61.7%). These results were significant, χ^2 (1, N = 302) = 109.45, $p < .001$.

Table 6

Financial Education Impact on Savings Accounts

	Have Savings Account	Not Have Savings Account	Total
Financial Education	135	5	140
No Financial Education	62	100	162
Total	197	105	302

The percentage of individuals with a retirement plan through a current or former employer was higher for individuals with financial education (77.1%) than for individuals without financial education (19.1%) and the percentage of individuals without employer retirement plans was lower for those with financial education (22.9%) than those without financial education (80.9%; see Table 7). These results were significant, χ^2 (1, N = 302) = 99.40, $p < .001$.

Table 7

Financial Education Impact on Employer Sponsored Retirement Accounts

	Have Employer Retirement	Not Have Employer Retirement	Total
Financial Education	108	32	140
No Financial Education	31	131	162
Total	139	163	302

The percentage of individuals with retirement plans that are not through an employer was higher for individuals with financial education (36.4%) than for individuals without financial education (4.3%) and the percentage of individuals without these retirement plans was lower for those with financial education (63.6%) than those without financial education (95.7%; see Table 8). These results were significant, χ^2 (1, N = 302) = 47.85, $p < .001$.

Table 8

Financial Education Impact on Non-Employer Sponsored Retirement Accounts

	Have Non-Employer Retirement	Not Have Non-Employer Retirement	Total
Financial Education	51	89	140
No Financial Education	7	155	162
Total	58	244	302

The percentage of individuals who regularly contribute to a retirement account was higher for individuals with financial education (45.7%) than for individuals without financial education (3.7%) and the percentage of individuals who did not regularly contribute to a retirement account was lower for those with financial education (54.3%) than those without financial education (96.3%; see Table 9). These results were significant, χ^2 (1, N = 302) = 72.10, $p < .001$.

Table 9

Financial Education Impact on Retirement Contributions

	Contribute to Retirement	Not Contribute to Retirement	Total
Financial Education	64	76	140
No Financial Education	6	156	162
Total	70	232	302

The percentage of individuals with investments in stocks, bonds, mutual funds, or other securities outside of a retirement account was higher for individuals with financial education (43.6%) than for individuals without financial education (1.9%) and the percentage of individuals without emergency funds was lower for those with financial education (56.4%; see Table 10) than those without financial education (98.1%). These results were significant, χ^2 (1, N = 302) = 75.79, $p < .001$.

Table 10

Financial Education Impact on Non-Retirement Investments

	Have Non-Retirement Investments	Not Have Non-Retirement Investments	Total
Financial Education	61	79	140

No Financial Education	3	159	162
Total	64	238	302

RQ2: To What Extent Does Financial Education Affect Financial Planning and Decision Making?

To examine the relationship between financial education and financial planning and decision making an independent samples *t* test was conducted for groups with and without financial education with regard to the number of questions answered correctly for financial planning and decision making. The groups did differ significantly, t(300) = 23.27, $p < .001$, d = 2.69, 95% CI [7.32, 8.67]. The d value of 2.69 is Cohen's d for a measure of effect size, calculated as the mean difference divided by the pooled variance for an independent samples t test. The mean for the financial education group ($M = 11.6$, $SD = 3.1$) was significantly different than the mean for the no financial education group ($M = 3.6$, $SD = 2.8$).

To further examine this relationship and test if financial education increased the number of questions answered correctly for financial planning and decision making, a one-tailed independent samples *t* test was conducted. The average number of questions answered correctly for the financial education group ($M = 11.6$, $SD = 3.1$) was statistically significantly higher than the number of questions answered correctly for the no financial education group ($M = 3.6$, $SD = 2.8$), t(300) = 23.27, $p < .001$, d = 2.69, 95% CI [at least 7.43].

RQ3: To What Extent Do Demographic Factors Affect Financial Planning and Decision Making?

To assess this research question, a multiple regression was performed to evaluate the predictive capability of age, gender, marital status, having dependent children, education level, and income had for the number of financial planning and decision making questions answered correctly for individuals who did not have financial education. Relevant assumptions for the test were met. Residuals showed independence (Durbin-Watson statistic = 1.74). Plots of standardized residuals against predicted values showed both linearity and homoscedasticity assumptions to be valid. All Pearson correlation coefficients were greater than -.7 and less than .7 and tolerance and variance inflation factors respectively were .94 and 1.07 for gender; .49 and 2.04 for age; .50 and 2.02 for education level; .66 and 1.52 for marital status; .66 and 1.51 for dependent children; and .85 and 1.17 for income which indicated no problems with multicollinearity. No highly influential points were detected (Cook's Distance values were all below 1).

Table 11

Regression Coefficients for Demographics for Individuals without Financial Education

Variables	B	SE	t	p	95%CI
Constant	4.19	1.10	3.82	.000	[2.03, 6.36]
Gender	-.36	.29	-1.23	.220	[-.94, .22]
Age	-.63	.13	-4.78	.000	[-.89, -.37]
Education	1.45	.19	7.52	.000	[1.07, 1.83]
Marital Status	-.59	.36	-1.66	.099	[-1.30, .11]
Dependents	-.02	.39	-.06	.955	[-.80, .75]
Income	.33	.56	.58	.560	[-.78, 1.43]

Note. Number of questions answered correctly could range from 0 to 16.

The regression model using the enter method was significant $F(6, 155) = 42.15$, $p < .001$, explaining 62%($R^2 = .62$) of the variance in the number of questions answered correctly. Age (β = -.34, $p < .001$) and education level (β = .53, $p < .001$) both contributed significantly to the model. Gender (β = -.06, $p = .220$), marital status (β = -.10, $p = .099$), having dependent children (β = -.00, $p = .955$), and income (β = .03, $p = .560$) all did not contribute significantly to the model.

Gender, marital status, having dependent children, and income were removed from the model and multiple regression analysis was conducted again for predicting the number of questions correct for financial planning and decision making with the remaining variables of age and education level. Relevant assumptions for the test were met. Residuals showed independence (Durbin-Watson statistic = 1.81). Plots of standardized residuals against predicted values showed both linearity and homoscedasticity assumptions to be valid. The Pearson correlation coefficient was -.56 for age and education level and tolerance and variance inflation factors respectively were .69 and 1.45 for age and education level which indicated no problems with multicollinearity. No highly influential points were detected (Cook's Distance values were all below 1).

Table 12

Regression Coefficients for Age and Education Level for Individuals without Financial Education

Variables	B	SE	t	p	95%CI
Constant	2.64	.79	3.32	.001	[1.07, 4.20]
Age	-.53	.11	-4.80	.000	[-.75, -.31]
Education	1.60	.16	9.78	.000	[1.28, 1.93]

Note. Number of questions answered correctly could range from 0 to 16.

The regression model using the enter method was significant $F(2, 159) = 123.66$, $p < .001$, explaining 60.9%($R^2 = .61$) of the variance in the number of questions answered correctly. Age ($\beta = -.29$, $p < .001$) and education level ($\beta = .58$, $p < .001$) both contributed significantly to the model.

RQ4: To What Extent Do Demographic Factors Affect Financial Planning and Decision Making After Financial Education?

To assess this research question, a multiple regression was performed to evaluate the predictive capability of age, gender, marital status, having dependent children, education level, and income had for the number of financial planning and decision making questions answered correctly for individuals who had financial education. Relevant assumptions for the test were met. Residuals showed independence (Durbin-Watson statistic = 1.73). Plots of standardized residuals against predicted values showed both linearity and homoscedasticity assumptions to be valid. All Pearson correlation coefficients were greater than -.7 and less than .7 and tolerance and variance inflation factors respectively were .97 and 1.04 for gender; .59 and 1.69 for age; .54 and 1.86 for education level; .62 and 1.61 for marital status; .59 and 1.69 for dependent children; and .51 and 1.95 for income which indicated no problems with multicollinearity. No highly influential points were detected (Cook's Distance values were all below 1).

Table 13

Regression Coefficients for Demographics for Individuals with Financial Education

Variables	B	SE	t	p	95%CI
Constant	12.08	1.44	8.41	.000	[9.24, 14.92]

Gender	-.94	.45	-2.09	.038	[-1.82, -.05]
Age	-.47	.20	-2.36	.020	[-.86, -.08]
Education	.41	.22	1.90	.060	[-.02, .84]
Marital Status	-.83	.56	-1.49	.139	[-1.92, .27]
Dependents	-.24	.57	-.42	.674	[-1.36, .89]
Income	2.49	.62	4.00	.000	[1.26, 3.72]

Note. Number of questions answered correctly could range from 0 to 16.

The regression model using the enter method was significant $F(6, 133) = 12.02$, $p < .001$, explaining 35.2%($R^2 = .35$) of the variance in the number of questions answered correctly. Gender ($\beta = -.15$, $p = .038$), age ($\beta = -.21$, $p = .020$), and income ($\beta = .39$, $p < .001$) all contributed significantly to the model. Education level ($\beta = .18$, $p = .060$), marital status ($\beta = -.13$, $p = .139$), and having dependent children ($\beta = -.04$, $p = .674$) all did not contribute significantly to the model.

Education level, marital status, and having dependent children were removed from the model and multiple regression analysis was conducted again for predicting the number of questions correct for financial planning and decision making with the remaining variables of gender, age, and income. Relevant assumptions for the test were met. Residuals showed independence (Durbin-Watson statistic = 1.69). Plots of standardized residuals against predicted values showed both linearity and homoscedasticity assumptions to be valid. All Pearson correlation coefficients were greater than -.7 and less than .7 and tolerance and variance inflation factors respectively were .98 and 1.02 for gender; .84 and 1.19 for age; and .83 and 1.21 for income which indicated no problems with multicollinearity. No highly influential points were detected (Cook's Distance values were all below 1).

Table 14

Regression Coefficients for Gender, Age, and Income for Individuals with Financial Education

Variables	B	SE	t	p	95%CI
Constant	12.89	.91	14.13	.000	[11.08, 14.69]
Gender	-.94	.46	-2.05	.042	[-1.84, -.03]
Age	-.58	.17	-3.35	.001	[-.92, -.24]
Income	3.48	.51	6.90	.000	[2.48, 4.48]

Note. Number of questions answered correctly could range from 0 to 16.

The regression model using the enter method was significant $F(3, 136) = 19.04$, $p < .001$, explaining 29.6%($R^2 = .30$) of the variance in the number of questions answered correctly. Gender ($\beta = -.15$, $p = .042$), age ($\beta = -.26$, $p = .001$), and income ($\beta = .55$, $p < .001$) all contributed significantly to the model.

RQ5: To What Extent Do Demographic Factors Affect Savings?

To examine this research question, a multinomial logistic regression was conducted for the independent variable of spending compared to income for the last year and the demographic variables of gender, age, education level, marital status, having dependents, and income for individuals without financial education. The overall model was found to be significant, $\chi^2 (26) = 174.10$, $p < .001$. Pearson's chi-square indicated the model fit the data well, $\chi^2 (94) = 25.46$, $p = 1.00$. The Deviance chi-square also indicated a good fit, $\chi^2 (94) = 31.95$, $p = 1.00$. The Nagelkerke pseudo-R-square was .78 indicating a high percentage of explanatory ability. Gender, $\chi^2 (2) = 1.20$, $p = .549$ and marital status, $\chi^2 (2) = .66$, $p = .720$ were found to not be significant, whereas age, $\chi^2 (10) =$

116.62, $p < .001$, education level, χ^2 (8) = 61.64, $p < .001$, having dependents, χ^2 (2) = 59.57, $p < .001$, and income χ^2 (2) = 49.56, $p < .001$ were all found to be significant.

Gender and marital status were removed from the analysis and the overall model was found to be significant, χ^2 (22) = 172.34, $p < .001$. Pearson's chi-square indicated the model fit the data well, χ^2 (38) = 1.35, $p = 1.00$. The Deviance chi-square also indicated a good fit, χ^2 (38) = 1.70, $p = 1.00$. The Nagelkerke pseudo-R-square was .78 indicating a high percentage of explanatory ability. Age, χ^2 (10) = 140.28, $p < .001$, education level, χ^2 (8) = 72.77, $p < .001$, having dependents, χ^2 (2) = 71.07, $p < .001$, and income χ^2 (2) = 57.21, $p < .001$ were all found to be significant. There were no significant differences between levels for any of these factors however, as all p values were greater than .05.

RQ6: To What Extent Do Demographic Factors Affect Savings After Financial Education?

To examine this research question, a multinomial logistic regression was conducted for the independent variable of spending compared to income for the last year and the demographic variables of gender, age, education level, marital status, having dependents, and income for individuals with financial education. The overall model was found to be significant, χ^2 (26) = 90.32, $p < .001$. Pearson's chi-square indicated the model fit the data well, χ^2 (132) = 153.95, $p = .093$. The Deviance chi-square also indicated a good fit, χ^2 (132) = 105.58, $p = .956$. The Nagelkerke pseudo-R-square was .58 indicating a relatively high percentage of explanatory ability. Income, χ^2 (2) = 17.93, $p < .001$ was found to be significant while gender, χ^2 (2) = 3.30, $p = .193$, age, χ^2 (10) = 16.71, $p = .081$, education level, χ^2 (8) = 4.74, $p = .785$, marital status, χ^2 (2) = 3.84, $p =$

.147, and having dependents χ^2 (2) = 2.72, p = .257 were all factors found to be not significant.

Table 15

Impact of Income on Spending Vs Income for the Last Year for Individuals with Financial Education

	Spending Less	Spending Equal	Spending More	Total
50K or More	73	11	0	84
Less than 50K	16	27	13	56
Total	89	38	13	140

A chi-squared test was used to further examine the relationship between income and spending compared to income for the last year. For individuals with income equal to or greater than 50,000, the percentage of people spending less than their income (86.9%) was higher than the percentage of individuals with income less than 50,000 spending less than their income (28.6%). Conversely, the percentages of individuals above this income threshold spending the same or more than their income were respectively 13.1% and 0% whereas for individuals below this income threshold the percentages for spending the same and spending more than income were respectively 48.2% and 23.2%. These results were found to be significant, χ^2 (2, N= 140) = 52.75, $p < .001$.

Summary

Results of this study indicated that for the first research question, individuals who had financial education had higher percentages of spending less than their income and lower percentages of spending more than their income compared to individuals without financial education. In addition, individuals with financial education were more likely to have emergency savings, a type of savings account, an employer retirement account, a

non-employer retirement account, and investments outside of a retirement account than individuals without financial education. They were also more likely to contribute to retirement accounts. For the second research question, individuals with financial education scored significantly higher than individuals without financial education for the number of questions answered correctly for financial planning and decision making. For the third research question, age and education level were found to be significant predictors of financial planning and decision making for individuals without financial education. For the fourth research question, gender, age, and income were found to be significant predictors of financial planning and decision making for individuals with financial education. For the fifth research question, age, education level, having dependents, and income were found to be significant indicators for predicting spending compared to income for individuals without financial education. For the sixth research question, only income was found to be a significant indicator for predicting spending compared to income for individuals with financial education.

Chapter 5 discusses the interpretation of these results. It includes a discussion for the results with previous research findings and theoretical foundations and a discussion for the descriptive study information. It also discusses limitations of the study and recommendations for future studies in addition to implications of the study.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this nonexperimental, ex post facto study was to examine the impact of financial education on saving and financial literacy and understanding and decision making for citizens of Cherokee Nation. Key findings of the study were that financial education has a significant impact on financial knowledge and decision making as well as saving and types of investments that individuals have, increasing both knowledge and decision making and saving. These results were similar to previous research, and Cherokee Nation citizens had similarly low levels of saving and financial knowledge and decision making. Age and education were the significant demographic factors for financial planning and decision making for individuals without financial education, and gender, age, and income were significant factors for individuals with financial education. For saving, age, education, dependents, and income were significant demographic factors for individuals without financial education, and income was the significant demographic factor for individuals with financial education.

Interpretation of Findings

The demographics of the study are similar to the demographics for Native Americans in the FINRA Investor Education Foundation's 2015 National Financial Capability Study. In that study, 61% of the 591 participants were female, 31% had an income of 50,000 or more, 41% were married, 37% had dependents, and 21% had a college degree (Dewees & Mottola, 2017). In this study, 57.3% of the 302 participants were female, 32.1% had an income of 50,000 or more, 42.1% were married, 38.7% had dependents, and 28.5% had some type of college degree. The results of this study are thus

likely generalizable to Native Americans in general in addition to Cherokee Nation citizens.

Results of this study indicated that 25.8% of Cherokee Nation citizens spent more than their income, and 34.1% spent less than their income. This compares to the results for Native Americans in the FINRA Investor Education Foundation's 2015 National Financial Capability Study where 19% spent more than their income and 37% spent less than their income (Dewees & Mottola, 2017). For the state of Oklahoma for the 2009, 2012, 2015, and 2018 FINRA Investor Education Foundation National Financial Capability studies, 21%, 20%, 17%, and 17% of individuals spent more than their incomes respectively, and for the United States as a whole 20%, 19%, 18%, and 19% of individuals spent more than their income respectively (FINRA Investor Education Foundation, 2020). Therefore there appears to be more Cherokee Nation citizens spending more than their income than for the region and the nation.

The results of this study also indicated that Cherokee Nation citizens were able to answer an average of 7.3 questions correctly, and 29.7% of individuals were able to answer more than 10 questions correctly (or more than 62.5% of questions). By comparison, 73% of Native Americans, 80% of African Americans, 74% of Hispanics, 62% of Asian-Americans, and 57% of Whites answered 60% or less of the financial literacy questions correctly in the FINRA Investor Education Foundation's 2015 National Financial Capability Study (Dewees & Mottola, 2017). For the state of Oklahoma in 2009, 2012, 2015, and 2018 there were 59%, 62%, 64%, and 66% of participants who answered 60% or less of the financial literacy questions correctly in the FINRA Investor

Education Foundation's National Financial Capability Study, and for the entire United States in 2009, 2012, 2015, and 2018 the rates of individuals answering the same percentage or less correctly were 58%, 61%, 63%, and 66% respectively. This indicates that Cherokee Nation citizens are performing among the worst of the minority groups in an environment where scores seem to be declining on average in the region and in the nation.

Results from the analysis for the first research question of this study showed that financial education has a significant impact on savings. Individuals with financial education are more likely to spend less than their income and have some savings than those without financial education. They are also more likely to having savings and retirement accounts as well as to contribute to retirement accounts and have additional types of investments. This matches previous research findings that lower savings is associated with lower levels of financial literacy and that financial education can lead to increased levels of savings (Reich & Berman, 2015). This study also supports previous findings that individuals with financial education have a better understanding of the impact of spending and the importance of investing (Anderson & Card, 2015). In addition, it supports findings that individuals with financial education have better investing activity (Walstad et al., 2017). These results also align with the conceptual framework that an increase in financial education leads to improved savings through better decisions (Tannahill, 2012). The theoretical foundation of prospect theory indicates that individuals should make better saving and investment choices after receiving

financial education (Tversky & Kahneman, 1992). This is possible because of information availability from the knowledge that is gained (Thaler, 1980).

Results from the analysis for the second research question of this study showed that individuals with financial education were significantly more likely to have higher levels of financial literacy, answering more questions correctly for financial planning and decision making than individuals without financial education. This lends support to previous research that indicates that individuals with financial education have greater financial knowledge (Walstad et al., 2017) in addition to research that indicates that financial education leads to increased financial literacy capability and corresponding financial behavior (Alsemgeest, 2015; Collins & Odders-White, 2015; Grable & Rabbani, 2020). These results also align with the conceptual framework that an increase in financial education leads to greater financial knowledge and decision making (Tannahill, 2012). In addition, the results align according to theoretical foundations that an increase in knowledge such as financial education should lead to better financial decision making through an increase in ability to assess factors of risk and choice (Tversky & Kahneman, 1992). A greater understanding of investments resulting from financial education also helps to avoid things such as information classification errors (Thaler, 1985).

Results from the analysis for the third research question of this study showed that demographic factors for individuals without financial education do play a role in financial planning and decision making. Age and education level were found to be the most significant demographic factors for those without financial education and were able to explain over half of the variance in answering financial planning and decision-making

questions correctly. Other demographic factors were not found to be significant. This finding supports previous research showing the interaction of education with other demographic factors in importance for financial education (Skagerlund et al., 2018).

Results from the analysis for the fourth research question showed that demographic factors also play a role in financial planning and decision making for individuals with financial education. Gender, age, and income were all significant factors for predicting ability to answer questions for financial planning and decision making, whereas education level, marital status, and having dependents were not significant. Gender, age, and income were able to predict almost a third of the variance for questions answered correctly. These results support previous research showing significant differences in financial education for gender (Bucher-Koenen et al., 2017; Farrell et al., 2016). The results also support previous research that indicates that individuals with more income tend to have better financial literacy and corresponding financial behavior and ability (Carvalho et al., 2016; Netemeyer et al., 2017).

Results from the analysis for the fifth research question of this study showed that demographic factors play a role in savings for individuals without financial education. Age, education level, having dependents, and income were all significant demographic factors with a high level of explaining ability for predicting individual spending compared to income for the last year. These results support previous research that individuals with less income face more stress and are less likely to have saving ability (Netemeyer et al., 2017). They also support previous research indicating the importance of education for issues that involve topics based on numbers such as saving ((Skagerlund

et al., 2018). Further the results extend previous research indicating the importance of family demographics for financial behavior and saving (Ward & Lynch, 2019).

Results from the analysis for the sixth research question of this study showed that demographic factors play a role in savings for individuals with financial education. However, the only individual demographic factor found to be significant was income. Individuals earning an income of at least 50,000 were very likely to be spending less than their income and thus saving while individuals earning less than 50,000 were more likely to spend the same as their income or more than their income and thus saving less or not at all. No individuals earning at least 50,000 spent more than their income. These results support previous findings that individuals with more income are likely to have better saving behavior (Carvalho et al., 2016; Netemeyer et al., 2017).

Limitations of the Study

The limitations of this study include some general limitations such as population, time, and instrumentation. Survey questions used for analysis in the study as well as the financial education individuals may have received prior to the study are inherently limited in nature as well as scope. The questions themselves were closed-ended questions of a limited number for a limited selection of topics. The study consisted of a single survey without any opportunity to ask additional questions as a follow up to any initial answers provided or to clarify answers to original questions. The lack of any interview component also resulted in an inability to fully assess and validity issues for responses, or to verify that responses were given by the actual participants as opposed to someone potentially answering on their behalf, as might be the case in the instance of households

with more than one member receiving a survey. As a result, there are many possible considerations that could impact results that were not able to be captured in this study. In addition, the validity of these survey instruments cannot be fully tested but are assumed to be valid.

Another issue for this study is that different groups were used for the study of financial education. There is a lack of data for what individuals may have known before receiving financial education in the case of the group that had financial education, or what they might know after receiving financial education in the case of the group without financial education. In addition, there was no observation of the groups to confirm any actual behavior that may result from financial education, nor was there any information gathered on the type of financial education received, its quality, or any other details related to the education. There were also no observations over any period of time to examine any potential time effects. It is also not possible to study the entire population and it is thus assumed that the study is representative, which while likely based on study methods and analysis, cannot be guaranteed from a single study.

A final limitation for this study arose as a result of unique circumstances in the United States as well as the entire world during the time of this study, namely the COVID-19 pandemic. The pandemic disrupted normal life in many ways, and its impact on participants during the time of this study, such as income and saving, are excluded from this study. These factors may have an impact on the results of this study.

Recommendations

One recommendation for future research is to repeat this study. As the study was conducted during the time of the COVID-19 pandemic, it is possible that there could have been an impact from the pandemic on the results of the study and it would be beneficial to repeat the study during a time when conditions may be more reflective of normal circumstances. This would allow for an analysis of the impact of the COVID-19 pandemic on financial education and saving and financial decision making as well, so that any programs arising to deal with the impact will have more information to consider any possible program additions or changes that may be necessary as a result. The other reason to repeat this study is that this study was the first study to examine the impact of financial education for Cherokee Nation citizens specifically and additional studies would provide support for the results or offer new additional insights that are needed.

Another recommendation for future research is to sample other Cherokee groups for analysis. This study examined the impact of financial education on Cherokee Nation citizens. However, there are three federally recognized Cherokee tribes. The other two tribes, consisting of United Keetoowah Band of Cherokee Indians and the Eastern Band of Cherokee Indians, were not included in the sample and may have different results. There could potentially be additional regional differences as well, as the United Keetoowah Band of Cherokee Indians is in the same region in Oklahoma as Cherokee Nation, while the Eastern Band of Cherokee Indians are in North Carolina.

Future research can also look at the impact of financial education over a period of time. This study used a survey to capture information at only one point in time, and thus

there is still no information on any potential impacts of time. This research could answer questions regarding the lasting effects of financial education or if there are any significant additional factors impacting knowledge and behavior.

The research in this study was non-experimental. As a result, the information gathered is limited to an analysis on what already exists by chance. Future research can analyze the impact of financial education on financial knowledge and decision making for Cherokee Nation citizens by using an experimental approach. This will allow for data to be gathered on the pure impact of financial education as groups can be studied both before and after the financial education is given to individuals, along with a control group that does not receive any financial education given to them.

Future research can also analyze the impact of financial education on financial decision making and saving for Cherokee Nation citizens using a qualitative approach instead of a quantitative approach. This study used a quantitative approach and thus the information gathered is limited to specific data points. A qualitative study allows for additional insights to be gained through such methods as interviews and discussions with the individual participants. This information has yet to be captured and would provide valuable insights to both current theory and research as well as any potential financial education programs that may be established to benefit Cherokee Nation citizens and other individuals.

Another recommendation for future research is to conduct studies that are mixed with individuals who are citizens of Cherokee Nation and individuals from other ethnic groups. The data gathered in this study were limited to only Cherokee Nation citizens and

thus there is no existing direct comparative information for differences in groups for the impact of financial education. Gathering this type of information for analysis would allow for additional insights regarding financial education programs and the potential need for any tailoring of such programs for different groups of individuals.

A final recommendation for future research is to analyze different forms of financial education for individual citizens of Cherokee Nation. The research gathered in this study looked only at individuals who had some amount of financial education regardless of what type of education it was, where and when it was received, how it was delivered, or any analysis of its quality and content. Future research can capture this information by using specific financial education programs and methods to see which type of financial education and how much financial education would provide the most benefits for individuals.

Implications

The implications of this study consist of multiple potential positive social change benefits and theoretical considerations. The first impact is potential positive social change for individual citizens of Cherokee Nation. Results of this study can be used to understand the factors that impact the lives of individuals financially, which has connections to all other aspects of their lives. Improving financial knowledge leads to greater positive benefits from increased saving to better investment choices for a variety of individual needs including funds for emergency situations, saving for general purposes, and retirement planning and saving. It is thus important that individual Cherokee Nation citizens receive financial education so that any financial duress can be

reduced, and financial well-being can be improved, which is likely to lead to related improvements in their lives for factors such as health, self-reliance and independence, work-life balance, and retirement.

Improving financial knowledge and decision making and saving for individuals has positive social change implications for families as well. Households consisting of individual members with financial knowledge are likely to benefit economically from greater amounts of saving and better financial decision making. While this benefit is likely from one member having financial knowledge, multiple members having adequate financial knowledge are likely to lead to greater benefits. These benefits can lead to potential reductions in current poverty rates and generational poverty and improved overall financial well-being for both immediate family members as well as potentially extended family members as well.

A greater amount of financial knowledge and better financial decision making and greater saving has many positive social change implications for Cherokee Nation itself. Currently there are many individual Cherokee Nation citizens with low levels of financial knowledge and low levels of saving. This financial stress has led to the direct need for many Cherokee Nation tribal services, such as economic assistance programs. There are currently no services offered by Cherokee Nation for comprehensive financial education. This study could be used as evidence for decision makers within Cherokee Nation to consider new policies of offering comprehensive financial education for citizens of Cherokee Nation. Providing such a service could lead to improved financial ability of Cherokee Nation citizens which would result in a corresponding reduced need for tribal

services such as economic assistance. This would then lead to Cherokee Nation having greater amounts of resources available for other needs within the community and jurisdiction of Cherokee Nation, resulting in potential positive social changes in other aspects of the lives of Cherokee Nation citizens through greater resource availability for existing programs and the potential creation of new additional programs.

The implications of this study also consist of positive social changes for society as well. Cherokee Nation is integrated within the northeast Oklahoma community in general, with many ties and partnerships to local governments and businesses. This study indicates that greater amounts of financial knowledge can lead to increased saving and better financial decision making and investment choices. This could result in positive social changes for the community in the form of investment in business, purchasing ability and choices, and less strain on community resources from individual Cherokee Nation citizens in addition to Cherokee Nation itself having more resources freed to be used for the purpose of enhancing and extending current community partnerships as well as the creation of new community partnerships that can benefit both Cherokee Nation citizens as well as general community members.

Results of this study have synergistic implications for current theory and research. Results indicated that financial education results in greater saving and better financial decision making for individual Cherokee Nation citizens. These results support current research on financial education. They also lend additional support to the theories of prospect theory and quasi-rational economics.

Conclusions

There are many aspects that are important to a high-quality life for an individual. One of the most important of these aspects is undoubtedly financial well-being. In order to maximize the potential for adequate financial well-being, individuals need to have adequate financial literacy so that they can make the best choices for saving, spending, and investment for both the present as well as their future. There is currently a significant lack of financial literacy in society in general, and this problem is worse for many minority groups, including citizens of Cherokee Nation. This study added to current theory and research and showed that there is a significant impact of financial education on financial knowledge and decision making and saving and investment. Demographic factors were also showed to play a key role for individuals with and without financial education. This information can be used to create financial education programs that will lead to much needed improvements in financial literacy creating positive social change in the lives of Cherokee Nation citizens, Cherokee Nation, and the surrounding community that will be beneficial for both the present and the future.

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Appendix A: Survey Questions

Thank you very much for participating in this research. • Please be assured that all of your answers will be completely ANONYMOUS and CONFIDENTIAL. Therefore, please try to answer these questions as openly and honestly as possible.

Are you a citizen of Cherokee Nation? YES NO

Please enter your 5-digit home zip code.

[_____]

On a scale from 1 to 7, where 1 means very low and 7 means very high, how would you assess your overall financial knowledge?

Were you ever required to take financial education?

Yes

No

Don’t know

Prefer not to say

Was financial education offered by a school or college you attended, or a workplace where you were employed?

Yes, but I did not participate in the financial education offered

Yes, and I did participate in the financial education

No

Don’t know

Prefer not to say

When did you receive that financial education? (Select all that apply)

In high school

In college

From an employer

Other

In total, about how many hours of financial education did you receive?

1-2 hours

3-10 hours

More than 10 hours

Don’t know

Prefer not to say

Overall, how would you rate the quality of the financial education you received? Please give your answer on a scale of 1 to 7, where 1 means “very low” and 7 means “very high.”

What is your gender? Male Female

What is your age?

18-24 25-34 35-44 45-54 55-64 65+

Which of the following best describes your race or ethnicity?

Select all that apply.

White or Caucasian

Black or African American

Hispanic or Latino/a

Asian

Native Hawaiian or other Pacific Islander

American Indian or Alaska Native

Other

Prefer not to say

What was the highest level of education that you completed?

Did not complete high school

High school graduate – regular high school diploma

High school graduate – GED or alternative credential

Some college, no degree

Associate's degree

Bachelor's degree

Post graduate degree

Prefer not to say

What is your marital status?

Married

Single

Separated

Divorced

Widowed/widower

Prefer not to say

Which of the following describes your current living arrangements?

I am the only adult in the household

I live with my spouse/partner/significant other

I live in my parents' home

I live with other family, friends, or roommates

Prefer not to say

How many children do you have who are financially dependent on you or your spouse/partner? Please include children not living at home, and stepchildren as well.

1

2

3

4 or more

No financially dependent children

Do not have any children

Prefer not to say

What is your household's approximate annual income, including wages, tips, investment income, public assistance, income from retirement plans, etc.? Would you say it is…

Less than $15,000

At least $15,000 but less than $25,000

At least $25,000 but less than $35,000

At least $35,000 but less than $50,000

At least $50,000 but less than $75,000

At least $75,000 but less than $100,000

At least $100,000 but less than $150,000

$150,000 or more

Don't know

Prefer not to say

Which of the following best describes your current employment or work status?

Self-employed

Work full-time for an employer

Work part-time for an employer

Homemaker

Full-time student

Permanently sick, disabled, or unable to work

Unemployed or temporarily laid off

Retired

Prefer not to say

Which of the following best describes your spouse/partner's current employment or work status?

Do not have a spouse/partner

Self-employed

Work full-time for an employer

Work part-time for an employer

Homemaker

Full-time student

Permanently sick, disabled, or unable to work

Unemployed or temporarily laid off

Retired

Prefer not to say

Who in the household is most knowledgeable about saving, investing and debt?

You

Someone else

You and someone else are equally knowledgeable

Don’t know

Prefer not to say

What was the highest level of education completed by the person or any of the people who raised you?

Did not complete high school

High school graduate/GED

Some college, no degree

Associate’s degree

Bachelor’s degree

Post graduate degree

Don’t know

Prefer not to say

On a scale from 1 to 7, where 1 means very low and 7 means very high, how would you assess your understanding of economics?

How much of your school's education (high school, college or higher degrees) was devoted to economics? A lot, some, little, or hardly at all?

Did any of the firms you worked for offer financial education programs, for example retirement seminars?

Yes No Not applicable.

How much have you thought about retirement?

A lot some little hardly at all?

Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow:

More than $102

Exactly $102

Less than $102

Do not know

Suppose you had $100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total?

More than $200

Exactly $200

Less than $200

Do not know

Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

More than today

Exactly the same

Less than today

Do not know

Assume a friend inherits $10,000 today and his sibling inherits $10,000 3 years from now. Who is richer because of the inheritance?

My friend

His sibling

They are equally rich

Do not know

Suppose that in the year 2010, your income has doubled and prices of all goods have doubled too. In 2010, how much will you be able to buy with your income?

More than today

The same

Less than today

Do not know

Which of the following statements describes the main function of the stock market?

The stock market helps to predict stock earnings

The stock market results in an increase in the price of stocks

The stock market brings people who want to buy stocks together with those who want to sell stocks

None of the above

Do not know

Which of the following statements is correct?

Once one invests in a mutual fund, one cannot withdraw the money in the first year

Mutual funds can invest in several assets, for example invest in both stocks and bonds

Mutual funds pay a guaranteed rate of return which depends on their past performance

None of the above

Do not know

If the interest rate falls, what should happen to bond prices?

Rise

Fall

Stay the same

None of the above

Do not know

True or false? Buying a company stock usually provides a safer return than a stock mutual fund.

True

False

Do not know

True or false? Stocks are normally riskier than bonds.

True

False

Do not know

Considering a long time period (for example 10 or 20 years), which asset normally gives the highest return?

Savings accounts

Bonds

Stocks

Do not know

Normally, which asset displays the highest fluctuations over time?

Savings accounts

Bonds

Stocks

Do not know

When an investor spreads his money among different assets, does the risk of losing money:

Increase

Decrease

Stay the same

Do not know

If interest rates rise, what will typically happen to bond prices?

They will rise

They will fall

They will stay the same

There is no relationship between bond prices and the interest rate

Don’t know

Suppose you owe $1,000 on a loan and the interest rate you are charged is 20% per year compounded annually. If you didn’t pay anything off, at this interest rate, how many years would it take for the amount you owe to double?

Less than 2 years

At least 2 years but less than 5 years

At least 5 years but less than 10 years

At least 10 years

Don’t know

A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.

True

False

Don’t know

Overall, thinking of your assets, debts and savings, how satisfied are you with your current personal financial condition? Please use a 10-point scale, where 1 means “Not At All Satisfied” and 10 means “Extremely Satisfied.”

When thinking of your financial investments, how willing are you to take risks? Please use a 10-point scale, where 1 means “Not At All Willing” and 10 means “Very Willing.”

Over the past year, would you say your spending was less than, more than, or about equal to your income? Please do not include the purchase of a new house or car, or other big investments you may have made.

Spending less than income

Spending more than income

Spending about equal to income

Don’t know

Prefer not to say

In a typical month, how difficult is it for you to cover your expenses and pay all your bills?

Very difficult

Somewhat difficult

Not at all difficult

Don’t know

Prefer not to say

Have you set aside emergency or rainy day funds that would cover your expenses for 3 months, in case of sickness, job loss, economic downturn, or other emergencies?

Yes

No

Don't know

Prefer not to say

Have you ever tried to figure out how much you need to save for retirement?

Yes

No

Don't know

Prefer not to say

How confident are you that you could come up with $2,000 if an unexpected need arose within the next month?

I am certain I could come up with the full $2,000

I could probably come up with $2,000

I could probably not come up with $2,000

I am certain I could not come up with $2,000

Don't know

Prefer not to say

How would you rate your current credit record?

Very bad

Bad

About average

Good

Very good

Don’t know

Prefer not to say

If you were to set a financial goal for yourself today, how confident are you in your ability to achieve it?

Not at all confident

Not very confident

Somewhat confident

Very confident

Don’t know

Prefer not to say

Do you have a checking account?

Yes

No

Don’t know

Prefer not to say

Do you have a savings account, money market account, or CDs?

Yes

No

Don’t know

Prefer not to say

Do you overdraw your checking account occasionally?

Yes

No

Don’t know

Prefer not to say

Do you or your spouse/partner have any retirement plans through a current or previous employer, like a pension plan, a Thrift Savings Plan (TSP), or a 401(k)?

Yes

No

Don’t know

Prefer not to say

Were these plans provided by your employer or your [spouse/partner]'s employer, or both?

Your employer

Your spouse's/partner's employer

Both your employer and your spouse's/partner's employer

Don't know

Prefer not to say

Are any of these retirement plans the kind where you or your spouse/partner get to choose how the money is invested?

Yes

No

Don't know

Prefer not to say

Do you or your spouse/partner have any other retirement accounts NOT through an employer, like an IRA, Keogh, SEP, or any other type of retirement account that you have set up yourself?

Yes

No

Don't know

Prefer not to say

Do you or your spouse/partner regularly contribute to a retirement account like a Thrift Savings Plan (TSP), 401(k) or IRA?

Yes

No

Don’t know

Prefer not to say

In the last 12 months, have you or your spouse/partner taken a loan from your retirement account(s)?

Yes

No

Don’t know

Prefer not to say

In the last 12 months, have you or your spouse/partner taken a hardship withdrawal from your retirement account(s)?

Yes

No

Don’t know

Prefer not to say

Not including retirement accounts, does your household have any investments in stocks, bonds, mutual funds, or other securities?

Yes

No

Don’t know

Prefer not to say

Do you or your spouse/partner currently own your home?

Yes

No

Don’t know

Prefer not to say

Do you currently have any mortgages on your home?

Yes

No

Don’t know

Prefer not to say

Do you have any home equity loans?

Yes

No

Don’t know

Prefer not to say

Do you currently owe more on your home than you think you could sell it for today?

Yes

No

Don’t know

Prefer not to say

How many times have you been late with your mortgage payments in the past 12 months? (If you have more than one mortgage on your home(s), please consider them all.)

Never

Once

More than once

Don’t know

Prefer not to say

How many credit cards do you have? Please include store and gas station credit cards but NOT debit cards.

1

2-3

4-8

9-12

13-20

More than 20

No credit cards

Don’t know

Prefer not to say

In the past 12 months, which of the following describes your experience with credit cards? (Select an answer for each)

I always paid my credit cards in full

Yes No Don’t Know Prefer not to Say

In some months, I carried over a balance and was charged interest

Yes No Don’t Know Prefer not to Say

In some months, I paid the minimum payment only

Yes No Don’t Know Prefer not to Say

In some months, I was charged a late fee for late payment

Yes No Don’t Know Prefer not to Say

In some months, I was charged an over the limit fee for exceeding my credit line

Yes No Don’t Know Prefer not to Say

In some months, I used the cards for a cash advance

Yes No Don’t Know Prefer not to Say

Thinking about when you obtained your most recent credit card, did you collect information about different cards from more than one company in order to compare them?

Yes

No

Don’t know

Prefer not to say

Do you currently have an auto loan? (This does not refer to an auto lease).

Yes

No

Don’t know

Prefer not to say

Do you currently have any unpaid bills from a health care or medical service provider (e.g., a hospital, a doctor’s office, or a testing lab) that are past due?

Yes

No

Don’t know

Prefer not to say

Do you currently have any student loans? If so, for whose education was this/were these loan(s) taken out? Select all that apply.

Yes, have student loan(s) for:

- Yourself
- Your spouse/partner
- Your child(ren)
- Your grandchild(ren)
- Other person

No, do not currently have any student loans

Don’t know

Prefer not to say

Before you got your most recent student loan, did you try to figure out how much your monthly payments would be?

Yes

No

Don’t know

Prefer not to say

How many times have you been late with a student loan payment in the past 12 months? (If you have more than one student loan, please consider them all.)

Never, payments are not due on my loans at this time

Never, I have been repaying on time each month

Once

More than once

Don’t know

Prefer not to say

Are you concerned that you might not be able to pay off your student loans?

Yes

No

Don’t know

Prefer not to say

Have you been contacted by a debt collection agency in the past 12 months?

Yes

No

Don’t know

Prefer not to say

How strongly do you agree or disagree with the following statement? Please give your answer on a scale of 1 to 7, where 1 = “Strongly Disagree,” 7 = “Strongly Agree,” and 4 = “Neither Agree Nor Disagree”. You can use any number from 1 to 7.

I have too much debt right now

Appendix B: Lusardi & Mitchell Permission

Ron Pense
Sat 5/23/2020 4:15 AM

To: [redacted]

Distinguished Scholars
Dr. Lusardi
Dr. Mitchell

Hello. My name is Ron Pense. Presently, I am a doctoral student at Walden University. I am currently working on my dissertation dealing with the effects of financial education for citizens of Cherokee Nation in Oklahoma. I am writing to you to inquire about obtaining permission to use your financial literacy survey questions as used in:
Lusardi, A., & Mitchell, O. S. (2017). How ordinary consumers make complex economic decisions: Financial literacy and retirement readiness. Quarterly Journal of Finance, 7(03), doi:10.1142/S2010139217500082

Thanks,
Ron Pense

Mitchell, Olivia [redacted]
Sat 5/23/2020 6:36 AM

To: Ron Pense
Cc: [redacted]

You have my permission as long as you credit the study you took the questions from.

Best of luck
OSMitchell

Annamaria Lusardi [redacted]
Sat 5/23/2020 8:52 AM

To: Ron Pense
Cc: [redacted]

Ron,
sure. Just make sure you cite us properly
anna

Appendix C: FINRA Investor Education Permission

From: [redacted]
Sent: Friday, May 22, 2020 3:58 PM
To: Mottola, Gary <[redacted]
Subject: [EXTERNAL-WEB] Permission to Use NFC Study Questionnaires for Dissertation Study

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Date:	05/22/2020 3:58 PM
First Name:	Ron
Last Name:	Pense
Email:	[redacted]
Message:	Dear Gary Mottola, My name is Ron Pense. I am a doctoral student at Walden University. I am currently working on the proposal for my dissertation regarding financial education. I was wondering if I could obtain permission to use the NFC Study Questionnaires as part of my study to assess the impact of financial education on the citizens of Cherokee Nation. My research design is a pretest-posttest design and I was wondering if it would be possible to use the questionnaires along with any general financial education brochure or something similar that could be used as the treatment. Thanks, Ron Pense

Mottola, Gary [redacted]
Tue 5/26/2020 7:48 AM

To: Ron Pense

Hi Ron,

Yes…you can use the questionnaire and any of the other resources you see on USFinancialCapability.org.

We only ask that you cite the FINRA Investor Education as the source of the questionnaire in any publications.

Your research sounds quite interesting.

Best regards,

Gary