Walden University

College of Management and Technology

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Audra R. Sherwood

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Walden University
2020

Abstract

Differences in Financial Literacy Across Generations

by

Audra R. Sherwood

MA, Walden University, 2019

MS, University of Wyoming, 2003

BS, University of Wyoming, 1999

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

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Abstract

The United States federal government allocates $670 million annually towards financial literacy despite the fact 73 million adults are struggling financially, and over 65% of Americans are financially illiterate and unable to manage their finances. The specific management problem addressed in this study was the awareness of the differences in financial literacy between Millennials and Generation Xers who have and have not taken personal finance courses in high school in the United States. The purpose of this quantitative, nonexperimental, causal-comparative study was to test the self-efficacy theory and goal-setting theory in determining the differences between the two generational groups of Millennials and Generation Xers, regarding financial literacy education during high school years in the United States. Using a two-way analysis of variance for statistical analysis, she examined 2018 secondary data from the Financial Industry Regulatory Authority (FINRA) Investor Education Foundation to test the hypotheses. The purposive sample consisted of 7,481 Millennials and 9,191 Generation Xers anonymously selected by email and phone interviews from all states in America who fit the study criteria. Millennials have a level of financial literacy different from Generation Xers with $p < .001$. Individuals who took a personal finance course in high school have a different level of financial literacy than those who did not take a personal finance course in high school with $p < .001$. There is no interaction between generation and high school finance courses with $p = .692$. Both education leaders and government policymakers may benefit from the study results to promote the importance of financial literacy in kindergarten through high school systems for creating positive social change.

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Dedication

I would like to dedicate my paper to my late son and father. My son, Joshua S. Sherwood, tragically passed away on January 13, 2016, at the age of 22 due to health complications; he was bound for medical school. My father, G. Rex Woodall, passed away during my first quarter as a doctoral student on October 31, 2010. Both my son and my father were and will always be my inspiration and motivation to accomplish my lifetime goals. They will both be in my heart and by my side with each step I take.

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Thank you, Dr. Kolberg, Dr. Kristensen, Dr. Butkiewicz, and Dr. Schechter for believing in me and for guiding me in the right direction. I appreciate your words of wisdom and assistance in completing my doctoral program. I do not believe that I would have remained motivated without your inspiration.

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Chapter 1: Introduction to the Study

Financial literacy is the capability to understand and use economic data to make more conscious decisions about wealth accumulation, financial planning, retirement, and debt acquisition and repayment (Lusardi & Mitchell, 2013). Research has indicated that approximately 43% of the population of the United States is financially literate (McGrath, 2015), which means that less than half of the population possesses the financial knowledge needed for financial plans and consistent financial well-being (Lusardi & Mitchell, 2013). Financial literacy is worth investigating because approximately 670 million dollars are lost annually to financial ignorance (National Financial Educators Council [NFEC], 2013).

In this study, I examined the differences between an individual's generation and level of financial literacy. According to the Council for Economic Education (CEE, 2014), millions of Americans were not offered personal finance courses in high school in both Generation X (i.e., those born between 1965 and 1980) and the millennial generation (i.e., those born between 1981 and 2000) during their educational years. However, Americans belonging to Millennials and Generation Zs had access to more rigorous course curricula to ensure they graduated from high school with the necessary skills to be fiscally responsible and to be financially literate adults (CEE, 2014). Though the U.S. economy would benefit from adults possessing the skills required to avoid poor financial decisions and behaviors, the millennial generation lacks the financial literacy skills to make fiscally sound decisions, including necessary math skills, financial skills, and the

ability to understand insurance policies (Twenge, Exline, Grubb, Sastry, & Campbell, 2015).

Despite indications of generation gaps with financial literacy, previous researchers have not addressed the relationship between individuals' financial literacy rates and whether they have taken high school personal financial courses (CEE, 2014). Since 2005, scholars have focused on issues of financial literacy and increasing financial awareness among consumers who reside within the United States (Paramonovs & Ijevleva, 2015). However, scholars have not focused on the effects of generational differences on financial literacy (Delavande, Rohwedder, & Willis, 2008; Hsu, 2015; Jappelli & Padula, 2013; Lusardi et al., 2013). This study was conducted to address this gap in the literature. Comparing financial literacy in the millennial generation to Generation X may provide greater clarity on why over half the population does not possess financial literacy skills (Reed, 2014). Understanding the limitations of millennial financial literacy may lead to social change through improvements in financial education and improved consumer financial behavior and responsibility such as learning to balance a checkbook, savings, and investments (Kuehn, 2012).

Chapter 1 includes a background of the study including the study's purpose, problem statement, and research questions. The chapter also includes a description of the nature of the study and the theoretical foundation. The chapter ends with the assumptions, limitations, delimitations, significance of the study, and a conclusion.

Background of the Study

As debt levels rise among both Generation Xers and Millennials, consumers need to stay up to date with their current financial literacy skills (Lusardi & Mitchell, 2011a). Many consumers lack the financial knowledge that they need to make appropriate decisions regarding their personal finances (Lusardi & Mitchell, 2011a). Millions of individuals are faced with opportunity costs—highest valued alternative that was not chosen (Mankiw, 2007)—and making financial decisions based on their income levels and how they allocate their money yet over 65% of Americans were financially illiterate (Way, 2014). Further, the U.S. recession from 2007 to 2009 left many consumers without their life savings and investments due to poor financial knowledge (Duca, Muellbauer, & Murphy, 2010). As of 2016, almost one-half of U.S. households were unable to pay their credit card bills off in full monthly and carry a debt of more than $15,000. The Financial Industry Regulatory Authority (FINRA) Investor Education Foundation (2016) also found that 56% of American households did not have enough money saved, and 19% of American households had a greater tendency to overspend their budgets. Only 34% of American households could only pay the required minimum amount on their car, home, personal loans, and consumer credit cards, and 26% of American households stated that they had past-due medical bills (FINRA Investor Education Foundation, 2016). Therefore, financial literacy is important to alleviate and avoid excessive debt levels (Kettle, Trudel, Blanchard, & Häubl, 2016). Financial education can have positive outcomes regarding spending habits, savings and investments, and risk management

decisions, giving consumers awareness and confidence in their financial habits (FINRA Investor Education Foundation, 2016).

The financial crisis that occurred in the United States drew the attention of elected officials at the national level and led the U.S. government to spend approximately 670 million dollars per year to increase financial literacy in a variety of forms, including workshops, seminars, and other training sessions. However, these measures have been unsuccessful (CEE, 2014; Reed, 2014), and financial literacy has fallen as a result (FINRA Investor Education Foundation, 2016). For instance, about half of American consumers are not active investors in the stock market even though it is a way for consumers to accumulate substantial wealth (Grinblatt, Keloharju, & Linnainmaa, 2011). But individuals are less likely to invest in the stock market because they do not possess adequate financial literacy (Grinblatt et al., 2011). Throughout their lives, consumers must also seek additional advice regarding financial products mortgage products and life, home, and health insurance premiums, but many consumers are given incorrect information or information too difficult for them to grasp based on their low financial literacy (Geddes & Steen, 2016).

A preliminary review of the literature revealed a knowledge gap regarding the influence of required personal finance courses in high school core curricula on adult financial literacy (Reed, 2014). For example, there is a growing body of work about generational differences in terms of financial literacy. Understanding generational effects on financial literacy are essential to understanding how educational programs can impact financial literacy (Hastings, Madrian, & Skimmyhorn, 2012). Researchers have indicated

that financial education results in higher levels of financial literacy and better financial decisions in U.S. households (Jappelli & Padula, 2013; Lusardi & Mitchell, 2013, 2014). Additionally, children learn their financial behaviors from their parents and caregivers prior to high school graduation, and there is a need to teach financial literacy concepts at lower grade levels to increase overall financial literacy (Geddes & Steen, 2016; Reed, 2014). However, even though personal financial courses are necessary to increase wise fiscal management of financial products, educational institutions have not embraced the need for these courses in their core curriculum (Geddes & Steen, 2016).

There was a need to conduct this study due to the recession in the United States in 2008-2009 along with the aftermath of the housing crisis. Creating awareness of why financial literacy is essential at the national level as well as a micro level can provide positive financial returns. Individual consumer behavior and personal financial skills affect not just the individuals involved but have an impact on the national economy.

Problem Statement

The Board of Governors of the Federal Reserve System (2017) reported that approximately 73 million adults are struggling financially, and 47% of adults said that their income exceeded their spending in the prior year. However, over 65% of Americans are financially illiterate and unable to manage their finances (Way, 2014). The general management problem of the study is high consumer debt rates in the United States (Kettle et al., 2016). The average household carries a minimum of $15,000 of debt over four revolving credit cards and is unable to make the minimum payments each year that result in high default rates and bankruptcy (Kettle et al., 2016). Approximately 43 million

adults "struggle to pay bills in some months due to income volatility" (Board of Governors of the Federal Reserve System, 2017, p. 1).

The specific management problem of the current study was the awareness of the differences in financial literacy between generational groups (Millennials and Generation Xers) who have and have not taken personal finance courses in high school in the United States (Kettle et al., 2016). Previous investigators have not addressed the differences between personal financial courses in high school, generations, and financial literacy. After the 2007-2008 economic crisis in the United States, it was apparent that millions of Americans did not possess financial literacy skills based on poor mortgage and financial knowledge decisions that caused the U.S. economy to be in disarray (Lusardi & Mitchell, 2007a).

Purpose of the Study

The purpose of this quantitative, nonexperimental, causal–comparative study was to test the self-efficacy theory and goal-setting theory in determining the differences between the two generational groups, Generation Xers and Millennials, regarding financial literacy education during high school years in the United States. Using a two-way analysis of variance (ANOVA) statistical analysis, I examined secondary data and analyzed whether there was a difference in financial literacy between those who had taken personal finance courses in high school and those who did not take personal finance courses in high school in the United States between generations (Millennials and Generation Xers) (CEE, 2014). The dependent variable was financial literacy, and the independent variables included individuals who took personal finance courses in high

school and those who did not take personal finance courses in high school and generation groups (Millennials and Generation Xers).

Research Question and Hypotheses

I included one research question and three hypotheses. The research question was "What are the differences in financial literacy between generation groups and individuals who took personal finance courses in high school and those who did not take personal finance courses in high school in the United States?"

Research Hypotheses

$H_0$1*:* Millennials have a level of financial literacy equal to Gen X.

$H_1$1*:* Millennials have a level of financial literacy different from Gen X.

$H_0$2*:* Individuals who took a personal finance course in high school have a level of financial literacy equal to individuals who did not take a personal finance course in high school.

$H_1$2*:* Individuals who took a personal finance course in high school have a level of financial literacy different than individuals who did not take a personal finance course in high school.

$H_0$3: There is no interaction between generation and high school personal finance courses.

$H_1$3*:* There is an interaction between generation and high school personal finance courses.

Theoretical Foundation

The study's theoretical framework consisted of the self-efficacy and goal-setting theory of motivation of financial literacy (Muizzuddin, Taufik, Ghasarma, Putri, & Adam, 2017). Bandura (1994) suggested that self-efficacy can be broken down into four key constructs: mastery experience, modeling, verbal persuasion, and physiological and affective state. Motivation is a concept that enables individuals the knowledge of financial products and services, and the willingness to acquire knowledge of financial services affects financial literacy rates. Motivational variables like demographics, willingness to save, and family wealth can affect financial literacy rates (Mandell & Klein, 2007). Constructs in self-efficacy theory include the management of credit card credit and personal management of funds. Within the goal-setting theory of motivation, the constructs are goal specificity (i.e., financial planning) and goal commitment (Muizzuddin et al., 2017).

Goal-setting theory is the belief that results are goal driven. Goal-setting theory captures motivation theory as well as the fundamental relationship between goal setting and results. The constructs used in goal-setting theory include goal specificity, goal commitment, and goal acceptance (Muizzuddin et al., 2017). Additionally, key constructs of goal setting include debt control and personal financial planning and management of wealth (Muizzuddin et al., 2017). Goal setting is a way to manage finances through financial planning, which can lead to economic satisfaction (Kapoor, Dlabay, & James, 2004, p. 186). Financial planning involves assessing wealth and expenses and determining a financial goal to guide decisions. The sequence of financial planning also

follows a cyclical pattern: (a) establishing measurable financial goals that have a term, (b) evaluating the financial condition periodically, (c) financial planning as early as possible, (d) setting realistic financial goals, and (e) understanding that achieving goals is a struggle (Muizzuddin et al., 2017). Financial literacy is important when analyzing goal-setting theory, as many young adults do not understand financial products such as debit and credit cards, payday loans, rent-to-own, insurance products (automobile, rental, property, mortgage, or health care products), rental agreements, or investments (Champlain College Center for Financial Literacy, 2017).

Financial literacy and life experiences align within the current study's self-efficacy theory and goal-setting theory of motivation approach that takes a microeconomic approach to financial decisions made throughout an individual's lifetime (Lusardi & Mitchell, 2017a; Rotolo & Wilson, 2004). The theoretical framework aligns with the research questions regarding personal financial courses and the fact that many adults believe personal financial courses should be taught in high school (Champlain College Center for Financial Literacy, 2017). Improved financial literacy may reduce instances of poor financial decisions and debt. Individuals must be able to obtain higher financial literacy rates to ensure sound fiscal decisions and preparation for financial emergencies. Though the idea of obtaining livable wages and good salaries have been slowly diminishing, consumers must be more conscious of their expenditures and not giving in to the temptation of using credit cards (Strauss & Howe, 1991).

Nature of the Study

The purpose of this quantitative, nonexperimental, causal–comparative study was to examine the differences between Generation Xers and Millennials regarding financial literacy. I selected a quantitative study in which the data presented had not been manipulated. Instead, the observations of the chosen dataset naturally occurred without any interference (Field, 2013). Standardized statistical methods and measures should enable researchers to either confirm or discover objective truths with the utilization of empirical testing.

The approach adopted for this study consisted of a two-way ANOVA, as I was looking at generation groups on two levels (Millennials and Generation Xers) and financial literacy. A two-way ANOVA was performed to test the independence of the nominal (categorical) variables between two levels of education (individuals who took personal finance courses in high school and those who did not take personal finance courses in high school) and generation groups, Millennials and Generation Xers. The dependent variable was financial literacy. The independent variables included individuals who took personal finance courses in high school and those who did not take personal finance courses in high school and generation groups (Millennials and Generation Xers) (Field, 2013). I used secondary data from The Financial Capabilities Study from FINRA Investor Education Foundation to test the research questions and hypotheses (FINRA, 2018).

Definitions

Baby boomers, baby boom generation: A cohort group of individuals who were born between 1946 and 1964 (Twenge et al., 2015).

Cohort generation, cohort: A group of individuals whose lifespans allow individuals to experience real-life events only experienced during a specific period (Strauss & Howe, 1991).

Demographics: Individual characteristics including age, gender, level of income, educational level, and ethnicity (Kertzer, 1983; Rotolo & Wilson, 2004).

Financially literate: Individuals who possess necessary mathematical skills and the ability to make sound financial decisions about financial services; the terms and conditions of loans; and health, automotive, and life insurance policies (van Rooji, Lusardi, & Alessie, 2011b).

Financially illiterate: Individuals who cannot perform simple mathematics and who are unable to distinguish between fixed and variable loans, understand insurance policies, or make sound financial decisions (van Rooji et al., 2011b).

Financial knowledge: The understanding or awareness one has of financial processes and how to solve financial issues through applied financial know-how (Hung, Parker, & Yoong, 2009, p. 4; see also Organisation for Economic Co-operation and Development [OECD], 2005).

Generation theory: Generations experience real-life events that shape their lives, political beliefs, real-life events, and experiences in the past and lay the foundation for future generations (Strauss & Howe, 1991).

Generation X, Gen X: Cohort of individuals born between 1965 and 1981 (Twenge et al., 2015).

Microeconomics: "The study of how household and firms make decisions and how they interact in specific markets" (Mankiw, 2007, p. 27).

The millennial generation, Generation Y, Gen Y: Cohort of individuals born between 1982 and 1999 (Twenge et al., 2015).

Assumptions

Assumptions are notions accepted as accurate or at least plausible by researchers and peers who would read the final research paper (Cooper & Schindler, 2014). Any scholar reading the research would assume that certain aspects of the research were true, given the population that had been chosen, statistical test, research design, or other delimitations (Copper & Schindler, 2014). The primary assumption of the study was the effectiveness of the data collection, precisely, whether the data were collected accurately and whether respondents provided reliable data. I was unable to control the individuals who were chosen from the study without being biased.

I anticipated that secondary data collected by the federal government and other government agencies would be credible and reliable. The meaningfulness of the data was given at face value and concise. I also assumed that the secondary data used for the study were a true representation of the data collected by government agencies. I concluded that all data collected were an accurate representation of information obtained from primary data. Another assumption was that the validity of secondary data would be accurately analyzed. Because personal financial courses are not required by all states, there was also

an assumption that all residents of states that required personal financial courses in their core curricula had taken at least one or more personal financial courses in high school (Simon, 2011).

Scope and Delimitations

The scope of the study was to address the relationship between financial literacy and personal finance courses taken in high school and generation groups (Millennials and Generation Xers). I used data collected at a national level about generation, whether personal financial courses were required, and the impact on financial literacy. The linkage between generations, personal financial courses taken in high school, and the impact on financial literacy rates have not been discussed in literature. Financial literacy in the United States is low, and the U.S. economy is affected by low levels of financial literacy (Bumcrot, Lin, & Lusardi, 2013; Mandell, 2007, 2008). Delimitations included the use of secondary data, a limited sample size based on the amount of government data collected, and the reuse of primary government data. A secondary delimitation is that the sampled recipients were most likely a mix of ethnicities and ages. Because of this, I was unable to control the group of applicants (see Field, 2013).

Limitations

A limitation is a boundary imposed on the study by its nature. A cross-sectional quantitative analysis assumes that there is no interference or manipulation of data for the research (Field, 2013). The reliability and credibility of primary data may pose a limitation because secondary data were, meaning there was no control over the collection of primary data (Simon, 2011). Limiting factors also include lag and political lag that

apply to any data because it takes time to collect, analyze, and publish. A lag factor is the time that it takes to collect and analyze data before publication, and political lag factors affect data that is received by the government, which takes time to be collected and published (Arnold, 2019).

Significance of the Study

Research has indicated that one cause of the Great Recession included a lack of financial literacy among individuals. Families during this time were barely able to stay afloat and many homeowners did not understand the terms of their mortgage notes (Olen, 2014). But financial literacy and financial knowledge skills can enable consumers to reduce debt and live within their means without being reliant on high consumer debt. Consumers must be given knowledge of how to manage their money more effectively so that they can gain financial wealth through savings or investment accounts (Roth, 2013).

Financial literacy has become a national issue (Reed, 2014), which has stimulated the academic study of financial literacy, but there are still many gaps in research. The findings from the current study may fill this gap and advance financial theory by examining the effect of generations and personal finance courses taken in high school on financial literacy. An increase in financial literacy can decrease poor financial decisions and improve Americans' understanding of financial services and products. The U.S. government and the financial community management would benefit the most (NFEC, 2013; Reed, 2014). Other potential benefactors include consumers who make poor financial decisions and those who possess lower financial literacy rates (Bumcrot et al., 2013; Mandell, 2007, 2008).

The economy and global environment are continually changing, so life events and conditions have shaped each generation differently from others. The millennial generation may have a more significant effect on the U.S. economy because they are better educated and more affluent than other generations, but they face more financial debt than previous generations (Howe & Strauss, 2000). Additionally, financial literacy is shaped by generational beliefs, upbringing, and family dynamics. U.S. Millennials learn their financial literacy from their parents, but many Generation X and baby boomer parents do not possess basic math and financial skills to assist students in kindergarten through 12th grade (K-12) with their homework (Howe & Strauss, 2000). Though Millennials can boost the U.S. economy, financial literacy is needed to educate upcoming generations, providing adults with personal financial courses to avoid an economic crisis (Reed, 2014).

Further, those with higher incomes are more financially literate than those with less financial assets (Jere, Mitchell, Soo, & Bravo, 2012). Thus, financial welfare is likely to be more unevenly dispersed in the population, which can lead to giving government security to people who are unequipped for ensuring themselves financially. If those with low levels of financial welfare are a large part of the population, they would have to rely on the government for support. Therefore, understanding the relationships between financial literacy, financial education, and generations may increase financial literacy and lead to positive social change.

Significance to Theory

Financial literacy is a national concern, as low financial literacy rates lead to poor financial decisions as adults and subsequent high personal and household debt (Blue, 2017). Research indicated that two-thirds of the adult population cannot pass the National Capability Financial Literacy Quiz; nearly 43% of past learners who borrowed money to pay for their education are unable to make their payments; the average household possesses over $16,000 of credit card debt with an APR of 16.47%, and 38% of all U.S. household possess credit card debt; and over 33% of all adults do not have any reserves setback for retirement (Pascarella, 2018). Thus, individuals are not prepared financially for the future, as poor fiscal decisions can impact households in obtaining future mortgages and automobile loans in the future. But it will take time for scholars to develop advanced theories for financial literacy (O'Brien, 2013).

Significance to Practice

Implementing policy for financial literacy will be challenging, as not all students are willing to learn, and many consumers believe they possess financial literacy skills (O'Brien, 2013). For example, a study indicated that 97% of millennial individuals believed that they would be more financially well-off than their parents (Howe & Strauss, 2000). But Millennials are not counting on the government or their employers to provide them with money in the long-run when they reach retirement, whereas baby boomers and Generation Xers are dependent on personal savings, social security, and pensions as sources of income for retirement (Kirsch, 2016).

Officials of the U.S. government have projected financial literacy to be a continued problem (Reed, 2014). On April 15, 2014, Senators Jack Reed and Mike Enzi announced a series of measures aimed at increasing financial literacy rates, including designating April as "Financial Literacy Month" (Reed, 2014). Reed and Enzi went on to suggest that financial literacy should be taught throughout their K-12 education and into adulthood and retirement. Reed stressed that consumers must develop good financial habits in the United States to increase employment rates and to alleviate the default rate on national student loans. In May 2014, the U.S. Senate also founded the Senate Financial and Economic Literacy Caucus, a bipartisan program focusing on financial literacy and education. The caucus may lead to positive change and help Americans make the right choices like saving for retirement, buying insurance, or investing (CEE, 2014). Additionally, the Family Self-Sufficiency Act put into place by Senator Roy Blunt provided low-income families with educational tools on how to safeguard their earnings and how to make better financial decisions to increase financial literacy (Reed, 2014). In 2016, the government also allocated 670 million dollars for financial literacy, approximately 550 million dollars of which was allocated to nonprofit groups to use for awareness and advocacy campaigns, products, training, resources, and financial literacy research (NFEC, 2013).

Significance to Social Change

An increase in financial literacy can create positive social change through financial knowledge that will enable U.S. consumers to make better financial choices, which promotes a more prosperous U.S. economy. The government has made efforts to

improve financial literacy and avoid another housing crisis through the enactment of the Financial Literacy to Financial Freedom Act 2017 and the Housing Financial Literacy Act in 2017. The Financial Literacy to Financial Freedom Act mandated postsecondary educational institutions to offer loan counseling to increase financial literacy and make students aware of acquired debt throughout their college careers. The Housing Financial Literacy Act stated that all new first-time homeowners must complete a financial literacy program of financial counseling before the purchase of their new homes. This education for U.S. consumers of financial responsibilities that college students and first-time homebuyers are faced with can improve the U.S. economy by avoiding costs that are passed down to the U.S. government and ultimately taxpayers.

Summary and Transition

Approximately 73 million adults are struggling financially (Board of Governors of the Federal Reserve System, 2017), and over 65% of Americans are financially illiterate and unable to manage their finances (Way, 2014). The purpose of this study was to test the differences in financial literacy between Generation Xers and Millennials. The dependent variable was financial literacy, and the independent variables included individuals who took personal finance courses in high school and those who did not take personal finance courses in high school and generation groups (Millennials and Generations Xers). I conducted this study to fill a gap in the financial literacy literature. I implemented a causal–comparative quantitative design because there was no manipulation of the variables; instead, the variables occur in nature (Field, 2013).

In Chapter 2, I present the results of a review of relevant literature, exploring various definitions of financial literacy as well as self-efficacy and goal-setting theory of motivation of financial literacy by Muizzuddin et al. (2017). I also present the problems that were found with financial literacy as well as the attempts of politicians to remedy these and research on links between financial literacy and economic well-being. The major themes of the current study were financial literacy, Generation X versus the millennial generation, individuals who have taken personal financial courses, and states that require personal financial courses. Chapter 2 also includes a critical examination of these major themes.

Chapter 2: Literature Review

The purpose of this quantitative, nonexperimental, causal–comparative study was to test the self-efficacy theory and goal-setting theory in determining the differences between the two generational groups, Generation Xers and Millennials, regarding financial literacy education during high school years in the United States. Everyday millions of individuals face financial decisions based on their income levels and how they allocate their money, but over 65% of Americans are financially illiterate and unable to manage their finances (Way, 2014). However, higher financial literacy levels result in greater future financial wealth (Lusardi & Mitchell, 2007c). Financial literacy is related to demographics, including age, gender, and income level (Employee Benefit Research Institute, 2017). Men who are highly educated and who earn higher wages than the average wage earner tend to score higher on financial literacy surveys and questionnaires (Employee Benefit Research Institute, 2017). Women, older adults, and individuals of different ethnicities tend to score lower based on their exposure to financial literacy and education levels. Further, millions of individuals in the United States do not understand the terms of home or automobile loans or insurance and financial services products offered at financial institutions (Employee Benefit Research Institute, 2017). In 2008–2009, when the housing crisis negatively affected the U.S. economy, millions of homeowners did not accurately understand the terms of their home loans, especially annual percentage rate loans compared to fixed loans (NFEC, 2013).

The federal government has attempted to increase financial literacy through education, but this has not been successful (NFEC, 2013). Poor financial decisions made

by individuals in the United States have negative repercussions on both households and society. Therefore, the purpose of this quantitative, nonexperimental, causal–comparative study was to determine the differences in financial education and literacy between Generation Xers and Millennials in the United States. I examined secondary data of high school personal financial courses collected by the FINRA Investor Educational Foundation to observe any differences in financial literacy between generation groups (Millennials and Generation Xers). In this chapter, I synthesize literature findings that were used to investigate the gap in the literature on generational differences with personal financial courses taken in high school and financial literacy. At the moment of research, education alone had not been a useful tool (NFEC, 2013).

Literature Search Strategy

I used the following search strategies in the literature review. First, I searched a series of multidisciplinary databases through the Walden University Library, including Academic Search Complete, Business Source Complete, ProQuest Central, ERIC, eBook Collection, Primary Search, PsycARTICLES, and PsycTEST. Key search terms included *generations, generations, generation cohorts, financial literacy, financial decision-making, influences on financial decision-making, Mannheim, Lusardi, Millennials, Generation X,* and *Baby Boomers.* The search covered works published between 1920 and 2019. I included older studies to establish a baseline for generation theory and how it developed over time and include authors who contributed to the idea of generation theory. The literature review did not reveal a connection between generations and

financial literacy. Authors have focused on either generation theory or financial literacy but not both.

Theoretical Foundation

The study's theoretical framework consisted of self-efficacy theory and goal-setting theory of motivation as adopted by Muizzuddin et al. (2017) in the context of financial literacy. The primary reason for using these theories was their relevance to financial literacy. Bandura (1994) suggested that self-efficacy can be broken down into four key constructs: mastery experience, modeling, verbal persuasion, and physiological and affective state. In the context of financial literacy, Muizzuddin et al. discussed how motivational variables, such as demographics, willingness to save, and family wealth, affect financial literacy rates. Motivation enables individuals the desire to acquire knowledge of financial services that also affect financial literacy. In this study, the focus was on goal specificity, which is affected by knowledge that is in turn influenced by self-efficacy. As a result, self-efficacy and goal-setting theory were used together to form the theoretical framework in this study.

Goal-setting theory captures financial motivation as well as the fundamental relationship between goal setting based on knowledge and results. The constructs used in goal-setting theory include goal commitment, goal specificity, and goal acceptance (Muizzuddin et al., 2017). Goal setting consists of a process of financial planning for finance management and financial satisfaction (Jack, Les, & Robert, 2004). Goal setting plays a significant role in the performance and results of individual planning goals or financial targets (Muizzuddin et al., 2017). The fundamental constructs of goal setting

include debt control and individual financial planning and management of wealth (Muizzuddin et al., 2017). First, individuals must assess their wealth and expenses, then determine their financial goals. Next, individuals must make choices based on their financial goals and then evaluate their decisions to further plan to align with these goals. Additionally, the financial planning process includes term-limited and easily measurable financial goals, periodic assessment of financial condition, early financial planning, financial goals that are realistic, and an understanding of the goals as a struggle (Muizzuddin et al., 2017).

From the theoretical framework for this study, individuals must be able to obtain higher financial literacy to make fiscal decisions and be prepared for financial emergencies. But making such decisions depends not only on the actual knowledge of the individuals but their self-efficacy with respect to knowledge. Constructs in goal-setting theory and self-efficacy theory include the management of credit card credit and personal control of funds through confident expertise in one's understanding of financial factors (Muizzuddin et al., 2017). Thus, self-efficacy and goal-setting theory of motivation on financial literacy align with the current research problem, purpose, and research questions, making them appropriate as the theoretical framework.

Multiple researchers have used self-efficacy in the context of financial choices and decision-making, and goal-setting theory has been utilized in exploring financial literacy. For instance, Farrell, Fry, and Risse (2016) suggested that although higher policy effort has been directed toward education to increase financial knowledge of individuals, personal finance management requires more than experience. Farrell et al. (2016) also

mentioned that in addition to actual financial knowledge, an individual needs to have self-belief or assuredness about their knowledge, also known as self-efficacy. In their study on the significance of self-efficacy in financial decisions and behavior among women, they found that in addition to preferences for financial risk, income, and education, self-efficacy was a significant factor in individual financial behavior (Farrell et al., 2016). Danes and Haberman (2007) also explored financial behavior with self-efficacy to measure the differences based on gender among teens, and they found that male participants reinforced the knowledge they had, whereas female participants were more interested in learning unfamiliar topics in finance. Further, Perry and Morris (2005) examined differences in financial behavior based on ethnicity and found that perceived experience influenced the feeling of control individuals felt concerning their financial decisions. Regarding goal-setting theory, Mandell and Klein (2007) noted that the low scores for financial literacy found in young adults even after they were given a course on finance was associated with lower motivation and goal-setting skills. Therefore, the differences between financial literacy behavior can be attributed to motivation and goal setting.

In summary, the literature supports the inclusion of self-efficacy in exploring the differences between financial behavior and knowledge. Additionally, the factors of goal setting and motivation have also been found to be influential regardless of knowledge concerning financial behavior. As a result, the self-efficacy theory and the goal-setting theory were appropriate theories to form the theoretical framework of this study.

Literature Review

Financial Literacy

Financial literacy is the ability to utilize skills and knowledge for the effective management of financial resources that allows financial well-being throughout life (Hung et al., 2009). Further, financial literacy is a broad term in literature, and it is defined by many variables, including a particular type of knowledge, the skills and ability for its application, practical financial activities, financial experiences, and perceived knowledge (President's Advisory Council on Financial Literacy, 2009). Table 1 provides a chronological list of the studies and authors who have addressed financial literacy in their published works (Hung et al., 2009).

Table 1

Financial Literacy, Conceptually Defined

Source	Conceptual definition
FINRA (2003)	Financial *knowledge*
Moore (2003)	"Individuals are considered financially literate if they are competent and can demonstrate they *have used the knowledge* they have learned. Proxies will make it easier to measure financial literacy because it cannot be measured directly. Literacy is obtained through practical *experience* and active *integration of knowledge.* As people become more literate, they become increasingly more financially sophisticated and it is conjectured that this may also mean that an individual may be more competent" (p. 29).
National Council on Economic Education (2005) [a]	"*Familiarity* with basic economic principles, knowledge about the U.S. economy, and *understanding* of some key economic terms" (p. 3).
Mandell (2007)	"The *ability* to evaluate the new and complex financial instruments and *make informed judgments* in both choices of instrument and extent of use that would be in their own best long-run interests" (pp. 163-164).
Lusardi and Mitchell (2007b)	[*Familiarity*] with "the most basic economic concepts needed to make sensible saving and investment decisions" (p. 36).
Lusardi and Tufano (2009)	Debt literacy is a component of financial literacy in which it is define as, "the *ability to make simple decisions* regarding debt contracts, in particular how one *applies basic knowledge* about interest compounding, measured in the context of everyday financial choices" (p. 1).
Schagen (as cited in ANZ Bank, 2008)	"The *ability to make informed judgments* and to take effective decisions regarding the use and management of money" (p. 1).
Lusardi (2008a, 2008b)	*"Knowledge* of basic financial concepts, such as the working of interest compounding, the difference between nominal and real values, and the basics of risk diversification" (p. 2).

Note. Italics identify key definition components.

Financial literacy rates have been declining over the past few years. The national economy is in financial crisis as the financial literacy levels have been dropping since 2009. In 2015, 44% of respondents answered all six questions correctly on the National Financial Capability Quiz, but in 2018, only 40% were able to answer all six quiz questions (FINRA Investor Education Foundation, 2019). Additionally, the number of participants from the National Financial Capability Quiz among Millennials and Generation Xers have been on the decline since the study first began in 2009. For Millennials, in 2009, 51% of participants answered 4 or more quiz questions correctly, followed by 51% in 2012, 50% in 2015, and 48% in 2018. Generation Xers who answered four or more questions correctly were as follows: 45% in 2009; 40% in 2012; 38% in 2015, and 48% in 2018 (FINRA Investor Education Foundation, 2019).

Increasing financial literacy may require education, as individuals who possess more wealth are likely to possess financial education. But according to the FINRA Investor Education Foundation (2019), 36% of participants had received 10 or fewer hours of financial education, whereas 49% of individuals had received more than 10 hours of financial education. Additionally, only 25% were required to take financial education courses in Utah, followed by 24% in Alaska, 21% in Virginia, 12% in New Jersey, and 11% in West Virginia and Delaware (FINRA Investor Education Foundation, 2019).

In addition to issues with financial education, scholars have questioned how to measure financial literacy. According to FINRA Investor Education Foundation (2018), financial literacy is measured by a 6-question quiz, which is derived from a 3-question

quiz, except raw data is not available to the general public (see Appendix A for a list of the 3-question quiz). The three questions were added to the National Longitudinal Survey of Youth for 2007-2008 to cover respondents who were between the ages of 23-28 years of age (Lusardi & Mitchell, 2011b), and these questions were also added to the American Life Panel in 2008 and FINRA Investor Education Foundation (2010). Lusardi and Mitchell (2011) used the 3-question quiz to determine the financial literacy of consumers from around the world in Italy, Russia, Germany, the Netherlands, New Zealand, Sweden, and Japan. Over 1,200 respondents who were over the age of 50 were given the quiz by phone and face-to-face interviews over different time frames to test whether consumers can make sound fiscal decisions. Results showed that urban consumers tend to have higher levels of financial literacy than rural consumers, and an inability to have access to education and developed financial markets plays a role in financial literacy. Consumers from all the countries also suffered from low financial literacy in general (Lusardi & Mitchell, 2007a), which is a concern for retirement planning and can be traced to financial literacy, as consumers around the world are living longer.

To address financial literacy between 1999 to 2008, lobbyists spent $2.7 billion to increase financial literacy (Beck & Garris, 2019). For instance, there has been a lack of financial literacy in public education, but children can be taught valuable lifelong lessons to improve financial literacy in the United States (Beck & Garris, 2019). In 2008, when the housing market collapsed, many consumers did not possess financial literacy to avoid home foreclosures and consumer bankruptcies (Beck & Garris, 2019). Further, in a survey of 1,649 adults from 2013 and 2017, only 27% of Generation Xers stated they

have no investments or savings for retirement, whereas 55% of Millennials believed that they were not saving enough for retirement (Beck & Garris, 2019). Thus, there is a need for personal finance courses and economics to be incorporated into the school-aged curriculum. Many states today do not require personal finance courses and economic courses, and students are graduating from high school without the skills to be financially literate (FINRA Investor Education Foundation, 2018).

Other research has also highlighted the concerns with Millennials having enough financial literacy. George Washington Global Financial Literacy Excellence Center conducted a study on 5,500 Millennials and was focused on financial literacy, which revealed that Millennials are faced with financial distress and irresponsible fiscal choices as aging adults. Eight factors faced by Millennials included: (a) inadequate financial knowledge, (b) unhappy with their current financial situation, (c) concerned about student loans, (d) economic and educational debt crisis, (e) financially fragile, (f) heavy users of alternative financial services, (g) retirement accounts are sacrificed, and (h) unwilling to seek professional financial assistance (PwC, 2019). Based on the literature, there is a need to educate school-aged students further to be financially literate as they graduate high school and are faced with fiscal challenges. However, only 50% of Millennials have a high school diploma, and approximately 28% of Millennials have a college degree or higher, so there are missed opportunities for financial education (PwC, 2019). Millennials who are not financially literate can put a strain on the U.S. national economy because they are unlikely to invest funds in the stock market (PwC, 2019).

Generation Xers may be in more trouble than Millennials (Hill, 2019). Millennials have received a lot of negative attention from scholars in the field, but Generations Xers have more credit card debt than Millennials; $8,235 and $5,808, respectively. Generation Xers are more likely to spend money on non-essential items such as dining out, lottery tickets, and prepared beverages than Millennials; $3,473 and $2,758 (Hill, 2019). Allianz Life investigated 3,000 Americans as part of a study, which entailed savings for retirement (Hill, 2019). Generation Xers and Millennials have the same amount of money saved in reserves, which is alarming because Generation Xers are closer to retirement than Millennials (Hill, 2019). According to Federal Reserve data, Generation Xers possess $152,400 in total debt compared to Millennials whose total debt is $82,000 (Hill, 2019). Only one-third of Generation Xers stated they have enough money in reserves for retirement compared to 45% of Millennials (Hill, 2019). The study suggested that Generation Xers have more debt and are less prepared for retirement compared to Millennials. There are conflicting opinions about financial literacy between generations, but only time will tell once Generation Xers retire.

Manselle (2015) observed the lack of financial literacy found in professionals today was considered a failure by the higher education system. The author examined the propensity for financial literacy tools available to college students and designed a comprehensive financial literacy program that included financial applications of debt management, budgeting, credit use, and saving strategies (Manselle, 2015). The author suggested using a small group of students to test this model with the implementation of a survey to measure prior financial knowledge by scoring the answers on a five-point

Likert scale. The author also predicted most colleges would show a meager percentage of pre-program experience (Manselle, 2015). The design of the model and means to measure any successful outcomes could be based on participant face-to-face interviews and a single focus group. The latter would provide student participant perceptions on the program giving valuable feedback for the evaluation of its successful outcome. While the author's suggested financial literacy program was meant to increase financial awareness, the model was not tested by the author but only intended to provide a tool for future users.

Amoah (2016) examined a sample population (N = 382) of African Americans to determine whether they were knowledgeable on financial decision-making skills. The author used a quantitative, cross-sectional, descriptive research design correlating the dependent variable of financial literacy with the independent variables of inflation rates, stocks and bonds, risk management of funds, and interest rates. Anticipating that African Americans generally have a low level of knowledge in terms of personal finance, the 31-survey questions showed 41% of the participants did have a low level of financial literacy as compared to the national average of 48% based on the Jump-$tart Coalition (Amoah, 2016). However, the author did show a significant increase in the participant's knowledge if they had attended formal financial education (Amoah, 2016).

The determination of whether financial literacy is associated with financial satisfaction has been examined by experts determined to understand the mediation capabilities of such education (Xiao & O'Neill, 2016; Xiao & Porto, 2016). While such literacy in finance has increased in prevalence at many educational institutions over the

past decade, there continues to be less experiential understanding of successful financial stability (Xiao & O'Neill, 2016). Some experts who explored the effects of financial education to determine the elements that provide successful outcomes of financial literacy found behavioral variables to be significant (Lusardi, 2019; Xiao & Porto, 2016). Most published studies found that financial literacy was associated with education and contributed considerably to financial satisfaction (Lusardi, 2019; Xiao & O'Neill, 2016; Xia & Porto, 2016).

Financial literacy and employer investment options. High school financial literacy courses result in increased savings rates among adults (Bayer, Bernheim, & Scholz, 1996; Bernheim & Garrett, 2003). A large part of the debate is how to document and define financial literacy as well as the consideration of various variables (Bernheim, Garrett, & Maki, 2001). Bayer et al. (1996) studied the relationship between education and financial behaviors (i.e., savings rate) using a cross-sectional analysis. The survey used for this study was the KPMG Peat Marwick Retirement Benefits Survey (Bayer et al., 1996, p. 6; see also KPMG Peat Marwick, 1997) that collected data from 1,100 employers in over 200 private and public firms in 1993 and asked the same firms to participate again in 1994. Questionnaires were completed by personally contacting employers and asking a variety of questions related to employee wages, sales, willingness to participate in company retirement plans, and the type of industry of the employer (Bayer et al., 1996).

The results showed that in 1993, 596 employees participated in employer 401(k) offers such as matching percentages invested or company-matched 401(k) offers; in

1994, only 566 employees participated in employer 401(k) offers. The employees of the study were classified either as non-highly paid or highly compensated. To be classified as highly compensated, employees had to make at least $65,000 with 5% employee stock options or earn over $100,000 annually. It is not surprising that approximately 80% of highly compensated employees participated in employer 401(k) offers or any other employer type of investment plans, compared to 60% of non-highly paid employees (Bayer et al., 1996). In 1994, through employer education about retirement plans, the values increased slightly based on the longtime value of 401(k) plans offered by employers to better prepare future retirees for retirement. Concluding remarks from the survey suggested that employer-sponsored seminars, workshops, and education increase the rate of financial literacy, which increases the participation rate of employees to take advantage of employer 401(k) offers and other types of investment plans. It can be concluded then that education, earning, and financial knowledge are strengths that allow future retirees to better prepare for the future.

Bernheim et al. (2001) focused on high school curriculum and savings as precursors for adult savings, financial literacy, and knowledge based on demographics. The findings indicated that state-mandated high school educational programs have too little an effect on financial literacy and saving rates that prove to be problematic (Bernheim et al., 2001). The authors suggested that state-required high school curricula would lead to higher levels of financial knowledge and literacy. Their study, which was conducted in the fall of 1995, included randomly surveying high school participants from all 50 states. A general theme emerged, suggesting a relationship between educational

levels and savings rates. The instrument used for the study was SCF. Residents of a state may not have attended high school in that state, which caused some degree of ambiguity. There were 2,000 participants in the study at a national level, who ranged in age from 30 to 49 years old. The study also administered a qualitative survey via telephone with demographic background and financial knowledge questions (Bernheim et al., 2001).

Another problem with the survey was the fact that the interviews were all conducted by telephone; disclosure of information by phone may not be as accurate as a face-to-face interview or an anonymous questionnaire (Bernheim et al., 2001). Bernheim et al. (2001) found that 15% of the participants took consumer education in high school, and 10% took financial courses that were mandated in the curriculum. The results were very alarming, as these prescribed financial courses were ineffective (Bernheim et al., 2001). High school students who do not possess savings and financial literacy skills will mature into adults who are unable to save money in reserves, participate in employer 401(k) offers, or be financially secure in the future. Solid financial courses in the future through the high school curriculum may be able to prevent poor financial knowledge and literacy as high school students transition into adulthood (Bernheim et al., 2001).

As students became adults and wed, Wolcott and Hughes (1999) suggested that those who struggle financially were more likely to have marital issues based on financial literacy. Widdowson and Hailwood (2007), however, posited that consumer risk and risk aversion play significant roles in financial decision-making; those who have stronger financial backgrounds are more likely to take risks to benefit from a higher rate of returns on their investments. As individuals settle into relationships, Lusardi and Mitchell

(2011b) noted that financial literacy and age are related, concluding that there exists an inverse relationship between financial literacy and age. These researchers found that 75.2% of respondents rated their financial literacy and knowledge as above average, which was not conclusive in the quantitative analysis. Respondents who self-assessed were below the average mean for this study. The authors also suggested that there was a positive relationship between consumers' level of education and financial literacy. Literature suggests there is a U-shaped relationship between financial literacy and different age groups (Allgood & Walstad, 2013; Lusardi and Mitchell, 2011b). Allgood and Walstad (2013) concluded that 28% of respondents ranked themselves as having a great level of financial literacy and a high degree of confidence. Twenty percent of participants who classified themselves as having inadequate financial knowledge had a score of low–low (low levels of financial literacy and low levels of confidence). The scale used to measure financial literacy consisted of low–low, low–high, high–low, and high–high. Allgood and Walstad concluded that approximately one third of consumers possessed a high level of confidence and low financial literacy; consumers who possessed low levels of confidence and higher levels of financial literacy represented only 10% of respondents.

Knoll and Houts (2012) suggested that financial knowledge can be measured by the newness of financial products and consumers' financial literacy. Knoll and Houts reviewed 71 studies in which over 50% of participants were unable to define financial literacy, while 20% of the participants were unable to define financial literacy. Furthermore, Houston (as cited in Knoll & Houts, 2012) suggested that the terms

financial knowledge and *financial literacy* are commonly used as if they mean the same thing, but they measure different attributes. Houston used a questionnaire to measure financial literacy which covered a broad range of topics including credit cards, mortgages, homeowners' and automobile insurance, inflation, retirement savings, comparison shopping, and budgeting (Knoll & Houts, 2012).

Presently, there is no consistent definition of financial literacy and no consensus on how to accurately measure it. According to Knoll and Houts (2012), financial literacy may become more efficiently measured as the field of authors expands on the topic and as more research findings are concluded. Accurately measuring financial literacy would take a variety of determinants and analyses to fully comprehend the shortcomings of consumers who do not possess the financial knowledge necessary to make sound financial decisions (Knoll & Houts, 2012).

A culturally diverse U.S. population provides another characteristic to investigate, which is wage inequality in the workplace and its effect on financial literacy in men and women. Gender gaps exist in wages in the workplace and in financial knowledge. Table 2 depicts the differences between financial literacy and financial knowledge.

Financial literacy by state. Banerjee (2011) conducted a nationwide study to determine whether financial literacy and financial knowledge vary by state. This investigator used the National Financial Capability Study to survey 28,146 participants from all states in the nation, consisting of approximately 500 participants per state, along with 800 military personnel. Table 2 displays the top five states that scored the highest in financial literacy and financial knowledge. are displayed. It is interesting to note that

financial literacy and financial knowledge rates differ among the top five states. Table 3 identifies the bottom five states or the states which scored the lowest in financial literacy and financial knowledge.

Table 2

States that Scored Highest in Financial Literacy and Financial Knowledge

Rank	Financial literacy	Financial knowledge
1	New Hampshire	Alaska
2	Minnesota	Utah
3	South Dakota	Delaware
4	Idaho	Colorado
5	Washington	New Jersey

Table 3

States that Scored Lowest in Financial Literacy and Financial Knowledge

Rank	Financial literacy	Financial knowledge
47	Tennessee	Oklahoma
48	North Carolina	Arkansas
49	Arkansas	Mississippi
50	Mississippi	Kentucky
51	Louisiana	West Virginia

States that have the lowest financial literacy and financial knowledge rates are less wealthy than other states in the nation and wages are considerably lower than that of other populous states (Banerjee, 2011). Banerjee (2011) concluded that the demographics of individual states influence financial literacy and it is up to individual states to foster financial literacy. Financial literacy is a concern because many state residents need

supplemental education and schools need to take a more aggressive approach to financial literacy. States that have higher rates of poverty possess poor financial literacy levels, which reinforces the notion that low income and low education levels result in poor financial behaviors and financial literacy levels. Fox (2013) suggested that individuals learn better through hands-on education and visual aids as opposed to information from a second party. Financial literacy is best assessed through education. School leaders have attempted to address this issue by offering courses to increase financial literacy and knowledge (Fox, 2013). Table 4 depict the modes of learning by participants in the study.

Table 4

Method of Learning and Percentage of Participants in the Study

Method of learning	%
Financial literacy by one-on-one counseling sessions	26
E-mails sent to participants	20
Clinic website	18
Friends	12

Consumer financial literacy decisions. Lusardi and Mitchell (2013) suggested that there is a linkage between human capital and the effects of financial literacy. The study was based on a grant from the TIAA-CREF Institute, which expands upon the body of knowledge related to financial literacy. Lusardi and Mitchell (2013) suggested that many consumers in 2008-2009 had credit cards along with subprime home loan mortgages, which greatly affected consumers' ability to obtain financing. Other sources

of funding—including auto loans, auto titles, payday loans, pawnshops, rent-to-own retailers, and tax refunds—have become very popular but costly ways for consumers to obtain funding (Lusardi & Mitchell, 2013).

Due to the uncertainty of the economy, older adults may become statistics regarding financial products such as contributions and employer-sponsored retirement funds and Social Security. Defined contributions refer to retirement plans in which consumers have invested themselves, including IRAs and mutual funds; employer-sponsored retirement funds include 401(k)s and company stocks (Lusardi & Mitchell, 2013). Consumers who reside in larger communities seem to possess a higher level of financial knowledge and to offer insight programs to assess and promote financial literacy. Currently, policymakers are attempting to improve financial literacy among Americans (Reed, 2014).

Lusardi, Michaud, and Mitchell (2013) determined that approximately 30% of people in the United States can answer three basic financial literacy questions; citizens who reside in countries such as Italy and Germany were most knowledgeable of inflation, and Japan's citizens were more knowledgeable of deflation. According to the authors, 34% of U.S. respondents felt comfortable answering risk questions. Lusardi et al.'s study focused on optimal financial knowledge and wealth inequality was the title of the paper. It is apparent that consumers who lack wealth possess lower levels of financial literacy where people with annual earnings of $34,000 and less tend to have less financial literacy than those who earn annual wages that exceed $34,000 demonstrating there is a positive relationship between wealth and financial literacy (Lusardi et al., 2013).

Lusardi et al. (2013) further suggested that an explicit multiperiod theoretical model for their study was focused on two discussion questions: (a) Financial knowledge, which is assessed over an individual's life cycle, and (b) Wealth inequalities and factors that attributed to financial knowledge (Lusardi et al., 2013). Another question that was indirectly posed was whether there is a positive or inverse relationship between investments in financial knowledge and investment products. A life cycle is essential to note because a life cycle portrays earnings, medical expenditures, and capital market returns. Consumers who can save more money back in reserves are likely to possess higher financial knowledge. A relationship exists between financial products and planning and financial knowledge (Lusardi et al., 2013).

Risk questions are associated with financial knowledge and consumer decisions. Skiba and Tobacman (2011) conducted a study exploring payday loans and credit card liquidity. These researchers concluded that first-time payday loan recipients have at least $1,000 cash on their credit cards. The study conducted by Skiba and Tobacman focused on whether payday loans cause bankruptcy. In Texas, between 2000-2006, over 1,690,309 individuals filed for either Chapter 7 or Chapter 13 bankruptcy (Skiba & Tobacman, 2011). Factors that contributed to so many insolvencies were payday loans and high interest credit cards, which caused short run external shocks that led to consumers living payday-to-payday (Skiba & Tobacman, 2011).

The results of their study concluded that consumers who have less consumer credit card debt and who are not dependent on payday loans are less likely to file bankruptcy and are more likely to experience higher credit scores and available credit

(Skiba & Tobacman, 2011). Consumers lack the financial knowledge of interest rates and consumer credit cards; they would rather take out an expensive payday loan than take out a cash advance off their revolving consumer credit cards (Agarwal, Skiba, & Tobacman, 2009). Although consumers score low on financial literacy questions, they feel confident in their financial decisions (Lusardi & Mitchell, 2013).

Financial literacy and wealth management. Financial literacy in the United States is an issue that is of concern to wealth management professionals (Lusardi & Mitchell, 2014; Way, 2014), in addition to the individuals themselves. In a national survey of 1,488 individuals, only 20% of respondents could perform easy financial calculations (Bumcrot et al., 2013). The general business problem of this study is that wealth management professionals are concerned about a lack of financial literacy in the population (Fernandes, Lynch, & Netemeyer, 2014; French, Leyshon, & Wainwright, 2011; Sprow, 2013). As a result, it is more important to implement economics courses as part of high school curricula and empower individuals to make sound, well informed financial decisions (Reed, 2014).

Financial literacy and debt. Lusardi and Tufano (2009) conducted a study to examine the relationship between financial literacy and debt to gain a better perspective on financial literacy issues on a national level in the United States. Lusardi and Tufano suggested that low levels of debt literacy and personal financial experiences are directly linked, as well as to the amount of debt that individuals and households hold. Many consumers do not understand the terms of loans, whether personal, automobile, or home (Lusardi & Tufano, 2009). Lusardi and Tufano concluded that the following factors

influence financial literacy: wealth, income, debt behavior, financial transactions, and debt literacy.

Lusardi and Tufano (2009) conducted a field study consisting of 1,000 U.S. participants from different demographics using national surveys such as the Survey of Consumers and the Rand American Life Panel. Only 43% of the participants surveyed could perform a simple calculation to determine interest rates on future purchases and savings accounts. Of all respondents, only 35% could make the minimum payments on their credit debt; 20% of respondents said it would take them 15 years or longer to pay off their debts. Another 15% of the respondents said it would take them between 5 and 10 years to be debt free. Nearly 22% of participants did not respond, which indicated a high level of debt with an unknown length of time to pay off.

Financial literacy has become more critical as individuals face complicated financial decisions about retirement, savings, investment portfolios, and credit card awareness. Individuals who work in the fields of finance and economics are in the position to offer sound advice to other individuals regarding financial products (Lusardi & Tufano, 2009). According to Lusardi and Tufano (2009), it is particularly disturbing to know that financial illiteracy is most severe among older adults, females, individuals of different ethnicities, and individuals with low income. Mandell (2007) identified several such discrepancies in financial literacy. It is interesting to note that high school students do not receive the important financial tools that would allow them to make good financial decisions, which has led to mismanagement and misunderstanding of consumer credit cards.

Financial literacy among college students. Bidwell (2015) found that college students at both two-year community colleges and four-year colleges mismanaged their money and displayed financial behaviors that indicated they were not capable of managing simple checking and savings accounts. The instrument used in the study was the EverFi and Higher One survey, which looked at approximately 1,000 community college students and 42,000 U.S. college students who attended 4-year colleges (Bidwell, 2015). Survey questions asked students whether they possessed simple financial knowledge about managing consumer credit cards, savings and checking accounts, and full disclosure of student loans. Bidwell compared students surveyed in 2014 to a survey conducted in 2012, which revealed that students were increasingly mismanaging their finances. These results are alarming, as financial literacy begins early in one's life. The fact that college students are not financially literate may lead them to mismanage funds in the future, putting them at higher risk of defaulting on federal student loans (Bidwell, 2015).

Financial literacy and level of risk. Consumers with low financial literacy tend to accumulate less wealth, are more cautious, and are less willing to take risks. Van Rooji, Lusardi, and Alessie (2011a) suggested that consumers are less likely to wait long periods for investments to pay off than Dohmen, Falk, Huffman, and Sunde (2010) implied. Van Rooji et al. (2011b) noted that the topic of financial literacy is of great importance, and consumers with high financial literacy are more likely to invest their funds and diversify their portfolios. Consumers who possess a wealth of financial

knowledge can make well-informed decisions based on learning through financial education.

Dohmen et al. (2010) conducted a study with 1,000 randomly chosen individuals to examine the relationship between (a) risk aversion and impatience, and (b) cognitive ability. In order to measure risk aversion and impatience, the authors asked the participants to share their thoughts about winning a large amount of money in a lottery: Would they have the patience to wait 1 year to receive their first payment, or would they request a lump sum almost immediately? Dohmen et al. used an IQ test to measure cognitive ability and asked additional questions about demographics and personality characteristics. They used a qualitative approach as they conducted two experiments. The first experiment consisted of a personal interview assisted by a computer that was implemented on a laptop (Dohmen et al., 2010). The second part of the experiment consisted of individuals who were paid to participate in the interview either at a discounted rate or a lottery-type system. Approximately 1,012 participants in Germany over the age of 17 took part in the study. Dohmen et al. concluded that participants began to become impatient and risk-averse, as opposed to taking their time to complete the computer-assisted questionnaire. Participants who took part in the first experiment were risk-averse and impatient and scored lower regarding financial cognition; other participants who took their time to complete the questionnaire were more apt to take on risk and to do so more patiently.

Dohmen et al. (2010) aimed to demonstrate the relationship between impatience and risk aversion through a cognitive lens. Participants who took their time and scored

higher on computer-assisted questionnaires had higher levels of education and income; most of the participants who scored higher from a cognitive point of view were men (Dohmen et al., 2010). In general, men who possessed higher levels of income and education possessed more elevated levels of patience and cognitive ability and were willing to take on a higher level of risk compared to other demographics, who scored lower on the German Socio-Economic Panel (Dohman et al., 2010).

International financial literacy. According to van Rooji et al. (2011a), a theme that emerged was the need for higher educational standards and for employers to educate employees of financial literacy and financial products offered by employers, such as saving plans, 401ks, and stock options. The authors found a positive relationship between financial literacy and wealth management. Consumers who possessed a high level of financial literacy were more likely to make investments in the stock market and to use their financial knowledge to minimize risks. The authors noted that over their life cycle, consumers accumulate wealth from earnings, but their accumulation of wealth diminishes once they retire. The study of financial literacy behaviors considers how consumers manage their marginal utility, which is defined as a change in total utility divided by a change in output. This utility provides a means for consumers to live their lives by having the available funds to react to changes in the economy. The authors also suggested that many consumers do not possess financial literacy, including the ability to make simple math calculations, nor do they understand the need to save for retirement. Older adults who possess higher levels of financial literacy and plan for retirement are more likely to take responsibility for their finances as they continue to age (van Rooji et al., 2011b).

Consumers who possess high levels of financial literacy are better equipped to collect pertinent information from a variety of sources to allow them to accumulate wealth, develop high levels of managing money, and accumulate personal savings (van Rooji et al., 2011b).

Van Rooji et al. (2011a) adopted the De Nederlandsche Bank and Household Survey, in Dutch, in which 1,091 households participated. Respondents ranged in age from 22 to 90 years, with a median age of 50.8 years; 18.4% were retired, and approximately 56.8% were married and lived with a spouse or a domestic partner. The survey revealed a positive relationship between wealth (assets) and financial literacy. The authors concluded that there was a significant relationship between net worth and financial literacy.

Lusardi and Mitchell (2013) suggested the relationship between age and financial literacy resembles the shape of a bell curve; as older adults continue to age their financial literacy begins to diminish. Kast, Meier, and Pomeranz (as cited in Lusardi & Mitchell, 2013) conducted a study in Chile, finding that the use of technology such as text messaging and peer self-help groups had led to an increase in savings among older adults. The authors cited that older adults respond to visual aids and verbal communications at a simple level to encourage their level of financial literacy and financial knowledge. Financial decisions made by older adults become more complicated due to investments such as stocks and bonds, as well as the inner workings of the economy regarding inflation and interest rates. Researchers have not yet closed the gap between education,

financial literacy, and human capital, but increasing numbers of scholars are approaching this issue (Lusardi & Mitchell, 2013).

In conclusion, financial literacy is a global concern, as many consumers do not understand interest rates on consumer credit cards, finance fees, or other means to acquire capital. Another issue of concern is the financial cost to inform the U.S. population on financial literacy and to properly employ a cost-effective means to educate the U.S. population on ways to build financial literacy (Lusardi & Mitchell, 2013). Sarigül (2014) conducted a study that surveyed 1,127 participants from three universities. The purpose of the study was to measure the relationship between demographics and financial literacy. The conclusions displayed a significant impact on student characteristics and financial literacy. The questions asked in the survey included the following: gender; the field of study; type of student's residence; class rank; employment status; parents' educational levels, and whether the student was a business or economics major (Sarigül, 2014). Furthermore, students were asked to answer 22 multiple choice questions to test their financial literacy.

Financial Knowledge

Lusardi and Mitchell (2014) identified three objectives that are associated with financial knowledge: (a) the ability to perform simple math calculations, which are related to interest rates, (b) the ability to understand inflation, and (c) the ability to understand risk diversification. Furthermore, Houston (as cited in Knoll & Houts, 2012) suggested that researchers use the terms *financial literacy* and *financial knowledge* as if they mean the same thing; however, they measure different attributes. Houston used a

questionnaire to measure financial literacy; the questions covered a broad range of topics including credit cards, mortgages, homeowners' and automobile insurance, inflation, retirement savings, comparison shopping, and budgeting (Knoll & Houts, 2012). Currently, there is no definitive measurement to accurately define financial literacy. According to Knoll and Houts (2012), financial literacy is still relatively new in research and scholars are expanding their wealth of knowledge of financial literacy as more research and findings are noted in research. To accurately measure financial literacy would take a variety of determinants and analyses to fully comprehend the shortcomings of consumers who do not possess the financial knowledge necessary to make sound financial decisions (Knoll & Houts, 2012).

Financial Education

An issue that arises in the context of financial education is the way that researchers define it; there is a high degree of variation in how researchers have approached and studied this concept. Bayer et al. (1996) and Bernheim and Garrett (2003) suggested that employees who received financial management education courses increased their participation in savings options offered by employers. Financial education is the process by which people improve their understanding of financial concepts, services, and products and become empowered to make informed choices, avoid pitfalls, ask for help, and improve their long-term financial well-being (Hung et al., 2009; OECD, 2005).

According to OECD (2016), household savings rates have decreased substantially from 8.5% in 1999, compared to the 4.48% in 2016, predicted in the United States.

Higher private spending and consumption have led to lower household savings rates (OECD, 2016). Low-interest rates on savings accounts have made investment less attractive (Blackstone & Trolanovski, 2013).

Kasperkevic (2016) suggested that members of Generation Y – individuals whose ages range from 20 to 30 – are financially vulnerable to economic threats. When the markets turned, many individuals were entering the labor force when it was tight. Although the market has begun to recover, young adults are still struggling due to the rising costs of higher education and federal government loans that they have taken to pay for their post-secondary education (Kasperkevic, 2016). Citizens Financial Group (2016) found that college graduates who are under the age of 35 are spending approximately 18% of their total income on the repayment of their student loans; thus, the savings rate in the United States is only 4% (Citizens Financial Group, 2016). Students must set aside 10-15% of their total income by the age of 25 to maintain their current standard of living as they enter their retirement years; sadly, over two thirds of the workforce are worried that they will not have enough money for retirement (HSBC Global Report, 2016). These data indicated that financial well-being is important to participants in the labor force and among industrialized countries from all over the world (HSBC Global Report, 2016).

According to Brüggen, Hogreve, Holmlund, Kabadayi, and Löfgren (2017), there is a need to increase knowledge, as a few individuals suffering from financial hardships soon become a societal problem; therefore, the need for financial education is vital to the financial well-being of the economy. Lack of financial literacy leads to a financial issue in the future that will have negative repercussions on society as well as consumers.

College students (i.e., millennial generation) are not financially literate when borrowing money for higher education or trade certification, as the benefits do not outweigh the costs. During the last recession that took place from 2008-2009, Generation X faced many financial challenges in the United States, including losing their homes, retirement savings, and investments. There is a negative relationship between health spending and financial education; for example, the number one reason why consumers file bankruptcy is due to high medical costs that individuals cannot afford to pay (Brüggen et al., 2017).

School-Aged Literacy Outcomes

Hastings et al. (2012) emphasized financial education and financial literature in the context of problems and solutions on a grand scale; however, financial literacy is not the antidote to poor financial decisions. U.S. policy initiatives in the 1950s and 1960s began to mandate that the K-12 curriculum include economics and topics in consumer education to increase financial literacy (Hastings et al., 2012). The lack of financial literacy is problematic based on financial decisions made by individuals, including personal loans, home mortgages, insurance policies, and consumer credit cards, to name a few in which individuals are not optimizing their well-being and welfare (Hastings et al., 2012). The relationship between financial outcomes and financial literacy was investigated through prior literature relating to both factors that have gained public concern (Hastings et al., 2012). The tool used as a measurement for the Jump$tart Coalition for Personal Financial Literacy study was a survey that was officially adopted in 1997 (Hastings et al., 2012). Before the Jump$tart Survey, which is used for school-aged children in grades K–12, the Consumer Knowledge Survey was used. The

Consumer Knowledge Survey focused on questions about personal finances, bank information, consumer credit cards, insurance policies, and household expenditures such as food, transportation, and shelter (Hastings et al., 2012). Individuals who assume credible roles in finance – including financial advisors, employers, and even close family members – may be able to self-correct for financial literacy inefficiencies through education of financial products and financial planning.

Federal Financial Aid and Student Debt

Federal student loan debt is becoming an increasing concern in the United States. Currently, students owe $1.2 trillion in outstanding student loan debt, with 43% of that total accumulated by graduate and professional students (Delisle, 2014; Steele & Anderson, 2016). Due to this issue of high federal student loan debt, there are attempts to encourage financial educational institutions to be accountable for student loan debt to decrease our county's overall default rate on federal student loans (Protect Student Borrowers Act, 2015; Steele & Anderson, 2016; Student Protection and Success Act, 2015).

Graduate students and professional students appear to be hit the hardest when attempting to payback their undergraduate loans. On top of paying back their undergraduate student loans, graduate and professional students face raising a family and paying for a mortgage, which leads to the financial distress of graduate and professional students (Steele & Anderson, 2016). The millennial generation appears to be overly confident in their financial literacy and financial knowledge; women, people of color, low-income students, and single mother have the highest risk of accumulating student

loan debt that they are unable to pay back (Belasco, Trivette, & Webber, 2014; Kim & Ottis, 2010; Scheresberg, Lusardi, & Yakoboski, 2015).

According to Scheresberg, Lusardi, and Yakoboski (2014), the millennial generation has low financial literacy, even though they are highly educated. Those in the millennial generation born between the 1980s and 2000s lack financial literacy skills on short-term loans, automobile loans, borrowing from financial accounts, personal financial management, over usage of credit cards, rent-to-own, auto-title loans, and tax refunds. The authors suggested that individuals of the millennial generation will benefit significantly from debt management solutions. Individuals of the millennial generation are faced with a surmounting amount of college debt. Approximately 25% of their income goes towards repayment of college loans, which accounts for 20% of all outstanding federal student loans, or about $2.4 billion.

Between 2013 and 2014 graduate students accounted for 61% of all student loans representing approximately $34 billion (Steele & Anderson, 2016). Graduate and professional students are more likely to display poor financial literacy skills as they will borrow federal government funds in excess to meet their own needs. Over-borrowing of graduate and professional students is dependent on the type of degree and level of education; Generation X and Millennials both face the issue of student loan debt, as many adult learners are returning to school to gain lucrative employment in the labor force (Steele & Anderson, 2016).

Consumer Financial Distress

Hastings et al. (2012) concluded that individuals tend to perform very poorly on financial literacy assessments. These researchers' suboptimal findings suggested a need for policy-based financial literacy education and recommended further control studies to investigate the need for financial literacy research. Another component would be for the government to fund programs to increase financial literacy to avoid the financial distress experienced by millions of individuals due to poor financial knowledge and financial literacy (Hastings et al., 2012). Financial literacy becomes a problem when consumers possess little financial knowledge and are unable to make sound fiscal decisions about car and mortgage loans, 401(k)s, money market accounts, and other types of investments to maximize their wealth potential and save for the latter years of life. Currently, it is not clear whether the public policy needs changes to increase financial literacy to develop more desirable financial outcomes (Hastings et al., 2012).

Measurement of Household Wealth

Another problem with measuring household wealth is the fact that many households tend to exaggerate the monetary value of assets, both liquid and nonliquid. Any measure of nominal household wealth includes asking families what type of investment would be suitable and whether households are willing to undertake any amount of risk or if they are risk-averse (Campbell, 2006). Campbell used the Survey of Consumer Finances (SCF), a useful measurement tool to assess financial wealth. The problem with using the SCF as a measurement tool is the fact that it does not measure the

diversification of household wealth. Overall, Campbell noted three significant findings regarding the factors that lead to poor household finances:

1. Individuals who are poor and have little education are more likely to make poor household financial decisions than individuals who possess higher levels of education and earning, who are expected to make correct household financial decisions.

2. Financial mistakes may be the result of others. Individuals who have no experience with investments are likely to avoid risk, in contrast to wealthier and more knowledgeable investors who are willing to take on risk for a higher return.

3. Households may make investment mistakes based on the types of investments, options, and ability to seek out new ventures that may piggy-back off another kind of investment (Campbell, 2006).

An increasingly prevalent theme across the United States is the general concern about the financial security of Americans who do not possess the skills and knowledge to withstand financial downturns in the economy. Consumers should be required to take charge of their finances and prepare for two of life's most important financial decisions: (a) purchasing a new home, and (b) saving for retirement (Hung et al., 2009). Hung et al. (2009) suggested that most of the U.S. population does not possess adequate levels of financial literacy, which leads to poor financial judgments, and, at times, adverse effects on the U.S. economy. Many researchers have explored financial literacy, but there is a

gap in the literature addressing the relationships between behavior, literacy, and education (Hung et al., 2009). Hung et al. concluded that financial behaviors and literacy rates result in negative externalities in the economy that may compromise the U.S. financial and housing industries. Financial literacy seems to follow market conditions in which consumers should take advantage of monetary and fiscal expansionary policies. In history, the subprime loan crisis resulted from the exploitation of poor financial literacy.

Financial Literacy Varies Among Countries

According to Grohmann and Menkhoff (2015), parents, school, social experiences, and experiences with finances shape children's financial literacy behaviors. Grohmann and Menkhoff based the effects of childhood financial literacy experience on parents' educational background, financial education passed on to children by parents, whether a child's school has a course in economics, quality of curriculum and education, and childhood life experiences with money. Grohmann and Menkhoff demonstrated how financial literacy rates vary between countries, conducting this study in Bangkok at Mahidol University with 530 middle-class respondents ranging in age from 18 to 60 years old. The results were unremarkable; Bangkok scored higher than the United States on a simple interest rate question, and Germany has a higher overall financial literacy rate than the United States (Grohmann & Menkhoff, 2015).

Financial literacy variables for this study consisted of parents, demographic factors, diversification of portfolios, and how schools can improve financial literacy among students (Grohmann & Menkhoff, 2015). Of the respondents of this study, those who possessed an understanding of both investments and diversification of portfolios

experienced an increase of 12% regarding financial literacy. Participants who had an understanding of assets and diversification of assets experienced a 13% increase in financial literacy (Grohmann & Menkhoff, 2015). Grohmann and Menkhoff (2015) concluded that children who are encouraged at a young age to save and conceptually understand the value of money are more likely to save or invest as they become adults. According to these authors, financial literacy begins at home and is fostered through the school curriculum.

Grohmann and Menkhoff (2015) suggested the relationship and factors that affect financial behavior and its influence on financial literacy. Grohmann and Menkhoff indicated that the impact of one's lineage has a significant effect on one's level of financial literacy and financial behavior. Further analysis is needed to determine the financial literacy programs (Grohmann & Menkhoff, 2015) targeting consumers who do not possess the financial knowledge to make sound financial decisions.

Financial Literacy and Growing Scholar Concern

Paramonovs and Ijevleva (2015) suggested that financial literacy over the past two decades has drawn the awareness of scholars due to the state of the economy and poor financial decisions made by consumers; financial institutions are also liable for the lack of financial literacy and money lent to consumers and firms. Atkinson and Messy (2012) defined financial literacy as consumers' behaviors, knowledge, and attitudes toward financial decisions that they utilize to sustain their overall welfare. Furthermore, Paramonovs and Ijevleva (2015) implied that there are numerous modes in which individuals may be educated to eliminate the gaps which exist between individuals'

financial literacy. Marketing techniques include (a) sales promotion, (b) experience and events, (c) interactive marketing, (d) direct marketing, (e) personal selling, (f) public relations, and (g) advertising (Paramonovs & Ijevleva, 2015). The methodology that Paramonovs and Ijevleva used for the study was quantitative and consisted of residents of Riga, Latvia, categorized by gender, age, education, and employment status. Paramonovs and Ijevleva used a survey questionnaire that the OECD administered, which included seven surveys by experts focused on home loan lending and lack of financial literacy. As the results showed, those consumers who possess a higher level of education and those who are employed are more apt to make better home mortgage lending decisions and possess a higher level of financial literacy. The survey used by the author from OECD (2009) used a stratified sampling group, which consisted of 450 participants. It was revealed that only 50% of the respondents could correctly answer questions regarding home loan financing and financial literacy. Paramonovs and Ijevleva concluded that many consumers do not possess the aptitude to make well-informed decisions, as their level of financial literacy is very weak.

International Financial Literacy Cases

Standard & Poor's (S&P's) Global Financial Literacy Survey (FinLit Survey) collected data from more than 140 countries and interviewed more than 150,000 adult participants who were selected randomly for the study in 2014. George Washington University, the World Bank, and Gallup analyzed the survey results. Astonishingly, nearly one-third of the world's population is financially illiterate (McGrath, 2015); approximately 3.5 billion people across the world cannot perform simple math

calculations and are financially illiterate. McGrath (2015) also noted that financial illiteracy is very high in developing countries.

Carmel, Carmel, Leiser, and Spivak (2015) conducted a study in Israel that suggested there is a conflict of interest between insurance agents and consumers based on their level of financial literacy. Consumers lack financial literacy and are vulnerable as they do not possess the knowledge to make well-informed decisions about pensions and long-term savings. Insurance agents have been known to favor one consumer over another. Consumers who have insufficient financial literacy cannot comprehend disclosure agreements, which leads to poor perceptions of how consumers view insurance products. Consumers who are well-educated, well-groomed, and attractive seem to possess higher financial literacy levels compared to consumers who lack education, dress poorly, and have improper daily hygiene. The latter is less likely to maintain a high level of financial literacy; also, professionals do not take them seriously, as they are likely to make poor financial decisions (Engelmann, Capra, Noussair, & Berns, 2009; Sah, Moore, & MacCoun, 2013).

Carmel et al. (2015) conducted two experiments to evaluate the relationship between customer service and financial literacy. Experiment 1 consisted of a participant pool of 236 students at a large university in Israel. The average age of the 236 students who took part in this experiment was 24 years. The authors took a quantitative approach and conducted a two-way ANOVA. Carmel et al. asked six questions to measure participants' knowledge of executive insurance and pension funds by using fictitious savings products. The results of the study indicated that 118 of the participants could

answer four out of six questions accurately, while 145 of the participants could answer fewer than four questions correctly. Regardless of financial literacy, all participants responded to the recommendations of an agent's advice.

The second experiment that Carmel et al. (2015) conducted consisted of a participant group of 265 undergraduate students attending a large university in Israel. The mean age of the participants was 23.9 years. Carmel et al. aimed to measure the relationship between financial literacy and knowledge of financial tools; students had no prior experience of these services. It asked participants in Experiment 2 to watch video clips on savings management and disclosures. Carmel et al. conducted a two-way ANOVA for Experiment 2. Of all the participants studied, only 57 could answer four or more questions correctly and possessed a high level of financial literacy; besides, 71 group members scored less than four, revealing that these individuals possessed weak financial literacy skills.

Based on Experiment 1, Carmel et al. (2015) concluded that participants chose a plan for the participants using arbitrary savings and investing in either executive insurance or pension funds, the participants chose a plan, which was recommended by an agent. When asked to spend the same amount of money between two financial products of value, participants who possessed a high level of financial literacy and who had received a disclosure statement rejected the product that cost more. Those who possessed a low level of financial literacy, a disclosure statement was not provided to enable them to choose the product of value recommended by the agent, even if it was costlier, due to their lack of financial literacy (Carmel et al., 2015). The second experiment concluded

with similar results; participants with more financial literacy could make better financial decisions, which conflicted with the interest of agents. Participants with a lower degree of financial literacy agreed with the agent's advice and were not able to make well-informed decisions (Carmel et al., 2015).

According to Van Campenhout (2015), financial literacy, especially among adolescents, is a widespread concern. Lusardi, Mitchell, and Curto (2010) and Van Campenhout made two critical observations:

1. Adolescents who possess low levels of financial literacy tend to develop low levels of financial literacy as adults.
2. Adolescents faced with complicated financial problems are more likely to make the wrong decisions, which in turn cause costly mistakes as adults.

Per Van Campenhout (2015), there is a need for financial literacy assessment at an early age by implementing financial literacy in school curricula. There is a great need for youth to obtain knowledge, attitudes, and behaviors to support financial literacy. There is a significant need for children to possess financial literacy, as the global economy is rapidly growing along with advanced technology and externalities, which exist in macro and global economies.

Bruhn, Leao, Legovini, Marchetti, and Zia (2013) investigated more than 200,000 students in 868 Brazilian high schools. The instrument of this study was the National Strategy for Financial Education (ENEF). Over three semesters, they focused on 72 case analysis studies of the existing school curriculum (Bruhn et al., 2013). Van Campenhout

(2015) tied this study into his article, suggesting that parents who possessed higher levels of financial literacy taught their children the value of money, thus, their children had a higher savings rate than children of parents who possessed lower levels of financial literacy. Parents who engaged in financial literacy workshops perceived more benefits than parents who did not engage in workshops (Van Campenhout, 2015).

Children gain financial literacy through take-home school activities, discussing financial matters with parents at home, and partaking in school activities such as mock banking and savings programs (Consumer Financial Protection Bureau [CFPB], 2013). In 2013, the CFPB recommended that financial education in grades K–12 should be embedded. Children between the ages of 6 and 12 seem to be the most impressionable as they develop linguistic, social, and cognitive skills related to finances (Center for Financial Security, 2012; Van Campenhout, 2015). Throughout a child's life, parents play a pivotal role in teaching financial management through, (a) modes of learning sources, including, parents, friends, media, and schools (Sohn, Joo, Grable, Lee, & Kim, 2012); (b) environmental inputs such as values, beliefs, and morals; (c) interacting with children through various financial instruments; and (d) displaying knowledge and information about financial products to spark financial interests among children.

Currently, additional emphasis on long-run outcomes is the focal point as opposed to focusing on financial literacy in the short run for youth. The financial decisions, knowledge, and behaviors exhibited by parents shape the financial literacy of youth throughout their entire adulthood (Van Campenhout, 2015). Fernandes et al. (2014) contradicted Van Campenhout (2015), suggesting further focus in the long run and less

financial content in the short run; youth financial literacy should focus on financial behaviors and attitudes as they relate to financial decisions. Financial literacy includes financial knowledge, behaviors, and attitudes which youth can retrieve and apply in a nonbiased and nonobjective way rather than financial literacy content (Altman, 2012; Shiller, 2010; Van Campenhout & Weyts, 2012).

Self-efficacy comes into play, as youth may not have the delayed gratification skills to save for retirement. Youth who grow up in poverty may possess negative self-efficacy based on their upbringing and environment (Van Campenhout, 2015). Bruhn et al. (2013) agreed with Van Campenhout (2015) that parents play vital roles in the savings rates among youth through educational workshops. Van Campenhout noted that children of parents who attended financial workshops increased savings by a rate of 2.5% when compared to children of parents who did not participate in workshops. Financial workshops reiterate critical financial concepts such as knowledge, attitude, behaviors, and money management. Parent involvement serves two essential purposes: (a) conveying to children self-efficacy and gratification of behaviors toward financial socialization, and (b) displaying an interest in their children's knowledge of finance, which may spark an interest in financial socialization that will last them through adulthood (Van Campenhout, 2015).

There is a link between parental knowledge and an increase in financial knowledge of youth. Parents who participate in financial educational courses are more likely to have children who can manage money effectively as adults. Parents who are involved in their children's financial courses in a classroom setting are more likely to

make better informed financial decisions (Loke, 2015; OECD, 2013; Van Campenhout, 2015). Scholars have revealed that parents' financial literacy and that of their children are related, but at the same time, the literature is premature. The conclusion of the study revealed that youth have deficient levels of financial literacy, which has negative repercussions in the long run. These youth are more likely to experience negative financial consequences such as foreclosures, bankruptcies, and credit card debt. Furthermore, parents who attend financial literacy workshops seem to gain valuable financial tools to pass on to their children (Van Campenhout, 2015).

In the eyes of their children, parents are the breadwinners and mentors. It is important for parents to demonstrate financial literacy by making wise decisions and controlling the amount of debt. Youth seem to gain knowledge from inside the home, immediate environment, and educational settings. Teenagers and young adults have the highest level of unemployment by age; therefore, youth must understand the consequences of overspending, misuse of credit cards, and automobile repossession. In April 2016, the U.S. unemployment rate for youth was 10.8%, while the national unemployment rate was 5% (Statista, 2016; Van Campenhout, 2015). McGrath (2015) highlighted the fact that approximately 43% of the U.S. population is illiterate. The U.S. literacy rate falls below Norway, Denmark, Sweden, Israel, Canada, the United Kingdom, the Netherlands, Germany, Australia, and Finland, which is of great concern.

Development of Financial Literacy

Financial literacy entails the financial behaviors of consumers on a day-to-day basis in their individual daily lives. Per Asaad (2015), consumers must possess

confidence and knowledge to make financial decisions that affect their lives both in the short and in the long run. Asaad focused on the relationship between financial literacy and financial behavior. By using the National Financial Capability Study to measure financial literacy questions, I intended to use the same measurement to examine the relationship between generations and financial literacy. Asaad administered this test to determine how many consumers display overconfidence with financial decisions, which may not be rationalized by financial knowledge.

Mandell (2008) suggested that consumers make financial decisions based on their self-interest both in the short run and the in long run based on their personal financial literacy. At a remedial level, financial literacy describes a consumer's level of competency to manage his or her personal finances. To test whether consumers possess the financial knowledge and are overconfident in their financial experience. Asaad (2015) sought to measure the money skills of Americans by sampling 25,509 online respondents. This author sampled respondents from 50 states to be able to gather demographics that varies by state, such as ethnicity, educational level, marital status, and gender; unfortunately, only 14% of the respondents could correctly answer all the questions. The measurement tool that I used for this study was the National Financial Capability Study.

Asaad (2015) concluded that there is a significant correlation between consumers based on age, income level, education, marital status, and gender. Consumers who possess high levels of financial literacy and high levels of confidence are likely to engage in risky financial investments and are more likely to make well-informed (i.e., good) choices. Consumers who possess low levels of financial literacy and low levels of

confidence are less likely to engage in risky investments and are more likely to make bad financial decisions.

Beccheti, Caizza, and Coviello (2013) suggested several methods to improve financial literacy. It is suggested that school-age children should learn about the usefulness of financial knowledge and financial literacy early in life. Training and educating youth in financial education and awareness implies children, teenagers, and young adults will be able to effectively manage their finances along with the financial knowledge of different types of financial tools such as money market accounts, savings and checking accounts, deposit certificates, retirement funds, and stocks purchased and sold. Beccheti et al. defined financial literacy as the ability of consumers to grasp financial ideas and concepts and apply them through action.

Household debt has reached an all-time high (Beccheti et al., 2013). At the current time, the issue of financial literacy has grown into a global problem where consumers lack adequate financial literacy. Financial literacy is a lifetime learning process, and each consumer manages his or her money differently; for example, some consumers like to splurge, while other consumers are very frugal with their money to achieve more considerable savings (Beccheti et al., 2013).

Modern young adults are faced with a complexity of financial issues, both personally and nationally. When young adults leave their parents' houses or guardians' houses, they must make many decisions that include, insurance, debt, student loans, automobile loans, and home mortgages (Tang & Peter, 2015). Montoya and Scott (2013) suggested that financial decisions are made early on in life and that the decisions made as

young adults have lasting effects. When young adults spread their wings and are officially independent of their families or guardians, it is very critical that young adults possess basic financial knowledge and education in finance and economics (Shim, Serido, Bosch, & Tang, 2013). To increase financial literacy among youth and young adults, there needs to be a process in which youth can acquire financial knowledge (Tang & Peter, 2015).

Government Management Intervention

Tang and Peter (2015) suggested that the government should step in to aid in the poor literacy scores among youth and to focus the attention of parents or guardians and their role in financial knowledge. A general educational role should focus on the concurrent roles of financial knowledge, financial education, and financial experience (Tang & Peter, 2015). There is an emphasis placed on examining the current educational system and establishing steps to further examine how financial knowledge leads to positive social change.

Generation Theory

Generation location relates to biological factors based on human existence that include the range of time from birth to death (Mannheim, 1952). The historical aspects and processes begin to give rise to generations. Biological phenomena relate to human life spans, spirituality, and mental status, which suggest changes as one ages. Morphological aspects and sociological factors have interrelationships throughout events that constantly change throughout history. Sociological factors are further emphasized on interactions between individuals during a period. There is a positive association between

biological and sociological factors, which gives shape to the different generations (Kertzer, 1983). A generational theory was a basis for other authors to continue the works of Mannheim (1952), who has contributed to the term *generation* in a cohort sense, which reflects the current research of Kertzer (1983). Mannheim (1952) theorized the life cycle from birth to death. In the past, it has been very challenging to define generational theory due to the theory of Western sociology, social order, and parent-child relationships (Kertzer, 1983). Kertzer (1983) provided a working definition of generation theory, including generation as a cohort; generation as kinship descent; generation of life stages; and generation of a past life as altering events. A cohort refers to the succession of one's life cycle. Kertzer noted that there is a variance between the life cycle and cohort; the term *maturational* does not explain the difference between groups, but generation does align with groups.

Intergenerational studies have revealed that there is a correlation between historical times experienced during a period and the age of the individual (Kertzer, 1983). Kertzer (1983) continued that there is a need for further research to examine generations as they relate to age. A central theme for society is to draw attention to generations and how age factors account for the processes and structure of society (Kertzer, 1983).

Rotolo and Wilson (2004) concluded that birth cohorts have different views on civic engagement. These researchers reviewed the idea that younger women are not focusing on having family in their 20s; instead, they are focused on their careers, and they are waiting until later in life to have children. In contrast, older cohorts are more likely to engage in volunteer work, as they have grown families and they desire a need to

be useful and to help others. Morals and values come into play with thinking of volunteer work and civic engagement. The relevance of the study is that women in their 20s and 30s are more likely to be educated compare to cohorts above them. The research conducted by Rotolo and Wilson contained the following characteristics: structural contingencies of civic engagement, education and volunteerism, work time and employment, and chosen occupations.

Rotolo and Wilson (2004) conducted an interview in 1968 that surveyed 5,159 women between the ages of 14 and 24. The survey used for this study was the National Longitudinal Survey of Labor Market Experience (Rotolo & Wilson, 2004). Women in the 1970s were more apt to volunteer as opposed to participating in the labor market; in contrast, members of Generation X are less likely to volunteer and more likely to be engaged as active participants in the labor force. Using the same survey, the same sample size of 6,337 women surveyed, and the number of mature women participants was 3,141. Also, included in the study were 3,196 young women; the researchers concluded that women who ranged in age between 37 and 48 in 1991 were actively engaged in the labor force (Rotolo & Wilson, 2004).

The study of volunteer work and women cohorts is dependent on age (generation), education, ethnicity, education, occupations, and work time, according to Rotolo and Wilson (2004). Rotolo and Wilson concluded that younger women were more likely to volunteer when compared to mature women, who are busy raising families and participating in the workforce. Further analyses revealed that members of Generation X (Robinson, 2015; Rotolo & Wilson, 2004) are more likely to volunteer at school and

church-related events, whereas younger (i.e., millennial) women are more likely to engage in civic groups and organizations based on their occupations within their communities.

Gender Gaps

Gender, age, ethnicity, income, and educational levels all contribute to an individual's financial literacy levels. Hung et al. (2009) concluded that men who possess a bachelor's degree or higher earn higher wages have higher financial literacy compared to others based on gender, income, and educational levels. Men historically earn higher wages than women and possess higher education and income levels will score higher on financial literacy surveys than women (Dohmen et al., 2010; Hung et al., 2009; Knoll & Houts, 2012).

According to Knoll and Houts (2012), a culturally diverse population in the United States indicates another characteristic to investigate, which is wage inequality in the workplace and its effect on financial literacy in men and women. Gender gaps exist in wages, in the workplace, and financial literacy. Concerning their budgeting and investing choices made, only 25% of women feel satisfied with their preferences compared to 42% of men. Further, with respect to confidence in retirement savings, 12% of women felt confident in their savings, while 19% of men did (SHRM Online Staff, 2011). The results of this study suggested that women are likely to face more personal, professional, and financial struggles compared to men. However, women seem to possess comparable knowledge of financial literacy (SHRM Online Staff, 2011).

Gender and Engagement in the Labor Force

The research conducted by Rotolo and Wilson (2004) contained the following characteristics: structural contingencies as civic engagement, education and volunteerism, work time and employment, and chosen occupations. Rotolo and Wilson focused their study on volunteer work by comparing cohorts of women. The study included 5,083 women aged 30-44 years. Additionally, the study of volunteer work indicated that there is a relationship between volunteer work and higher education as it pertains to mature women (Rotolo & Wilson, 2004).

The study of volunteer work within women cohorts is dependent on age, education, ethnicity, education, occupations, and work time (Hung et al., 2009: Rotolo & Wilson, 2004). Rotolo and Wilson (2004) concluded that younger women were more likely to volunteer as opposed to mature women who are busy raising families and participating in the workforce. Further analyses revealed that members of Generation X, defined as individuals who were born between 1961 and 1981 (Robinson, 2015), are more likely to volunteer at school and church-related events. In contrast, younger women are more likely to engage in civic groups and organizations based on their occupations within their communities.

Rotolo and Wilson (2004) included the following factors into their study: financial knowledge, the difference between adults and end-of-life individuals, demographic locations, life experiences, and thought process mode. Occupations and civic duties increase financial literacy due to an increase in education, in addition to volunteerism. Baby Boomers are likely to score lower in financial literacy based on prior

knowledge and the inability to understand financial services and products. Generation X would be expected to have a higher level of financial literacy. Still, Generation X does not possess the same financial literacy skills based on the public education that they have received and the idea that individuals of the Millennial generation learn their financial behaviors from their Generation X parents.

Kertzer (1983) and Rotolo and Wilson (2004) suggested that generation theory provides researchers with different modes of accountability for different ages based on attitudes and behaviors when cross-sectional data are used. These researchers explored how age factors into generational theory by using the work of Mannheim (1952) as a foundation of their studies in generational theory. Additional thoughts included youth to the age of maturity assuming throughout one's life; life events will permanently shape one's viewpoints, which are shared by individuals' way of thinking and personal behaviors (Kertzer, 1983; Rotolo & Wilson, 2004). Furthermore, a generational theory includes the influence of a country's entire population and the ages in which generational theory remains intact (Rotolo & Wilson, 2004). According to Dilthey (as cited in Rickman, 1979), culture refers to philosophy and art, and there is no organization to provide a linkage. As Dilthey noted, economic life leads to associations, science points to its specific centers for research, and religion leads to the most influential organization in the cultural sphere.

Hung et al. (2009) brought up a serious issue that many older adults face. Because many older adults do not possess financial literacy and have not prepared adequately for the future, they may experience financial hardships based on poor financial planning. The

persistent problem with financial literacy is how to educate the public about the relationship between three factors effectively: (a) financial behavior, (b) financial literacy; and (c) educational levels. To measure these three variables, the PACFL was formed to increase financial literacy and knowledge rates. On a larger scale, PACFL (2009) presents uncertainty in terms of its validity and credibility based on the following five factors: (a) knowledge, (b) knowledge perceived, (c) the ability to apply financial knowledge, (d) neutral or good financial knowledge, and (e) experience with finances and financial products and services. The authors noted that the PACFL report lacked an empirical study; the purpose behind the study was to identify financial literacy factors, including the financial applications that all individuals should possess.

Language Skills

According to the Government Accountability Office's (GAO, 2010) analysis of data from between 2006 and 2008, nearly 12 million U.S. residents are financially illiterate because they are unable to speak or write fluently in English. GAO's analysis drew upon the relationship between financial literacy and ethnicity. Specifically, there are several adults with limited English by native language as a percentage of the total U.S. population (GAO, 2010). Per the GAO (2010), language proficiency influences annual earnings by ethnicity; English heads of households earned approximately $42,980 compared to $34,786 made by immigrant heads of household. The GAO report also noted that 12% of English-speaking heads of households did not complete high school, as compared to 41% of Spanish heads of households who cannot speak and write and English proficiently. Hispanics were missing from this report due to the lack of data

(GAO, 2010). From the study by GAO, language influences financial literacy; however, as the United States continues to become more and more culturally diverse, this will affect the total number of individuals who are financially literate (GAO, 2010).

Non-English-Speaking Immigrants

Dinan (2014) found that one in five individuals residing in the United States speak a language other than English at home. Predominantly non-English-speaking states include California, Nevada, and Texas. The number of U.S. residents who do not speak English is increasing; nearly 12% of the U.S. population is Spanish speaking. From 2010 to 2014, the number of non- English-speaking individuals has increased by 26.4 million (Dinan, 2014; GAO, 2010). According to Camarota and Zeigler (2015), about 53% of immigrants who are under the age of 30 do not possess educational levels beyond a high school diploma. Camarota and Zeigler concluded that 42% of immigrants who are head of household in the United States use at least one form of government assistance, including food stamps, housing, utilities, childcare, Medicaid, or temporary assistance for needy families (TANF). About 51% of immigrant households are owner-occupied. One may be able to assume that immigrants lack financial literacy skills based on such statistics, and many seek out employment such as low-skilled workers, taxi drivers, construction laborers, maids, chauffeurs, meat processors, and butchers (Camarota & Zeigler, 2015).

Ethnicity

Due to low financial literacy scores against the country, it is important to understand the impact of non-English-speaking individuals, as they may be vulnerable to

phishing scams, and may struggle to comprehend mortgage and car loans as well as automobile, house, rental, life, and health insurance policies. The goal of the government at the federal, state and local levels is to increase financial literacy (Reed, 2014). Positive social change can take any of the following forms: how people communicate, what people know, what people can do and have, how people will feel and think, and what changes are sustainable. Financial planners may prey upon all generations, and individuals who view financial planners as authoritative figures will be more likely to purchase products and services that they do not fully comprehend (Animating Democracy, 2015). According to Reed and Enzi, the end goals—besides April as *Financial Literacy Month*—include consumer protection, education, and economic empowerment (Reed, 2014).

According to Banerjee (2011), financial literacy varies greatly depending on demographics, including the states where consumers reside. The five states that have the highest levels of financial literacy are New Hampshire, Minnesota, South Dakota, Idaho, and Washington (Banerjee, 2011). Banerjee attributed these states' high financial literacy rates, and lower financial knowledge is shaped by states' people reside. Furthermore, Banerjee proposed that the states with the lowest levels of financial literacy that need some type of policy intervention are Tennessee, North Carolina, Arkansas, Mississippi, and Louisiana. Banerjee suggested that consumers are not affluent and knowledgeable of government-run health care programs in the United States. Yet, millions of U.S. residents receive government health care subsidies through Medicaid, Medicare, and the Affordable Care Act (i.e., Obamacare). It is important to note that much of the U.S.

population does not have faith in government run health care exchanges. Yet, many were proponents of the Affordable Care Act, despite their level of financial literacy and ability to understand health care plans (Banerjee, 2011).

Financial Advisory Industry Review in Singapore

The Financial Advisory Industry Review panel was founded in April 2012 by the Monetary Authority of Singapore to analyze industry standards. On January 1, 2013, the Financial Advisory Industry Review implemented ways to clarify consumers who are seeking out investment opportunities and for financial advisors to raise professional standards (Lai, 2016). The idea is to reduce conflict of interest with the Asia Insurance Review. To ensure a fair assessment of consumers who reside in the United States and the United Kingdom, economics as a core curricula subject is the responsibility of individual states and or countries (Lai, 2016). The role of the financial advisor is critical because they are the intermediaries between global and local arenas that pertain to financial practices, products, and knowledge.

To analyze the practices and roles of financial advisors, Lai (2016), collected data from Singapore's financial advisory industry based on of media, regulatory, and industry reports regarding changes related to retail services and products consumption in finance. Financial information regarding the transparency of financial internal working practices and financial assistance is not easily obtainable (Lai, 2016). Financialization defines an increasing power of financial institutions in economic, political, and social life (Lai, 2016). Wider processes of financialization are undermined by subjects through

competitive and calculative behavior based on economics in the contemporary neoliberal era (Larner, 2012).

There is a factor missing from financial intermediaries who connect financial markets and consumers. Investors seek out information by attending financial seminars, publications in print of investing, and financial literacy campaigns by the government. financial advisors play an essential role in recommending financial services and products to investors. Consumers rely on financial experts for professional advice about investments and how to better manage their finances (Lai, 2016). In conclusion, scholars have cited that consumers do not have the financial skills to make sound investment decisions based on lack of education and financial planning (Erturk, Fround, Johal, Leaver, & Williams, 2007; Langley, 2007). Due to a lack of financial security and education, individuals have many fears and risks associated with the risk of investment (Isin, 2004). Consumers who have a lack of financial literacy and knowledge are more likely to keep their excess money in savings accounts where they know that the money is safe (Langley, 2007).

A Need for Government Intervention

The issue of financial literacy has drawn national attention as individuals lack useful management tools to deter large amounts of personal debt. On July 1, 2010, President Obama signed a law creating the CFPB to protect consumers who have poor financial literacy. The CFPB has been added to the Dodd-Frank Wall Street Reform. The CFPB has oversight concerning financial products for consumers in multiple markets,

which include mortgages, credit cards, payday loans, and savings and checking accounts (Hastings et al., 2012).

According to Wack (2016), President Obama proposed in his new budget approximately 30 million dollars to support the financial literacy of teenagers and young adults. This proposal would provide employment opportunities for teens and young adults, especially in the financial sectors. There is a push for financial institutions to hire young adults over the age of 18 to promote financial literacy among late teenagers and young adults (Wack, 2016). Generations X and Y claim that they do not know about financial products and investments (Wack, 2016). This is a concern because many Baby Boomers are retiring every day, which is having a significant effect on the U.S. Social Security Trust Fund.

Downfalls Associated with Financial Literacy

Despite the pitfalls of financial literacy in the United States, Campbell (2006) suggested that individual financial behaviors and behavioral models are difficult to assess; many households lean toward advice by financial planners or individuals with financial backgrounds to avoid undesirable financial outcomes. Two different themes that ultimately lead to investment mistakes emerged in Campbell's article: positive and normative household finance. Positive household finance requires a high level of financial literacy and knowledge, and normative household finance requires additional textbook studies. Many households tend to make financial mistakes based on their inability to understand investments and the complexity and amount of risk of the investment. Campbell (2006) suggested that any study of positive household finances

must have the following five characteristics: (a) representation of the U.S. population; (b) ability to measure wealth; (c) ability to distinguish between actual wealth and social class; (d) level of credibility and reliability of data obtained; and (e) reliability of data measured over a period.

Summary and Conclusions

Known factors for financial illiteracy include the inability to understand insurance policies, automobile, and home loans, terms, and conditions of consumer retail credit cards, as well as an inability to perform simple math calculations (Lusardi & Tufano, 2009; van Rooji et al., 2011a). In this study, I intended to bring to light the issue that needs to be addressed at a national level, which at the time of this study, the government had attempted to educate adults and measure financial literacy with very little success. Previous scholars have investigated financial literacy, but the idea of generational theory is still new. Mannheim (1952) first introduced the theory of generations. The gap in the current body of literature is the correlation between generation theory and financial literacy. Beccheti et al. (2013) concluded that the issues of financial literacy are a global concern and the research needs to be further developed by scholars in how to improve financial literacy skills among all generations, so individuals will be able to make more informed financial decisions and to be better prepared for retirement in the future (Carmel et al., 2015). Beccheti et al. cited that there is a global and national concern about financial literacy rates in the United States.

The major theme in the literature is the lack of financial literacy between generation groups (Millennials and Generation Xers). From the literature review section,

it is suggested that white men have the highest levels of financial literacy. Not all states in the United States require high school graduates to take personal finance courses before graduation; only a handful of states require personal financial courses. At the time of this study, many authors had researched financial literacy. Still, no author had been able to capture the gap in the literature that discusses financial literacy regarding required courses taken in high school generations groups (Millennials and Generation Xers), and financial literacy. The following items will be covered in Chapter Three: research design and rationale, methodology, variables, instrumentation and operationalization of concept, intervention studies, or those involving manipulation of an independent variable, data analysis plan, and threats to validity.

Chapter 3: Research Method

The purpose of this quantitative, nonexperimental, causal–comparative study was to test the self-efficacy theory and goal-setting theory in determining the differences between the two generational groups, Generation Xers and Millennials, regarding financial literacy education during high school years in the United States. The dependent variable was financial literacy, and independent variables were individuals who took personal finance courses in high school and those who did not take personal finance courses in high school and generation groups (Millennials and Generation Xers). I selected a quantitative study in which the data presented had not been manipulated. Instead, the observations naturally occurred without any interference (Field, 2013). I used the 2018 National Financial Capability Study data provided by FINRA (National Financial Capability Study, 2018). The sample frame for this research included individuals in the United States who participated in the 2018 National Financial Capability Study.

The major sections of Chapter 3 are the research design and rationale; methodology; population; sampling and sampling procedures; and procedures for recruitment, participation, and instrumentation and operationalization of constructs. The chapter also includes the data analysis plan; threats to internal, external, and construct validity; and ethical procedures. The chapter concludes with the summary.

Research Design and Rationale

The design chosen for this study was a nonexperimental, quantitative, causal–comparative research design. Nonexperimental research does not allow for manipulation

of participants, so analysis is performed in the natural settings of the respondents. I used archival data from the 2018 National Financial Capability Study, which were collected from July 2018 through October 2018 (FINRA, 2018). Thus, the data were based on a secondary data source stemming from a FINRA survey and the observations that naturally occurred without any interference (see Field, 2013). This design was less costly because data had already been obtained for analysis (Coy, 2019). I analyzed the means between the dependent variable and the independent variables, including whether participants have taken personal finance courses in high school, generations (Millennials and Generation Xers), and financial literacy.

Variables

Table 5 indicates the values for the different measures of variables that were explored. Individuals who self-reported that they had not taken a personal finance course in high school were coded as 1, and individuals who self-reported that they had taken a personal finance courses in high school are coded as 0. Millennials were coded as 0 and Generation Xers coded as 1. Finally, financial literacy was represented by the number of Financial Capability Quiz questions the participants got correct ranging from 0 to 6 (FINRA Investor Education Foundation, 2019).

Table 5

Labels, Levels of Measurement, Value, and Definitions

Labels	Levels of measure	Value	Definition
Personal finance courses are taken in high school	Nominal/Categorical	1	Yes
		0	No
Generation groups	Nominal/Categorical	0	Millennial
		1	Generation Xers
Financial literacy	Interval/Continuous	0	Zero quiz questions answered correctly
		1	One quiz question answered correctly
		2	Two quiz questions answered correctly
		3	Three quiz questions answered correctly
		4	Four quiz questions answered correctly
		5	Five quiz questions answered correctly
		6	Six quiz questions answered correctly

Methodology

Population

I used existing survey data for the study based on the adult (i.e., 18 and older) population in the United States. The original survey population included 27,091 participants who lived in the United States and were over the age of 18 (FINRA, 2018). This number included over 500 participants from each state in the United States as well as the District of Columbia and an overflow of participants of 1,250 individuals from Washington and Oregon (FINRA, 2018). Among the participants who met the inclusion criteria of this study, there were 7,481 Millennials (44.9%) and 9,191 Generation Xers (55.1%). Therefore, a total of 19,672 participants were eligible for the study because they were either a millennial or Generation Xer, they responded *yes* or *no* as to whether they took personal finance courses in high school, and they scored a 0, 1, 2, 3, 4, 5, or 6 on the National Financial Capability Quiz.

Sampling and Sampling Procedures

Participants who did not fit the requirements were omitted from the research. I mainly used secondary data for the analysis. Respondents for the study were drawn using a nonprobability quota from established online panels to include the EMI Online Research Solutions & Research Now and Survey Sampling International. Industry-standard techniques were utilized by panels to verify whether demographics were accurate and up to date: "Within each state, quotas were set to approximate Census distributions for age by gender, ethnicity, education level, and income based on data from the Census Bureau's American Community Survey" (FINRA, 2018, para. 5).

Screening. Applicants who did not fit the criteria for the study were omitted from the study. Individuals who met the criteria were either a millennial or Generation Xer, stated whether they took personal finance sources in high school or not (*yes* or *no* responses), and indicated whether they had financial literacy. Those who scored lower on quiz for financial literacy were coded a 0, 1, 2, or 3, and those who possessed financial literacy (based on higher scores on the quiz) were coded as 4, 5, and 6. There were five quiz questions that comprised the National Financial Capability Quiz, and an additional bonus quiz Question 6 was added in the National Financial Capability Quiz in 2018 (FINRA, 2018).

Power analysis. Power analysis is a means of identifying an adequate sample size for a quantitative study given a specific set of parameters (Brysbaert & Stevens, 2018). In the current study, a priori power analysis was performed using free online power analysis software. There were two independent variables and one dependent variable. Both

independent variables had two levels. The independent variable was whether participants took personal finance courses in high school (0 = Yes, 1 = No). The second independent variable was the generation group to which each subject belonged (1 = Gen Xer, 0 = Millennials).

Factors that were used in consideration of the effect size, power, and level (alpha) were examined to determine the recommended sample size for the study. I used a power size of 0.80, which is the most widely accepted standard among researchers (Mayr, Erdfelder, Buchner, & Faul, 2007). To control for Type I error, the alpha was set at 0.05, which is commonly accepted to avoid this type of risk (Verhulst, 2017). Researchers have suggested a common goal of an 80% chance of observing significant results in the data set and a 20% chance of the results not being significant to the data set of the probability of finding a Type II error; therefore, the common power set for the analysis to at least 0.80 (Brysbaert, 2017; Giner-Sorolla et al., 2019; Green & Salkind, 2017). For this study, I set the power level to 90% based on the power analysis results. A larger power level would imply that the number of participants would be much lower than a smaller power level.

For an effective sample size, researchers choose from (0.20); small; (0.50); medium, and (0.80); large (Brysbaert & Stevens, 2018; Gignac & Szodorai, 2016). These are the common standards used in power analyses (Gignac & Szodorai, 2016). If there is a large effect, then there is a significant effect between the two independent variables (Gignac & Szodorai, 2016). It is common to use medium effect size (Gignac & Szodorai,

2016). However, for this study, I chose a small effect size to make the model sensitive to the difference between the two independent variables (see Table 6).

Table 6

*G*Power Analysis*

Parameter	Research Question
Test Family	F tests
Statistical Test	Two-Way ANOVA
Type of power analysis	A priori: Compute required sample size - given α, power, and effect size
Input parameters: • Effect size of f = 0.1 • α err prob = 0.05 • Power (1- β err prob) = 0.80 • Number of predictors = 2 • Numerator df = (Predictors – 1) = 1 • Number of groups = 4 • Projected sample size = 787	

I calculated a priori for the research because the aim was to determine the number of participants to obtain a valid sample size. By using the free G* Power software, I choose a priori test; next, I clicked on an effect size of 0.1 to see if there was any effect of the independent variables on the dependent variable. I then chose an alpha value that was set to 0.05 and the power level was set to the industry standard of 0.80. Because there were two independent variables in the study, the number of predictor variables was set to 2. Therefore, the numerator *df* was set to 1. The number of groups was set to 4 because there were only two independent variables with two levels of measure. The values were then computed to determine the current study's projected sample size, which was found to be at least 787 individuals (see Appendix B).

Instrumentation and Operationalization of Concept

Participants in the study were asked to take a 6-point quiz. This quiz, titled the Financial Capability Study Quiz, was comprised of six questions related to finances and a bonus question that related to financial literacy (see Appendix C). Participants who scored a 0, 1, 2, or 3 were viewed as having low financial literacy; whereas, individuals who scored a 4, 5, or 6 were viewed as having high financial literacy (FINRA, 2019a; FINRA Investor Education Foundation, 2019).

Intervention studies or those involving manipulation of an independent variable. FINRA developed a quiz that measured financial literacy. The questions were a combination of *true/false* questions on "financial knowledge and financial decision-making skills" and questions on "characteristics of behavior and attitude" related to the eight categories of the Financial Literacy (FINRA, 2018).

Existing survey data for the current study was based on the adult (i.e., 18 and older) population in the United States. More specifically, 27,091 participants who lived in the United States and were over the age of 18 comprised the population (FINRA, 2018). This number included over 500 participants from each state in the United States, and the District of Columbia, and an overflow of participants of 1,250 individuals from Washington and Oregon (FINRA, 2018).

Operationalization. The first independent value was whether individuals have taken personal finance courses. This variable is measured at nominal/categorical levels. The second independent value was generation groups (Millennials and Generation Xers).

This variable was measured at nominal/continuous levels. One dependent variable, financial literacy, was measured at an interval/continuous level.

Data Analysis Plan

I analyzed the resulting quantitative data using the statistical software suite Statistical Package for the Social Sciences (SPSS), Version 21. Before conducting the actual quantitative analysis, the data was analyzed for missing values. Missing values were treated as "do not know" variables. (see Field, 2013). An Analysis of Variance (ANOVA) was then conducted.

There are six underlying assumptions for a two-way ANOVA:

- The dependent variable should be measured at a continuous level.
- The two independent variables should each consist of two or more categorical, independent groups.
- There should be independence of observations.
- There should not be any significant outliers.
- The independent variable should be approximately normally distributed for each combination of the groups of the two independent variables.
- There needs to be a homogeneity of variances for each combination of the groups of the two independent variables (Field, 2013).

The dependent variable is continuous, and the two independent variables are nominal, and thus categorical. The data were randomly collected, therefore satisfying the independence of observations (Green & Salkind, 2017). I ran a test for residuals to determine if the two-way ANOVA results had a normal pattern with no outliers. Normal

distribution of response variable residuals determines two-way ANOVA results as reliable, satisfying the assumption of normality (Field, 2013). I also ran Levene's Test for Homogeneity of Variance to address the assumption of homogeneity of variance (Field, 2013).

The study hypotheses were tested by comparing the *p*-value to the significance level of 0.05. A *p*-value of 0.05 indicates that there is a 5% probability of concluding that there is a difference when none exists. A *p*-value less than the significance level implied that the null hypothesis would be rejected indicating the absence of enough evidence that the two groups had a different mean. However, a *p*-value higher than the significance level would imply that the null hypothesis would not be rejected. As such, I would conclude that there was insufficient evidence indicating that the means are different (Field, 2013).

The research question and hypotheses that guided this research were as follows:

What are the differences in financial literacy between generation groups and individuals who took personal finance courses in high school and those who did not take personal finance courses in high school in the United States?

$H_0$1: Millennials have a level of financial literacy equal to Gen X.

$H_1$1: Millennials have a level of financial literacy different from Gen X.

$H_0$2: Individuals who took a personal finance course in high school have a level of financial literacy equal to individuals who did not take a personal finance course in high school.

$H_1$2: Individuals who took a personal finance course in high school have a level of

financial literacy different than individuals who did not take a personal finance course in high school.

$H_0$3: There is no interaction between generation and high school personal finance courses.

$H_1$3: There is an interaction between generation and high school personal finance courses.

Threats to Validity

External Validity

External validity refers to the extent to which a study's findings generally apply to larger populations or different settings (Field, 2013). The external validity threats of this study included the population, the number of actual financial literacy classes offered, and the availability of data on financial success. There was also limited generalizability since I did not gather a sample that is representative of the entire population of adults in all age categories. Instead, I focused only on adults from two generation categories: Millennials and Generation Xers. Additionally, since random sampling was not to be utilized in this study but rather a purposive sampling, there was a possibility of the study's openness to selection bias. Purposive sampling was primarily used for the study in order to maintain feasibility in the study's set time frame, which was based on the availability and accessibility of participants (Millennials and Generations Xers) who meet the criteria.

Internal Validity

Internal validity refers to an experiment's ability to correctly identify causal relationships between the variables, or without a relationship, implies the absence of

cause (Field, 2013). In this study, I did not attempt to explore causal relationships; therefore, threats to internal validity are generally not applicable. However, there were some inherent threats to the validity of the study's statistical conclusions. Threats to statistical validity came in three forms: (a) reliability of the instrument, (b) data assumptions, and (c) sample size. I evaluated the validity and reliability of the secondary data that would be used in this study and found it appropriate for use in the study. I made sure to check the data assumptions both during and after the analysis process.

Additionally, I performed member checking to ensure that respondents provide accurate and unbiased responses. Member checking is part of the interview process for qualitative research and mixed methods research. In this process of verification, I shared the emergent themes with the participants. Thereafter, the requested participants' input on the congruency of the findings with their answers was noted.

Construct Validity

Financial literacy was measured using a quiz developed by FINRA (2018). The questions were a combination of *true/false* questions on "financial knowledge and financial decision-making skills" and questions on "characteristics of behavior and attitude" related to the eight categories of the Financial Literacy (FINRA, 2018). About half of the questions (see Appendix C) were constructed similar to those in surveys conducted by the U.S. FINRA Investor Education Foundation and the OECD so that the results could be compared (FINRA Investor Education Foundation, 2009). Past researchers have measured the reliability of this financial literacy tool (FINRA Investor Education Foundation, 2009). To verify construct validity, I conducted a further

comparison of the financial literacy tool to other tools that measure similarly (financial literacy) intending to see how highly correlated they were using SPSS and running Analysis of Variance analyses. As such, I demonstrated the construct validity of this financial literacy tool (FINRA Investor Education Foundation, 2009) by correlating the outcomes on the test to those found on other widely accepted measures of financial literacy by using SPSS and a two-way ANOVA.

In the use of the theoretical framework, goal-setting theory captures motivation theory as well as the fundamental relationship between goal setting and results. The constructs used in goal-setting theory include goal specificity, goal commitment, and goal acceptance (Muizzuddin et al., 2017). The sequence of financial planning is cyclical and follows a pattern with (a) establishing measurable financial goals and have a term, (b) evaluating the financial condition periodically, (c) doing financial planning as early as possible, (d) setting realistic financial goals, and (e) gaining an understanding that achieving goals is a struggle (Muizzuddin et al., 2017). Such planning is a process that requires time and continuously follows its development. I applied such to assist with the explanation, prediction, and understanding of the phenomena investigated. The theoretical framework provisioned and guided the research in terms of weighing, for example, the literature reviewed against the reason for the study and the research questions asked within the study.

Ethical Procedures

Ethical issues may arise in both qualitative and quantitative research due to my responsibility to act and conduct the analyses in an ethical manner (Tripathy, 2013). A

list of ethical procedures does not exist; therefore, I have a responsibility to act and behave in an ethical manner (Fuji, 2012). At any stage of the research process some ethical issues may be specific to different phases of the research (Blee & Currier, 2011). Twenty-seven thousand ninety-one participants willingly took the Financial Capability Quiz. The Quiz that was randomly emailed to individuals (FINRA, 2012). Financial literacy is based on individual states and does not list school districts or educational institutions by name. Educational institutions, which include high schools, are anonymous. As such, the current study posed no harm to education institutions that have low or the lowest financial literacy rates in the nation. Based on the values obtained by FINRA, the data are accurate and credible on the publication date of the information.

I applied for ethical approval through the Institutional Review Board (IRB) at Walden University and was cleared to proceed with the data collection and analysis processes. The IRB application provides protective rights of human subjects used in research studies. The IRB reviewed the application for the current study's use of existing data to ensure that I would stick to ethical and legal considerations, as defined by the IRB, during the data collection process.

Summary

In the current study, I sought to examine the differences in financial literacy between generation groups and individuals who took personal finance courses in high school and those who did not take personal finance courses in high school in the United States. In Chapter Three, I discussed the methodological approach of nonexperimental quantitative research using a cross-sectional research design that was used in the study.

The quantitative approach of a two-way ANOVA allowed me to analyze data for interpretation on whether there were differences in financial literacy between generation groups and between individuals who had taken a personal finance course in high school and those who had not. The results and discussions of the study findings are presented in Chapter 4. In Chapter 5, I address the conclusions of this research, the synthesis of this study's findings, implications for practice, and recommendations for future research.

Chapter 4: Results

Introduction

The purpose of this quantitative, nonexperimental, causal–comparative study was to test the self-efficacy theory and goal-setting theory in determining the differences between the two generational groups, Generation Xers and millennials, regarding financial literacy education during high school years in the United States. As the uncertainty in the global economy continues to impact thousands of people across the world, financial literacy has become a tool that can be used to make sure that individuals live within their financial capabilities. To achieve the purpose of my study, I conducted a quantitative analysis using a two-way ANOVA. A brief review of the research questions and hypotheses that guided the present study and overall results are presented in the subsequent sections.

Research Question and Hypotheses

I was guided by one research question: What are the differences in financial literacy between generation groups and individuals who took personal finance courses in high school and those who did not take personal finance courses in high school in the United States? Based on this research question, I developed three hypotheses that were central in realizing study objectives:

$H_0$1: Millennials have a level of financial literacy equal to Gen X.

$H_1$1: Millennials have a level of financial literacy different from Gen X.

$H_0$2: Individuals who took a personal finance course in high school have a level of financial literacy equal to individuals who did not take a personal finance course in high

school.

$H_1$2: Individuals who took a personal finance course in high school have a level of financial literacy different than individuals who did not take a personal finance course in high school.

$H_0$3: There is no interaction between generation and high school personal finance courses.

$H_1$3: There is an interaction between generation and high school personal finance courses.

In addition to the research question and hypotheses, Chapter 4 presents a detailed explanation of the data collection process, including data preparation and accurate description of the participants' demographics that are representative of their key features. In like manner, the results of the present study consist of an evaluation of the critical assumptions made in data analysis, descriptive statistics, and corresponding figures or tables that contain appropriate statistical analysis and its interpretation.

Data Collection

In this study, I used secondary data collected by FINRA Investor Education Foundation in 2018. FINRA (2018) restricted the recruitment technique on the previously used nonprobability sampling technique. Study participants who met the inclusion criteria were recruited through EMI Online Research Solutions and Research Now and Survey Sampling International. Furthermore, FINRA adopted a previous survey instrument that was used, where participants were asked to score and rank their thoughts on a 6-level

scale, commonly known as the National Financial Capability Quiz with the scores ranging from 0 to 6.

A total of 27,564 participants were considered eligible for this study. As required by ethical guidelines, all participants were 18 years at the time of the study. After a thorough screening of the potential participants, only 19,672 were deemed eligible for the present study. Of these, 500 participants were recruited from the District of Columbia, the remaining 1,250 participants were recruited from Washington, and 1,250 individuals were recruited from Oregon (FINRA, 2018). Regarding participants' demographics, 7,481 (44.9%) of the participants were Millennials and 55.1% or 9,191 of them were Generation Xers (FINRA, 2018). Because the study was based on secondary data, I did not develop communication with the participants. There was also no timeframe for data collection and review, as FINRA provided the documented data needed for the analysis.

Demographic Characteristics of Sample

In defining the type and nature of participants to take part in the study, I used secondary data collected from FINRA in which all participants were from the United States. To comply with ethical guidelines, the research only included individuals who were 18 years of age and older at the time the survey was conducted. Table 7 refers to the demographics of Millennials and Generation Xers who were participants for the study.

Table 7

Demographic Characteristics

Variable	*N* (%)
Age Group	
Gen X	9,191 (55.1%)
Millennial	7,481 (44.9%)
Education Group	
No class	14,261 (85.5%)
Yes class	2,411 (14.5%)
Age	
18 - 24	2,795 (16.8%)
25 - 34	4,686 (28.1%)
35 - 44	4,522 (27.1%)
45 - 54	4,669 (28%)
Gender	
Female	9,514 (57.1%)
Male	7,158 (42.9%)
Household Income	
Less than 15000	2,318 (13.9%)
15,000 – 24,999	1,748 (10.5%)
25,000 – 34,999	1,771 (10.6%)
35,000 – 49,999	2,386 (14.3%)
50,000 – 74,999	3,072 (18.4%)
75,000 – 99,999	2,361 (14.2%)
100,000 – 149,999	2,001 (12.0%)
150,000 +	1,015 (6.1%)
Ethnicity	
White or Caucasian	1,005 (6%)
Black or African American	4,916 (29.5%)
Hispanic or Latino	3,275 (19.6%)
Asian	1,634 (9.8%)
Native Hawaiian or Other Pacific Islander	3,561 (21.4%)
American Indian or Alaska Native	2,012 (12.1%)
Other	269 (1.6%)
Total	16,672

Results

To answer the research question of this study, I used SPSS Version 21 to collect and to analyze the dataset. I conducted a two-way ANOVA for my study after examining specific assumptions. In effect, if the premises were met, then a two-way ANOVA could be conducted. On the other hand, if the assumptions were violated, the interpretation of the data would be misleading or erroneous, a situation that was minimized during the final analysis. Detailed analysis and evaluation of the key assumptions made during the data analysis are presented below with the corresponding tables and figures for an enhanced understanding.

Before conducting the two-way ANOVA, the assumptions of ANOVA were evaluated. For an ANOVA, the dependent variable should be measured at a continuous level. The dependent variable of financial literacy was measured on a continuous scale. Thus, this assumption was met. Next, the two independent variables should each consist of two or more categorical and independent groups. Both independent variables of Generation and Course Taken were categorical (0/1). There should also be an independence of observations. This was assured by the research design as each person was only in one group for each of the independent variables. Next, there should not be any significant outliers. As tested by examining the boxplots, there were no outliers (see Figure 1).

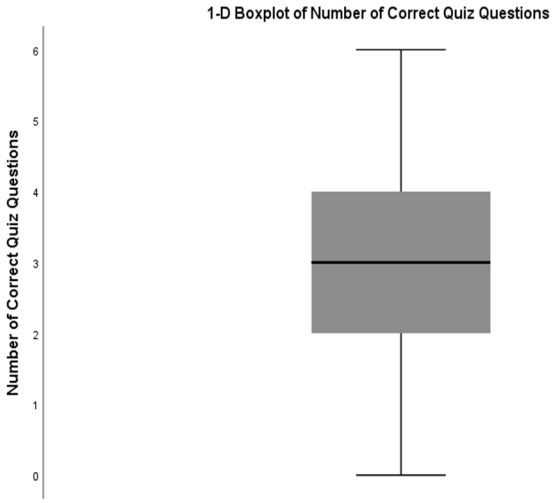

Figure 1. Outliers of number of correct quiz questions.

The independent variable should be approximately normally distributed, or the sample size should be large enough to waive this assumption (Field, 2013; Statistic Solutions, 2019). Participants who received four or more quiz questions correctly have financial literacy. Whereas, individuals who received a three or less quiz questions successfully did not possess financial literacy. This assumption was tested by the Kolmogorov-Smirnov test and examination of the size of the sample. The Kolmogorov-Smirnov test was significant, $p<.001$ (see Table 8), indicating that the sample was not normally distributed.

Table 8

Tests of Normality

	Kolmogorov-Smirnov[a]		
	Statistic	*df*	Sig.
Financial Literacy Score	.124	16,672	.000

a. Lilliefors Significance Correction

According to Field, 2013, we can proceed with a sample size this large for this assumption. Thus, as the sample has more than 16,000 participants in it the Kolmogorov-Smirnov test is skewed, but still capable of being assessed with the two-way ANOVA (Field, 2013). Lastly, there needs to be homogeneity of variances for each combination of the groups of the two independent variables. This assumption was examined through the Levene Test of Homogeneity. The Levene Test indicates there is a significant difference in the variances of the groups, $p < .011$ (see Table 9).

Table 9

Levene's Test of Equality of Error Variances, Dependent Variable: Financial Literacy Score

F	df1	df2	Sig.
11.208	3	16668	.000

This violates the assumption of equal variance. According to Field (2013), this is likely driven by the unequal distribution of people in the sample who have taken personal finance courses in high school and those who have not. As this is a critical variable in the research question, and this is not something that can be controlled in a nonexperimental study, it is necessary to continue forward with this variable in the analysis. This violation makes it more likely that there will be a Type 1 error. This can be rectified by using a stricter p-value (smaller than $p = .05$) for any significant differences (Statistic Solutions, 2019). Thus, with these considerations in mind, the two-way ANOVA was conducted.

RQ1 – What are the differences in financial literacy between generation groups and individuals who took personal finance courses in high school and those who did not take personal finance courses in high school in the United States?

The purpose of this quantitative, nonexperimental, causal-comparative study was to test the self-efficacy theory and goal-setting theory in determining the differences between the two generational groups, Generation Xers and the Millennials to the financial literacy education that did or did not occur during their high school years of a specific population of high school students attending high schools in the United States. As such, I proposed three hypotheses that were used to explore the topic and realize the objectives, purpose, and aims of the study. To test the three hypotheses, I conducted a single two-way ANOVA analysis with generation and course taken as independent variables. In the study, financial literacy was the dependent variable.

Hypothesis 1

About this research question, the first null hypothesis was that Millennials had a level of financial literacy equal to the Xers. In contrast, the alternate hypothesis for the first research question predicted that Millennials have a level of financial literacy different from the Xers. To test the hypotheses, I examined the main effects of generation groups on total financial literacy. The main objective was to determine the impact of generation on financial literacy exhibits a difference in personal financial literacy. As presented in Table 10 below, I established a statistically significant difference between Generations, F (1, 16668) = 271.97, $p < .001$, indicating that members of Gen X (M = 3.22) had higher scores on the financial literacy test than Millennials (M = 2.63). Thus, the null hypothesis $H_0 1$ was rejected.

Hypothesis 2

The second null hypothesis for the course taken predicted that individuals who

took a personal finance courses in high school had a level of financial literacy equal to those who did not take a personal finance course in high school. On the other hand, the alternate hypothesis for the course taken predicted that individuals who took personal finance courses in high school have a level of financial literacy that was different from those who did not take personal finance courses in high school. The main effect of generation and whether people have taken a personal finance course in high school on financial literacy was observed. There was a statistically significant main effect of Course Taken, $F(1, 16668) = 182.04$, $p < .001$, indicating that people who took the course ($M = 3.17$) had higher scores on the financial literacy test than those who did not take the course ($M = 2.68$), as summarized in Table 11 below. Given the above results, the null hypothesis for Course Taken, which predicted that individuals who took personal finance courses in high school had a level of financial literacy equal to those who did not take personal finance courses in high school the null hypothesis is rejected.

Hypothesis 3

Finally, the third hypothesis that there is no interaction between generation and high school personal finance courses and the alternative hypothesis that there is an interaction between generation and high school personal finance courses was examined. Based on the findings, which are summarized in Table 10 below, I found no statistically significant interaction effect of Generation and Course Taken on financial literacy given that $F (1, 16668) = .157$ $p = .692$. Therefore, the null hypothesis, which predicted a lack of interaction between generation and high school personal finance courses, was accepted.

Table 10

Two-Way ANOVA Table

Dependent Variable: Number of Correct Quiz Questions

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1,814.669[a]	3	604.890	231.821	.000	.040
Intercept	6,9297.123	1	69297.123	26557.790	.000	.614
Millennials Generation Xers	709.645	1	709.645	271.968	.000	.016
Personal Finance Courses Taken in High School	474.999	1	474.999	182.041	.000	.011
Millennials Generation Xers * Personal Finance Courses Taken in High School	.410	1	.410	.157	.692	.000
Error	4,3491.739	16668	2.609			
Total	17,4671.000	16672				
Corrected Total	4,5306.408	16671				

a. R Squared = .040 (Adjusted R Squared = .040)

Summary

In this chapter, a two-way ANOVA analysis was used to determine the differences that existed between the two generational groups, namely Generation Xers and the Millennials and the extent to which access to financial literacy training during their high school years dictated differences in financial literacy levels between them. I established a statistically significant difference between the two generation groups and whether a personal finance course was taken in high school on financial literacy among the participants.

On the contrary, the third null hypothesis for interaction, which suggested that there was no interaction between generation and high school personal finance courses,

was accepted. In the next section, Chapter 5, I will discuss the interpretation of the findings reported in Chapter 4, discussion of the results, and implication for positive social change, study limitation, and recommendations for future practice.

Chapter 5: Research Discussion

Introduction

The purpose of this quantitative, nonexperimental, causal–comparative study was to test the self-efficacy theory and goal-setting theory in determining the differences between the two generational groups, Generation Xers and millennials, regarding financial literacy education during high school years in the United States. The nature of the study was to use a quantitative, nonexperimental, causal–comparative study to examine the differences between Generation Xers and Millennials regarding financial literacy. A two-way ANOVA using a large national sample (N = 16,672) revealed that both taking high school financial courses and generational differences were statistically significant in explaining group differences in financial literacy. Generation Xers were significantly more financially literate than Millennials. Additionally, those who took a financial literacy course were more finically literate than those who did not. The implications of these differences can help address the issue that millions of adults who reside in the United States do not possess financial literacy despite a variety of financial tools and services.

Interpretation of the Findings

Financial literacy is a national concern with implications for responsible decision making of consumers, with proper financial education being a potential factor for widespread economic recessions and even bankruptcy of large firms (Olen, 2014). The U.S. federal government allocates $670 million dollars annually for the sole purpose of increasing financial literacy among U.S. adults, but the efforts have been unsuccessful

(see Reed, 2014). Financial literacy must be addressed as nearly 73 million U.S. adults are struggling to meet their financial obligations (Olen, 2014; Roth, 2013; see also Pascarella, 2018). Consumers who cannot make good fiscal decisions possess low financial literacy (see Bumcrot et al., 2013; Mandell, 2008), which also has negative consequences on the U.S. macro economy.

Examined in the present study was the connection among personal finance courses taken in high school, generations (Generation Xers and Millennials), and financial literacy. Literature has indicated that an increase in financial literacy can be achieved through personal financial courses taken in high school, and the differences between generations (Generation Xers and Millennials) plays a significant role in financial literacy. The results of this study were consistent with prior research indicating that Generation Xers have significantly higher financial literacy than Millennials, which has financial implications (see Kirsch, 2016). My study also revealed a loss of financial literacy between Generation Xers and Millennials (see FINRA Investor Education Foundation, 2019). Further, adults who took personal finance courses in high school were able to score higher on the National Financial Capability Quiz than those who did not take personal finance courses in high school (see FINRA Investor Education Foundation, 2019). According to FINRA Investor Education Foundation (2019), participants who had less than 10 hours of personal finance courses scored lower on the National Financial Capability Quiz and those who possessed 10 or more hours of personal finance courses.

The issue in the United States is the lack of U.S. states that require personal finance courses to be taken in high school. Because not all public education systems in

the United States require personal finance courses in high school, graduates may not possess financial literacy as adults. Thus, states need to incorporate personal finance courses as a required course prior to graduating high school. The lack of financial literacy will take years to implement until adults begin to possess financial literacy. Findings from this study reinforced the need for advanced theory for financial literacy and how this should be taught in standard schooling (see O'Brien, 2013; Reed, 2014; Way, 2015).

Although the data examined in the present study was a large national sample, there were limitations regarding the structure of the dataset in examining self-efficacy and goal-setting theory of motivation of financial literacy (see Muizzuddin et al., 2017). For instance, the present study did not address the relationships between the multiple constructs that make up self-efficacy and goal-setting, and financial literacy. Therefore, self-efficacy and goal-setting theory did not align as a framework, though the findings demonstrated the impact of financial course completion on financial literacy on a more practical level. In the future, I intend to further my research by examining such constructs, operationalized as survey questions, in contributing toward increasing literacy so that more specific educational strategies can be made.

Limitations of the Study

The reliability and credibility of primary data may pose a limitation in the use of secondary data that was used for a study because I had no control over the collection of primary data (see Simon, 2011). Limiting factors also include lag and political lag that apply to any data because it takes time to collect, analyze, and publish. A lag factor is the time that it takes to collect and analyze data before publication. In contrast, political lag

factors affect data that is received by the government, which takes time to be collected and published (Arnold, 2014). Previous instruments for analysis of the measure of financial knowledge included the Jump$tart Coalition for personal financial literacy (Mandell, 2008).

Recommendations

At an organizational level there is a need to include personal finance courses into high school curriculum, on the job, or in other sessions in which individuals can gain financial knowledge to enable them to possess financial literacy. Many high school graduates are graduating high school each year without the financial skill set to be financially sound as adults. Incorporating personal finance courses can avoid further harm to the U.S. macro economy by consumers not filing for bankruptcy at the expense of taxpayers.

This study also led to recommendations for future research. Because this study did not fully address the constructs in self-efficacy and goal-setting theory, future scholars should examine these constructs, operationalized as survey questions, in contributing toward increasing literacy so that more specific educational strategies can be made. Additionally, despite reviewing the effects of demographic characteristics (e.g., gender, ethnicity, etc.) on financial literacy, the research questions did not address these potential factors in influencing literacy in tandem with course completion status. Future scholars should address as many demographic variables as possible as potential moderators of literacy with the constructs for self-efficacy and goal setting in a single survey methodology, in tandem with formal education in finance.

Despite these limitations, the present study revealed financial course completion is a substantial influencer of literacy and that future research can focus more on refining financial courses themselves as the driver of literacy rates. A more comprehensive research goal along these lines could focus on financial literacy, specifically generations, and less on how such may interact with generational differences. Using a multi-survey methodology, one survey for investigating specific constructs within financial course instruction and the other survey for measuring the constructs for self-efficacy and goal setting could be addressed in a single study. The proposed methodology would not only advance self-efficacy and goal-setting theories, but also investigate their interaction with the different subtleties of financial course topics in focusing on the critical drivers of financial literacy.

I would recommend for all public-school systems (grades K-12) across the United States to adopt personal finance courses into their high school curriculums to ensure high school graduates possess financial literacy skills as adults. Financial literacy is the ability of consumers to adopt effective financial management skills and resources to make fiscally sound decisions throughout their lives (see Hung et al., 2009). Financial literacy can be defined by different variables to include knowledge, real-life application, personal knowledge, experiences, and financial activities (see the President's Advisory Council on Financial Literacy, 2009). The concern about financial literacy is the fact that financial literacy is beginning to fall based on generations.

Between the years 2015 and 2018, the total number of respondents who took the 6-question quiz and answered all quiz questions correctly fell from 44% to 40% (see

FINRA Investor Education Foundation, 2019). Financial literacy has gained national attention and steps have been taken to increase financial literacy, but efforts have failed (see Reed, 2014). It is concerning that financial literacy rates are dropping since millions of adults do not possess financial literacy and they are making financial decisions such as the purchase of a new home and/or automobile, applying for credit cards, or taking out payday loans without understanding the ramifications of the terms of their loans or revolving credit cards (see Way, 2014).

Implications

The potential impact for positive social change is noted by the individual, family, and organization. On an individual level, consumers who do not possess financial literacy are not prepared to make financial decisions about financial products and services. Understanding financial products is important for individuals to be abreast of interest rates and credit terms to enable them to make good fiscal decisions and to avoid bankruptcy later in their adult lives.

The impact on families is the fact that children learn their financial behaviors from their parents and caretakers; therefore, it is important for parents to possess financial literacy so they are able to pass on good financial knowledge and education to their children and grandchildren. As a country, the need to increase financial literacy must begin at home with children and grandchildren at a young age using an allowance to teach the value of money and financial responsibility.

The concept of the determination of research propositions considers an individual's goal commitment and financial literacy levels. Such financial literacy breaks

into two functions, first managing finances, the use of credit cards, and the lesser control of debt with the other option inclusive of financial planning. The former, in turn, follows the self-efficacy theory. The latter following the idea of financial planning is contributed to through the goal-setting theory of motivation (see Muizzuddin et al., 2017).

Goal-setting theory is the belief that the results are goal-driven; for examples, whether consumer took personal financial courses in high school as part of their required core curriculum, which aligns with the research question of whether high school students were required to take personal financial courses or not (see Mandell & Klein, 2007). Goal-setting theory is important when analyzing financial literacy, as many young adults do not understand financial products such as debit and credit cards, payday loans, rent-to-own, insurance products (automobile, rental, property, mortgage, or health care products), rental agreements, or investments (see Champlain College Center for Financial Literacy, 2017).

My recommendation is for personal finance courses to be incorporated into grade-school curriculum so students can learn basic finances at an early age. Financial literacy is gaining popularity among scholars and public officials where $670 million dollars a year are earmarked for financial literacy, yet despite these efforts millions of dollars are wasted each year due to the inability to increase financial literacy (see NFEC, 2013). Additional money should be made available for associate degree level students and for employees to receive personal finance courses to draw awareness and understanding of the variety of financial products offered by financial institutions across the United States.

Conclusion

In my study, I tested for differences in financial literacy across generations and finance course completion status and examined the interaction between generational differences and course completion status. This was done after reviewing self-efficacy and goal-setting constructs as influencers of literacy and establishing the importance of financial literacy for responsible consumer spending habits, wealth management, and the national economy. My current study uncovered that both generation and personal finance courses taken in high school had significantly different impacts on financial literacy. Generational differences were much stronger than personal finance courses using a two-way ANOVA.

Despite minor limitations on whether the secondary national dataset could address the constructs of self-efficacy and goal-setting and their roles in financial literacy rates and in not addressing demographic predictors, my study revealed that formal education in finance is the key variable when discussing financial literacy. I believe future research should focus on a multi-survey methodology targeting the relationships between self-efficacy and goal-setting theories, the different components of financial course instruction, and demographic predictors in explaining changes in literacy rates in one cohesive study.

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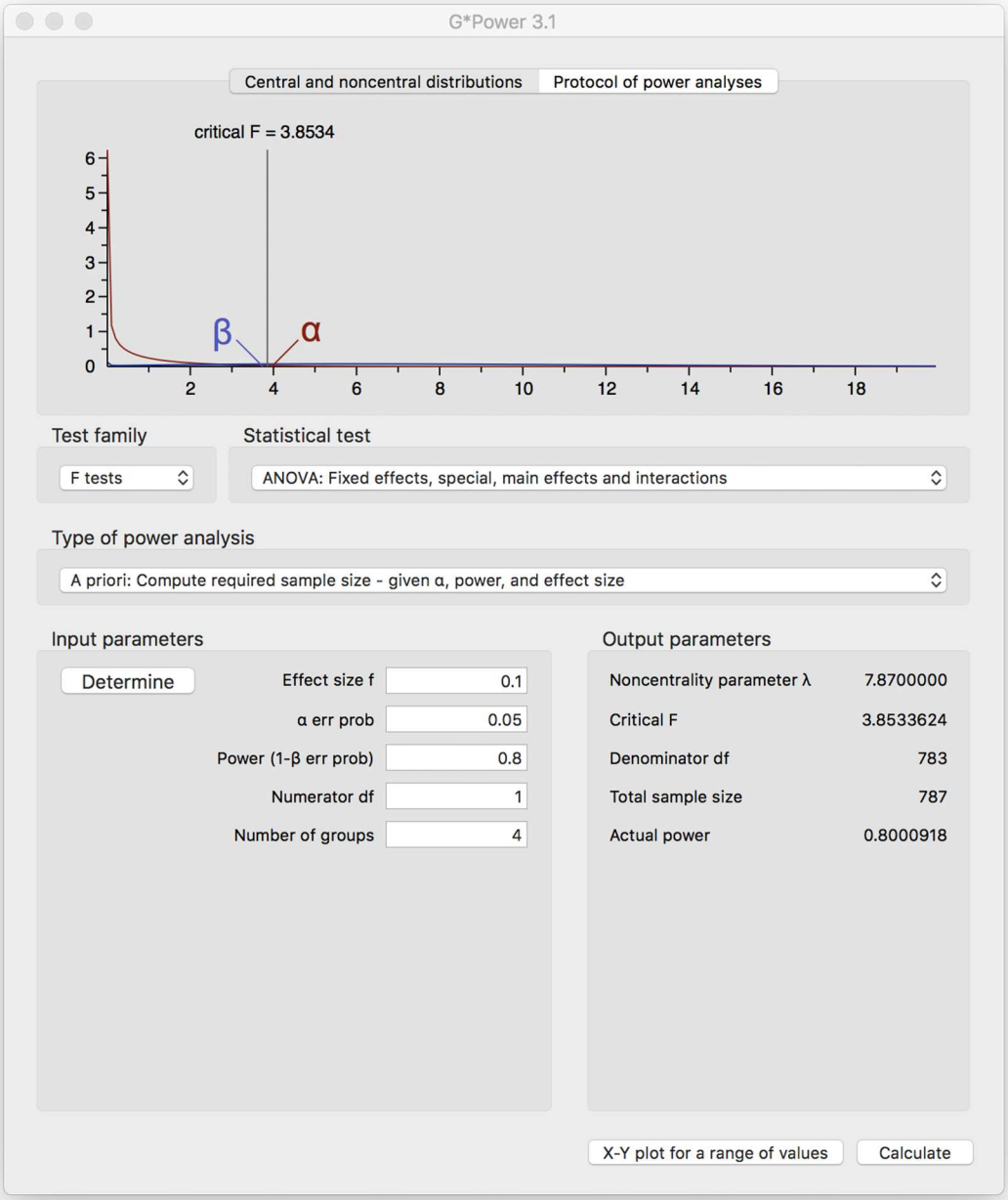
Appendix A: Three Point Quiz Questions

1 Suppose you have $100 in a savings account earning 2 percent interest a year. After five years, how much would you have?
   a. More than $102**
   b. Exactly $102
   c. Less than $102
   d. Don't know
   e. Refuse to answer
2 Imagine that the interest rate on your savings account is 1 percent a year and inflation is 2 percent a year. After one year, would the money in the account buy more than it does today, the same or less than today?
   a. More than today
   b. Exactly the same
   c. Less than today**
   d. Do not know
   e. Refuse to answer
3 Please tell me whether this statement is true or false. "Buying a single company's stock usually provides a safer return than a stock mutual fund."
   a. True
   b. False**
   c. Do not know
   d. Refuse to answer

**Denotes the correct answers according to Lusardi and Mitchell (2011b).

Appendix B: Small Effect Size (.1) with Power at .8



Appendix C: Six Quiz Questions

1. Suppose you have $100 in a savings account earning 2 percent interest a year. After five years, how much would you have?

    a. More than $102**
    b. Exactly $102
    c. Less than $102
    d. Don't know

2. Imagine that the interest rate on your savings account is 1 percent a year and inflation is 2 percent a year. After one year, would the y in the account buy more than it does today, the same or less than today?

    a. More
    b. Same
    c. Less**
    d. Don't know

3. If interest rates rise, what will typically happen to bond prices? Rise, fall, stay the same, or is there no relationship?

    a. Rise
    b. Fall**
    c. Stay the Same
    d. No Relationship
    e. Don't know

4. **True or false:** A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.
    a. True**
    b. False
    c. Don't know

5. **True or false:** Buying a single company's stock usually provides a safer return than a stock mutual fund.

    a. True
    b. False**
    c. Don't now

Bonus Question:

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?

a. Less than 2 years
b. 2 to 4 years**
c. 5 to 9 years
d. 10 or more years
e. Don't know

**Denotes the correct answers to National Financial Capabilities Quiz of 2018.