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Miami, Florida

Financial Wellness: Knowledge, Behavior & Happiness

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by

Patrick R. Dulcio

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To: Dean William G. Hardin
College of Business

This thesis, written by Patrick R. Dulcio, and entitled Financial Wellness: Knowledge, Behavior & Happiness, having been approved in respect to style and intellectual content, is referred to you for judgment.

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DEDICATION

Words cannot express the depth of my gratitude for everyone from grade school to today who've helped me throughout my academic journey. I know I would not be here today without the mentorship, guidance and favor from countless individuals whom God has intentionally place in my life. However, I would be remiss if I did not dedicate this great achievement to a special group of individuals. Their love, encouragement, and understanding have been the pillars that kept me going even in the most trying of times.

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ABSTRACT OF THE DISSERTATION

Financial Wellness: Knowledge, Behavior & Happiness

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This study investigated the relationship between financial literacy, financial behavior, financial stress, and financial well-being. A total of 350 usable responses was derived from a survey and analyzed the data using partial least squares structural equation modelling (PLS-SEM) techniques. The findings of this study provide evidence to support the three out of the four hypotheses proposed, including the impact of financial literacy on financial behavior, as well as the positive impact of responsible financial behavior on financial well-being, and the negative impact of financial stress on financial well-being. The implications of this study suggest that improving financial literacy could potentially lead to more responsible financial behavior and lower financial stress, ultimately contributing to improved financial well-being. However, the limitations of this study should also be taken into consideration when interpreting the results, including the use of self-reported measures and the potential for selection bias. Future research should address these limitations and explore additional factors that may impact financial literacy, financial behavior, financial stress, and financial well-being. This could include longitudinal studies that examine changes in financial behaviors and well-being over time, as well as the effectiveness of interventions aimed at improving financial literacy and reducing financial stress. Overall, this study provides valuable insights into the complex relationship between financial literacy, financial behavior, financial stress, and financial well-being, and highlights the importance of considering these factors when developing policies and programs aimed at improving individuals' financial outcomes.

Keywords: Financial Behavior, Financial Literacy, Financial Stress, Financial Well-Being

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CHAPTER I: INTRODUCTION

Financial literacy is a crucial skill that is often not emphasized enough in traditional education. Despite its importance, only a handful of states require a dedicated finance course as a graduation requirement (Council for Economic Education, 2022). The lack of emphasis on financial literacy in schools may contribute to the financial difficulties that many Americans face today. However, with earlier exposure to financial education, students can establish a strong foundation for healthy financial practices and avoid common mistakes that lead to long-term financial challenges (Fox, 2021). Improving financial literacy can have a profound impact on one's ability to make sound financial decisions, ultimately leading to better financial outcomes.

Research has shown that low financial literacy can have negative impacts on an individual's ability to manage their finances and make informed decisions (Lusardi, A., 2019). Personal finance decisions, such as investing in the stock market, purchasing a home, reducing debt, and planning for retirement, can be challenging for individuals without a solid financial foundation (Norman, A. S, 2010). While there are many resources available to improve financial knowledge, individuals with little or no financial education may find it overwhelming to process large amounts of information (Lusardi, A., & Mitchell, O. S, 2014). This highlights the importance of providing accessible and digestible financial education resources to individuals at all stages of life. By improving financial literacy, individuals can make informed decisions about their personal finances and improve their overall financial well-being.

Financial well-being is a state in which an individual feels secure and satisfied with their current and future financial situation (Riitsalu, L., Sulg, R., Lindal, H., Remmik, M., & Vain, K., 2023). The benefits of financial well-being are significant and far-reaching. Individuals who experience financial well-being are more likely to have higher levels of overall life satisfaction (Archuleta, K. L., Dale, A., & Spann, S. M., 2013). They are also more likely to make better financial decisions, including saving for the future and avoiding high levels of debt (Joo, 2008). Additionally, financial well-being can have positive spillover effects on family and community, as individuals who experience financial security are better able to contribute to the well-being of those around them (Prawitz, A., Garman, E. T., Sorhaindo, B., O'Neill, B., Kim, J., & Drentea, P, 2006). Financial well-being is an important aspect of individual and societal health, and understanding the factors that contribute to financial well-being is an important area of research.

Financial literacy has been shown to positively impact an individual's ability to manage their finances in both the short and long term (Hung, A., Parker, A. M., & Yoong, J., 2009). Research has also suggested that individuals who struggle with financial literacy are at an increased risk of experiencing financial stress (Heckman, S., Lim, H., & Montalto, C., 2014). Furthermore, studies have found a strong link between financial well-being and an individual's understanding of personal finances (Philippas, N. D., & Avdoulas, C, 2020). Financial well-being is a crucial aspect of overall well-being, encompassing factors such as income, job security, housing, standard of living, access to healthcare, education, and social connections (Hicks, S., Tinkler, L., & Allin, P. , 2013). Prioritizing financial education and improving financial literacy can help individuals and societies achieve greater financial stability and overall well-being.

The modern financial system is subject to a range of influences, including changing economic balances, higher unemployment rates, changes in purchasing power, inflation, increased tax burdens, changing government policies, unstable interest rates, complex consumer market, and increased competition among businesses (Yıldırım, M., Bayram, F., Oğuz, A., & Günay, G. , 2017). Individuals' use of financial resources affects their social and economic well-being as well as the national economy (Friedline, T., Chen, Z., & Morrow, S. P. , 2021). Therefore, financial management skills are paramount, and improving in this area provides a critical foundation for well-being. Accordingly, it is necessary to plan income and expenditures for today and tomorrow, prioritizing the need to add money to your saving account, balance spending habits and wisely investing will enrich an individual quality of life. However, many people do not practice these financial methods for one reason or another.

The ability to make informed and effective decisions regarding personal finances is essential for achieving financial well-being (Kimiyaghalam, F., & Safari, M., 2015). Financial literacy is the foundation for making sound financial decisions, such as managing personal finances, investing wisely, and avoiding financial scams (Fernandes, D., Lynch Jr, J. G., & Netemeyer, R. G., 2014). Financially literate individuals are better equipped to handle financial challenges and to avoid negative financial outcomes such as debt, financial stress, and overall financial insecurity (Huston, S. J, 2010). In contrast, individuals with lower levels of financial literacy may struggle with managing their finances, making poor investment decisions, and falling victim to financial scams. This can lead to an overall sense of financial anxiety and insecurity (Shapiro, G. K., & Burchell, B. J., 2012). By increasing financial literacy, individuals can improve their financial decision-making, achieve greater financial security and stability, and reduce feelings of financial anxiety (Fernandes, D., Lynch Jr, J. G., & Netemeyer, R. G., 2014; Huston, S. J, 2010). Therefore, it is crucial to prioritize financial education to improve financial well-being and overall quality of life for individuals and communities.

I.a. Background of the Study

A financially illiterate society can create problems for a country's economy, leading to poverty and greater income inequality. Concepts such as financial education, financial literacy and financial skill has created an interest in research especially by such institutions as banking companies, government agencies and community interest groups (Engelbrecht L. , 2008). These institutions and interest groups are concerned that their customers lack the knowledge and skills necessary to make decisions that are in their best interests financially (Braunstein, S., & Welch, C., 2002). As people who lack financial literacy and are consequently financially insecure are progressively shut out of the mainstream economy, this trend suggests that educating people to become financially literate will eventually become ever more vital with keeping up with the modern world.

In order to promote financial stability and individual wellbeing, financial education has become a significant focus of growing policy and regulatory concerns, notably as a complement to financial consumer protection and inclusion (OECD, 2013). Today's consumers have access to a wide range of innovative financial goods and services, including Robinhood, a fintech startup that runs an online discount brokerage and offers commission-free trading through a web- and mobile-based financial services platform. Consumers that are financially literate can make wise selections regarding their borrowing and savings (Lusardi, A., & Mitchell, O. S, 2014).

The importance of financial literacy was further illustrated during the Coronavirus pandemic (COVID-19). Where the wealth disparities were even more apparent due to COVID-19 related job losses and struggles to survive the pandemic based on savings. Without the substantial cash assistance included in the Coronavirus Aid, Relief, and Economic Security (CARES) Act, there would be even larger wealth disparities with many unprepared to cover ongoing expenses if unemployed (N. Bhutta, J. Blair, L. Dettling, and K. Moore, 2020). Even if financial education is crucial to the fight against poverty, it is not adequate on its own. The purpose of this position is to give the means for people to gain the necessary information, abilities, and morals to manage the money they have by accruing assets, paying off debt, and avoiding exploitation (Engelbrecht L. , 2014). Thus, financial literacy and education offers a path out of poverty.

The United States economy has been significantly impacted by the rise in inflation the past few years. This rise in inflation has been driven by a number of factors, including supply chain disruptions, increased demand for goods and services, and rising commodity prices. In particular, the pandemic has played a significant role in driving up inflation, as lockdowns and restrictions have led to shortages of goods and services and disruptions in supply chains (Allam, Z., Bibri, S. E., & Sharpe, S. A., 2022). According to the Bureau of Labor Statistics (2021), the inflation rate was 1.8% in 2019, 2.3% in 2020, and 3.4% in

2021. The price increases for goods and services like food, housing, transportation, and healthcare have been the main cause of this inflationary growth. Aside from that, housing costs have gone up by 2.6%, and healthcare expenses have gone up by 1.5% (Bureau of Labor Statistics, 2021). The impact of inflation on the United States economy highlights the importance of understanding the causes and consequences of inflation on the community, especially individuals living paycheck to paycheck. This rise in inflation has led to changes in consumer behavior, with many people reducing their spending on non-essential items and seeking out more affordable options.

I.b. Problem Statement

Individual finance concerns are diverse, as economic activity is rapidly shifting and transforming into a more dynamic system. Individuals that struggle to make wise financial choices with the ability to demonstrate proper behaviors have experienced changes in their quality of life under uncertain economic conditions, increasing their economic anxiety (Huston, S. J, 2010). Changes in the overall economic conditions of countries, labor markets, and social structures show the importance of financial literacy (Goyal, & Kumar, S., 2017).

More than 60% of Americans struggle to make ends meet, living paycheck to paycheck and are unable to save money for either short or long-term financial objectives. Not only do low-income families struggle with it, but 41% of Americans who earn between $150,000 and $200,000 annually also struggle to make ends meet. All while, debt from credit cards and school loans is at an all-time high (Corporation, 2022). This nation suffers greatly from a lack of personal finance knowledge. Many people have accumulated credit card and student loan debt as a result, are living financially above their means and have not saved enough money for retirement. As a nation, we have witnessed millions of Americans struggle daily with their finances due to a general lack of financial preparation, only to become heavily indebted. Two out of three families don't have any kind of emergency savings, and three out of five adults don't stick to a monthly budget (Fox, 2021).

Many individuals cannot perform economic calculations or understand the distinction between nominal and real value. They have insufficient knowledge about simple economic terms, such as basic risk diversification, and require education on more complicated concepts, such as the differences between bonds and stocks, investment fund operations, and primary asset pricing comparisons (Lusardi, A., & Mitchell, O. S, 2014). Individuals with little financial expertise often fail to save for retirement, use high-interest loans and increase their debt, follow the uninformed financial advice of family and friends, and invest little to no money in stocks. Therefore, individuals require education on various financial issues to meet their capital needs and increase their wealth (Gale, W. G., & Levine, R., 2011).

I.c. Goal of the Study

According to the National Center for Education Statistics (2020), 63% of high school graduates enrolled in college or university the following fall, leaving approximately 37% of graduates entering the workforce (NCES, 2020). However, even for individuals choosing to pursue higher education, personal finance education in college is often scant and scattered. Few colleges offer a personal finance elective course and even less require personal finance instruction as a graduation requirement (Yates, D., & Ward, C., 2011).

Regardless of when formal education ends, individuals need to know how to manage daily living expenses. Therefore, high school seems the best and most logical place to deliver personal finance education to American youth.

Individuals competent in financial literacy have better financial decision-making skills than those without such knowledge. Competent individuals are also more successful in financial planning and investment (Yıldırım, M., Bayram, F., Oğuz, A., & Günay, G. , 2017). The range and sophistication of financial products continue to expand, as does the number of financial decisions a person must make. Debit and credit cards, deposits, finance, savings and insurance programs, payday loans, rent-to-own products, credit ratings, credit scores, and others are topics often misunderstood by many people (Campbell, J. Y., Jackson, H. E., Madrian, B. C., & Tufano, P., 2010). Teaching financial literacy in high school will provide students with the knowledge and skills necessary to handle financial choices over their lives successfully. Many students are unaware that one of the most crucial financial choices they make is whether to attend college and if they do, what major should they choose (Johnson, E., & Sherraden, M. S., 2007).

College students frequently borrow to pay for their tuition; however, they often do so without thoroughly understanding how much debt is suitable for their education or the expected income level of their field of study. Many college students are unfamiliar with financial assistance, scholarships, interest, credit, inflation, budgeting, and credit ratings. At some universities, financial aid instruction consists of short, federally required entry and exit loan counseling. According to student feedback, most do not understand the material, perceiving it as a necessary step in the financial aid process rather than a learning opportunity (Cude, B. J., Lawrence, F., Lyons, A., Metzger, K., LeJeune, E., Marks, L., & Machtmes, K., 2006). Over 67% of college undergraduate students, according to a 2022 U.S. News survey, had a credit card. More than 79% of them were unaware that a person's credit score indicates the likelihood that they will not repay a loan. More than 23% of them believed that a credit score showed how much debt they had, 21.6% believed it showed how much money they had available to repay a loan, and nearly 12% believed it showed how knowledgeable they were about borrowing money (Harzog, 2022). According to the Education Data Initiative, the typical public university student borrows about $32,880 to earn a bachelor's degree (Hanson, 2023). Graduating with credit card debt and student loan debt can make for a difficult transition into the working world. People with credit card debt frequently don't understand how credit works.

For many people, credit rating is a daunting term to grasp. Simply, low credit scores have a high financial cost. Applying for a credit card, purchasing a house or car, renting an apartment, obtaining insurance, signing up for certain services, and even finding a job can depend on credit scores and borrowing records. A good credit score could save more than $100,000 in interest payments over a lifetime (Hurley, 2016). Financial literacy helps people improve their personal money habits. People with higher levels of financial literacy make smarter personal finance choices. Financially illiterate people are less likely to have a bank account, reserve funds, a retirement portfolio or buy stocks. They are most likely to use installment loans, make only the minimum payment on credit cards, hold high-cost mortgages, and have more debt and credit delinquency (CFL, 2017). People now have more control over their own financial security and must deal with ever-more sophisticated financial instruments. Lack of understanding of fundamental financial concepts is a factor in poor borrowing habits, non-participation in the stock market, and retirement planning failure (Lusardi, A., 2008). Financial decision-making is impacted by financial literacy, having ramifications for individuals, communities, nations, and society at large. Given the population's lack of financial literacy, it might be crucial to address it by including financial literacy into the academic curriculum (Lusardi, 2015).

I.d. Research Question

As comprehensively laid out in this segment, there is an opportunity to investigate what gaps or lack of connections there are to an individual financial well-being. The following research questions are intended to address said prospects:

- To what extent does a person level of financial literacy contribute to their financial stress and their mindset toward financial behavior?

- In what manner does factors such as financial behavior and financial stress shape a person sense of financial well-being?

This theoretical examination will attempt to bridge the gaps between financial well-being and the multidimensional measures of financial literacy as it relates to financial behaviors and financial stress.

I.e. Research Contributions

Financial literacy is a widely cover topic. However, this study will measure a person level of financial literacy using exam-style questions of true or false indictors, developing a score and apply the score to their financial behavior and financial stress responses. This method provided a unique approach to analyzing a person financial well-being. The significance of good financial behaviors, behaviors that allow preservation of financial stability with financial resources, in reducing cost-related nonadherence to health regimens is not well understood (Patel MR, 2016). This study's contribution was to provide more contexts to the topic by expanding on the linkage that exist amongst a person's financial behavior and financial stress as it measures up to their level of financial literacy.

Financial well-being in the research space is relatively new, remains scarce and scattered across disciplines (Brüggen, E. C., Hogreve, J., Holmlund, M., Kabadayi, S., & Löfgren, M., 2017). The contribution of the study was to consolidate and extend knowledge on financial well-being and make deeper connections of a person level of financial literacy, financial behaviors and financial stress by factoring into the study control variables aspects such as current income, financial freedom and living situation. The following literature review investigate these factors individually as well as supplementary connections that were studied in prior works.

CHAPTER II: LITERATURE REVIEW

The following literature study was undertaken to lay the groundwork for the research questions “To what extent does a person level of financial literacy contribute to their financial stress and their mindset toward financial behavior?” And “In what manner does factors such as financial behavior and financial stress shape a person sense of financial well-being?”. By examining the links between current studies, hypotheses, and findings that may support or contradict the thesis. The meanings and acronyms of important terms like financial literacy, financial behavior, financial stress and financial well-being was the emphasis of the following subsections. Determine the connections between works in light of their impact on the subject. Finally, offer a theoretical framework to help focus the study's path.

II.a. Financial Literacy

Financial literacy is an increasingly common term in economic and fiscal research. Definitions differ depending on the authors’ field of research, experience, and area of interest. Some researchers focus only on basic financial skills; others stress the multifaceted importance of financial literacy, including knowledge and experience-based elements, self-assurance when making financial decisions, and the competence to make financial decisions. Financial literacy, according to the President's Advisory Council on Financial Literacy (2008), is the capacity to employ knowledge and skills to successfully manage financial resources for a lifetime of financial well-being. As referenced in OECD (2013) a person who is financially literate will understand the fundamentals of a few essential financial topics.

The definition of financial literacy that was the main focus in this research, is an individuals' ability to determine which financial decisions will lead them to achieve their financial goals (Dewi, V. I., Febrian, E., Effendi, N., Anwar, M., & Nidar, S. R., 2020). This knowledge requires confidently managing financial matters and effective decisions in various personal finance situations. It is a critical life skill that allows individuals to make informed decisions about their money, including budgeting, saving, investing, and borrowing (Kezar, A., & Yang, H., 2010). The level of financial literacy varies widely among individuals and can have a significant impact on their financial well-being. Numerous studies have been conducted to identify a variety of factors related to financial literacy among different populations and the results have been mixed. The following examination explain the concept of financial literacy from the perspectives of various empirical and theoretical studies identified by previous researchers.

Higher financial literacy was connected to less credit card debt, according to the researchers, Tahir and Ahmed (2020), but the relationship deteriorated when other factors were taken into account. Molchanova (2020) administered an instrument they created based on a literature study to 224 students to evaluate their financial literacy. They discovered that the students had a low level of financial literacy, particularly in the areas of risk diversification, retirement planning, inflation, credit (use of credit cards) saving and investments (Ramos-Hernández, J. J., García-Santillán, A., & Molchanova, V., 2020). Sel and Sözer (2020) gave 211 primary school teachers the Financial Literacy Attitude and Behavior survey to look at their financial literacy attitudes and behaviors. According to the survey's findings, there was a significant difference in attitudes and behaviors related to financial literacy among teachers based on age rather than gender, monthly family income, or personal expenditure.

According to the empirical data, findings show that financial literacy affects financial behavior favorably. People that know how to manage their money properly will demonstrate solid financial habits including investing, saving, and credit card use (Andarsari, P. R., & Ningtyas, M. N., 2019). Henager and Cude (2016) analyzed the connection between financial behavior and age-related differences in financial literacy. Three components of financial literacy were assessed: subjective financial management skills, subjective financial knowledge or confidence, and objective financial knowledge. As compared to either objective financial knowledge or subjective financial management skill in the younger age groups, subjective financial knowledge or confidence was more significantly connected to short-term and long-term financial behavior in the age subsamples (Henager, R., & Cude, B. J., 2016). Mandell and Klein (2009) study, distinguish between students who had and had not taken a course in personal finance management, this study employed a matched sample design based on data from a school system. The results showed that course participants were no more financially literate than non-participants. Additionally, individuals who completed the course did not see themselves as more savings-focused or to exhibit better financial behavior than those who did not. (Mandell, L., & Klein, L. S., 2009).

While there has been a significant amount of research on financial literacy, there are still some gaps that need to be addressed. Although there is evidence that financial literacy can improve financial decision-making and financial well-being, there is still limited understanding of the extent to which financial literacy impacts individuals' financial behaviors and outcomes. Financial literacy was shown to be positively linked with some financial behaviors, such as retirement planning but not always with others, such as debt management. While there is evidence to suggest that those with greater financial literacy are more likely to participate in beneficial financial activities, including saving and investing. Further study is required to understand the connection between financial literacy and financial behavior (Robb, C. A., & Sharpe, D. L., 2009). Addressing these gaps in research was essential to improve our understanding of financial literacy and to develop effective strategies to improve financial literacy and financial well-being.

II.b. Financial Behavior

Financial behavior, as defined by Falahati (2012), is the capacity of a person to manage their finances in order to succeed in life. Financial behavior is defined by Perry and Morris (2005) as the control over one's spending, saving, and money. Financial behavior covers a wide range of ideas, such as short- and long-term investment behavior, savings behavior, loan utilization, expenditure behavior, etc. (Garman, E. T., & Forgue, R., 2014). Individual financial behavior refers to the skills individuals have developed in financial management, according to Klontz and Britt (2012). The Bureau of Consumer Financial Protection defines financial behavior as actions an individual does or does not take to secure their financial future (Bureau, 2018). Earlier research conducted by the Bureau pointed to the value of conceptualizing financial behavior as a set of activities, such as day-to-day money management tasks or planning to meet financial goals, rather than domain-based, such as investing (Bureau, 2018). Another study's' definition of financial behavior is the manner in which individuals or households manage their financial resources over time, including decisions related to spending, saving, borrowing, and investing (Jorgensen, B. L., Rappleyea, D. L., Schweichler, J. T., Fang, X., & Moran, M. E., 2017).

The primary focus of this study use of financial behavior refers to the set of actions, decisions, and habits that individuals engage in when it comes to managing their money and financial resources as define by Xiao (2008). Financial behavior can encompass a wide range of activities, from budgeting and saving to investing and borrowing with sub-psychological roots. Psychological circumstances play a significant role in a person financial decision making. In recent years studying these factors comprehensively to learn their impact in today's modern world is paramount. The following financial behavior studies reveal that psychological aspects are apparent when individual are thinking about or about to spend money. Furthermore, the literatures suggested factors such as prefer known risks, herding behavior, loss aversion and using familiar financial instruments play a part in the decision-making process.

Financial behavior is an essential and core component of financial literacy, according to OECD (2013). Atkinson and Messy (2012), positive financial behavior, such as proper budgeting and maintaining financial stability, improves financial literacy, but bad financial behavior, such as relying heavily on credit and loans, deteriorates financial well-being. Banerjee, Kumar, and Philip (2017), the favorable influence of financial literacy on financial awareness improves financial inclusion behavior. Michie, van Stralen & West (2011) examines treatments that work well at altering behavior to improve financial capacity. Dolan, Elliott, Metcalfe & Vlaev (2012), behavior transformation has been viewed as a matter of "changing minds" if they can alter people's ideas, attitudes, and aspirations, they can alter their conduct. Recent advancements in behavioral theory demonstrate that "changing contexts" can have a significant impact on behavior. Costa, de Melo Carvalho, and de Melo Moreira (2016) study provided a bibliometric examination of the discipline of behavioral finance and economics. Their findings further support the importance of Hursh (1984) work on behavioral economics as well as those of Kahneman and Tversky (1979) in the field of behavioral finance and economics. It is nevertheless reasonable to point out that the study of behavioral economics covers topics relating to how demand, consumption, and pricing are affected by human behavior, as well as how investments and management choices are affected by heuristics and cognitive biases (Costa, D.F., de Melo Carvalho, F., de Melo Moreira, B.C., 2016). Consumption impulsivity, or the propensity to make frequent purchases without considering the costs or benefits, is a key mediator of the impacts of materialism on financial behavior, according to Nye and Hillyard's (2013) study.

Despite years of research on financial behavior, there are still several gaps in the literature, which this study will attempt to narrow. Although some research has explored the connection between philosophy and financial behavior, further comprehensive studies are necessary to examine the influence of cultural factors on different aspects of financial behavior, including saving, investing, and debt management. Currently, there is a shortage of research on the impact of cultural and social factors on financial decision-making and literacy. Factors such as ethnicity, gender, and socioeconomic status can all affect financial behaviors and outcomes, additional research is required to fully comprehend the interplay between these factors and financial behavior. To enhance our understanding of financial behavior and create practical solutions to increase financial literacy and financial well-being, it was crucial to address these research gaps.

II.c. Financial Stress

Financial stress can be described as having complicated engagements and general financial responsibilities brought on by a lack of resources. Inability to manage expenses, meet financial obligations, and have enough money to cover living expenses is another unpleasant perception of a person. According to a study published in the Journal of Financial Counseling and Planning, financial stress can lead to a range of negative consequences, including depression, anxiety, and poor physical health (Xiao, J. J., Lawrence, F., & Francis, A., 2014). Another study in the Journal of Social Science & Humanities found that financial stress is associated with lower levels of happiness and life satisfaction (Tariq, Q., 2012). According to Davis and Mantler (2004), stress includes feelings of dread, anxiety, and fear, but it can also include rage and displeasure. Financial distress is the opposite of financial well-being, whereas financial stress is linked to significant financial inadequacies in meeting individual financial needs. Financial stress is mainly caused by insufficient funds as a result of personal, family, and financial shocks (Joo, S. H., & Grable, J. E., 2004). Financial stress is the force that uncertainty and shifting loss expectations in financial markets and organizations have on economic agents (Illing, M., & Liu, Y., 2003). Financial stress can be further defined as a state in which an individual or entity experiences difficulties in meeting financial obligations, resulting in emotional and physical strain. Financial stress can result from a variety of factors, including debt, job loss, unexpected expenses, or a decrease in income (Kim, J., & Garman, E. T., 2003).

This study will apply the meaning of financial stress as referring to the experience of feeling burdened, anxious, or overwhelmed due to financial circumstances, which can include factors such as debt, income insecurity, job loss, and economic recession. Financial stress has been shown to have negative impacts on individuals' mental health, physical health, and overall well-being. In this literature review, we will examine some of the research on financial stress and its effects on individuals. Overall, financial stress can have significant negative impacts on both physical and mental well-being, as well as on financial decision-making. It is important to recognize and address financial stress in order to mitigate its effects and improve overall financial health.

A study in the Journal of Consumer Research found that individuals experiencing financial stress were more likely to make impulsive and risky financial decisions (Lim, H., Heckman, S., Montalto, C. P., & Letkiewicz, J., 2014). Financial strain would conceivably worsen as a result of factors like rising debt or cash flow problems (Boss, P., Bryant, C. M., & Mancini, J. A., 2016), which would lower one's degree of financial well-being. One of the main issues facing the marginalized population is a lack of funding, which puts them in a difficult financial situation. Bailey, Woodiel, Turner & Young (1998) study looks at how financial stress affects personal and professional stress levels as well as its detrimental effects on both personal and professional satisfaction. Financial stress increases the risk of hopelessness and has a detrimental impact on a person's physical and psychological health, according to Steen and MacKenzie (2013).

According to Norman (2010), the majority of financial stress is brought on by poor spending choices that are the result of insufficient financial literacy. Many American adults struggle with financial stress on a regular basis. Similar to how physical stress can have a negative impact on health, financial stress can also have a negative impact on work performance and general well-being as studied by Bagwell & Kim (2003) and Kim, J., & Garman, (2003). Additionally, Kim & Garman (2003) studied the relationship between financial and absence as the connections between an individual characteristics, financial stress, physical well-being and psychological reactions. West, Cull and Johnson (2020) studied the link between financial stress and financial literacy, their findings indicate that there is no influence on financial behavior. Higher financial literacy was expected to lessen stress associated with money management and promote positive behaviors, which would increase a student's financial well-being. According to the research by Netemeyer and Warmath (2018), financial literacy had no effect on stress related to money management but had a slight negative partial influence on perceived future financial security.

Research on financial stress has been growing over the years but there are still some gaps that require further exploration. One such area that this study will examine as it relates to financial stress is on how social identities such as race, gender and class interact and impact an individual's experiences, particularly for marginalized groups. While many studies have explored financial stress and financial literacy this study will examine the of financial literacy level and an individual feeling to financial stress. Addressing these research gaps was essential to improve our comprehension of financial stress and develop workable ways to raise financial literacy and financial well-being.

II.d. Financial Well-Being

Financial well-being is a state of being in which a person has attained a sense of security and financial freedom and is able to meet their current and future financial demands without experiencing undue stress, according to Brüggen, Hogreve, Holmlund, & Kabadayi (2017) and Burcher & Shim (2021). Financial well-being is both an objective and subjective notion that influences how someone's financial situation changes over time (Vosloo W, Fouche J, Barnard J, 2014). The capacity to efficiently manage one's financial resources and make wise financial decisions while upholding a sense of stability and security in one's financial situation is referred to as financial well-being (Sabri, M. F., & Falahati, L., 2012). Financial contentment, financial security, financial stability, and financial resilience are only a few of the financial outcomes that are included in the multidimensional concept of financial well-being (Prawitz, A., Garman, E. T., Sorhaindo, B., O'Neill, B., Kim, J., & Drentea, P, 2006). Financial well-being can be seen as a person's subjective assessment of their financial status and is impacted by a number of personal, societal, and environmental factors (Braunstein, S., & Welch, C., 2002). A sense of financial security, the capacity to satisfy responsibilities, and the opportunity to pursue financial objectives and aspirations are all characteristics of a state of financial well-being (Drentea, P., & Lavrakas, P. J., 2000).

For the purpose of this study the definition for financial well-being refers to a state of overall financial health and security that allows individuals to meet their financial goals and obligations, enjoy a certain standard of living, and feel confident about their financial future. It is a subjective concept that varies from person to person, but generally involves a combination of factors such as income, savings, debt, and financial literacy. In particular, financial well-being is an important aspect of overall well-being, as it can affect many aspects of an individual's life, including physical and mental health, relationships, and overall quality of life. Financial well-being is a multidimensional concept that encompasses an individual's subjective and objective financial situation, including their financial stability, financial security, financial freedom, and financial satisfaction. The following literature review provides an overview of the key findings related to financial well-being, drawing from a range of academic disciplines, including economics, psychology, and sociology.

The strongest determinants of financial well-being, according to Hamilton, Muir, Salignac & Saunders (2017), are financial capability, financial inclusion, social capital, income, and mental health. A number of variables, including income, savings, debt, financial literacy, and money management abilities, have been connected to financial well-being. According to a study by Lusardi and Mitchell (2014), financial literacy and financial well-being are positively correlated, and people who have higher levels of financial literacy are more likely to report having higher levels of financial well-being. Gutter and Copur (2011) discovered that financial management abilities including investing and budgeting were positively correlated with financial well-being. According to research by Netemeyer, Warmath, Fernandes and Lynch (2018), perceived financial well-being is a significant predictor of overall happiness and has an impact that is comparable to the sum of that of other life domains. Research has also shown a connection between mental health and financial security. Financial stress was found to be negatively correlated with mental health in a study conducted by Drentea and Lavrakas (2000), and people who reported higher levels of financial stress were more likely to experience melancholy and anxiety.

Happiness, feeling, encouragement, good health, and solidified interpersonal relationships all remain when there is a positive view of financial well-being (Iannello, P., Sorgente, A., Lanz, M., & Antonietti, A., 2021). Financial well-being was discovered to be positively connected with retirement planning in a study conducted by Kim and Hanna (2022), furthermore the study found people with greater levels of financial well-being were more likely to engage in retirement planning activities. Similar to this, Hira and Mugenda (1998), found that financial well-being was a major predictor of retirement satisfaction, and that people who reported higher levels of financial well-being were more likely to report higher levels of retirement satisfaction. On the other hand, low levels of financial well-being may cause anxiety, aggression, exhaustion and poor mental health (Fitzpatrick SL, Appel LJ, Bray B, Brooks N, Stevens VJ, 2018). Similar to how poor financial health may impair physical, mental, and social well-being, evidence suggests that this can also have a negative impact on work performance, short-term judgment, the capacity to focus, absenteeism, and productivity (Osman Z, Madzlan EM, Ing P, 2020).

One method to enhance financial well-being has been recognized as financial education. Financial education was found to be positively connected with financial well-being in a study conducted by Mandell and Klein (2009), and people who obtained financial education were more likely to report greater levels of financial well-being. Similar to this, Cole, Paulson and Shastry's (2013) study revealed that financial education enhances financial behavior, which is therefore favorably correlated with financial well-being. Shim, Xiao, Barber & Lyons (2009) developed a conceptual model of the potential causes and effects of financial well-being in young adulthood is described and put to the test in this study. According to their findings, financial education at home, formal financial education at school, and self-actualizing personal values may all play significant anticipatory socialization roles in how young adults learn about financial matters and develop attitudes and behavioral intentions based on that knowledge.

Financial well-being is a broad and complex concept that has been studied extensively in the social sciences. However, there are still gaps in our understanding of financial well-being, and several areas of research are needed to better understand this important concept. One of the apparent gaps in literature is a need for regionalize research study. Many financial well-being studies have been conducted in western countries, which limits the generalizability of the findings to other cultures. There is a need for more research that examines the influence of cultural factors on financial well-being that are within our region.

II.e. Theoretical Framework

Personal Financial Wellness (PFW) (2022)*:* The design of the theoretical framework used in this study was made possible by the Personal Financial Wellness (PFW) theoretical framework created by Joo (2008). By constructing a structural framework that includes financial perception and knowledge elements, financial stress, and financial behaviors, this study aims to provide an integrated evaluation of the factors that influence financial well-being. Four components of the PFW framework were put out by Joo (2008) and comprise the following: objective status, subjective perception (including financial attitudes and knowledge), financial security and financial satisfaction. To thoroughly evaluate these components mentioned in the PFW framework, no empirical test was carried out. Similar to this, Brüggen (2017) also suggest aspects like financial behavior and personal qualities (such financial knowledge, capacity, self-efficacy and financial practice) in their conception and research agenda of financial well-being. The PFW was used by Garmen (1999) to investigate the effect of workplace training on workers' financial wellbeing. The approach developed by Joo (2008) was also applied to research worker productivity (Parcia, R. O., & Estimo, E. T., 2017).

In this examination of literature, we delve into the interconnections between financial literacy, one's actions towards money matters, emotional and physiological responses to monetary situations identified as financial behavior and financial stress. As well as the overall fiscal wellness as it relates to financial well-being. A comprehensive framework that addresses these elements was also reviewed and showed how essential these foundations are for individuals to achieve financial security and prosperity.

CHAPTER III: RESEARCH MODEL & HYPOTHESIS

A research model (Figure 1) was created to demonstrate the results of the literature review relationship to the research questions. Due to the exploratory nature of this analysis the research model shows how the examination of these constructs will assess the impact of the hypotheses associated to the dependent and independent variables. The dependent variable, the presumed effect, depends on the factors measured in this study. The independent variable, the presumed cause, is stable and unaffected by the measured variables.

III.a. Research Model

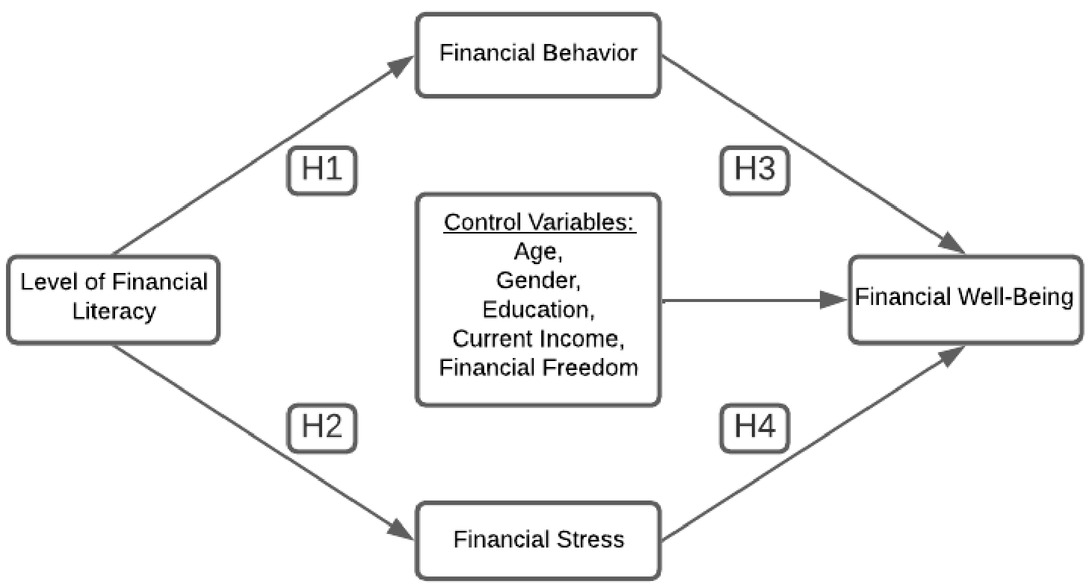

Figure 1: Research Model

The conceptual specification of the model posited that financial literacy level contribute to both a person financial behavior and financial stress. That the above listed control variables play a role in the outcome a person financial well-being. The hypotheses and conceptual framework were derived from the research questions regarding a person financial behavior and financial stress directly contribute to an individual financial well-being.

III.b. Hypotheses Development

In order to support or refute the above-stated hypotheses, the following subcategory will give more precise connection and/or interaction from previously completed research:

Financial literacy, as discussed in the literature review, can be defined as the ability to comprehend and make wise financial decisions. One's accountability for how they handle money is related to their financial behavior. Assessing the significance of a purchase and separating necessities from wants are two components of efficient financial management. According to Kaur, Yadav & Gautam (2013), financial literacy is a critical life ability for individuals to obtain encouraging financial habits. Remund (2010) asserts that financial literacy refers to a person's capacity to comprehend and utilize financial issues. Financial literacy is described as having the understanding of fundamental economic and financial concepts, as well as the capacity to use that knowledge and other financial skills to manage financial resources successfully for a lifetime of good financial decision Hung, Parker and Yoong (2009). Numerous studies have shown that those with better financial literacy are more likely to engage in desirable financial activities than people with lower financial literacy, including but not limited to budgeting and stocks (Yang, T. Y., Tsai, P. H., and Chiang, T. F., 2022). Financial literacy, according to Huston (2010), is a solid indicator of how someone will make financial decisions. Furthermore, those who are more financially literate create more smart retirement plans (Clark, 2016).

Given that financial literacy has been shown to be a proxy for someone's knowledge of financial markets (Bottazzi, L., and Lusardi, A., 2021). Households with more affluent and educated families, as measured by wealth. They are also more likely to invest actively and successfully in the stock market (Abreu, M., and Mendes, V., 2010).

Financial literacy affects financial behavior favorably, according to the empirical data. People that know how to manage their money properly will demonstrate solid financial habits including investing, saving, and credit card use. According to an empirical study by Lusardi & Tufano (2015), those with poor financial literacy are more likely to struggle financially. Entrepreneurs are more prone to become caught in debt with excessive interest rates if they lack the necessary understanding. Andarsari & Ningtyas (2019) People that have good money management skills will exhibit good financial practices such as investing, saving, and credit card utilization. Henager and Cude (2016) found that subjective financial knowledge was more strongly related to short-term and long-term financial behavior than either objective financial knowledge or subjective financial management skills. Mandell and Klein (2009) findings demonstrated that participants in financial literacy courses were no more financially literate than non-participants.

As demonstrated by these studies the linkage between financial literacy and financial behavior has mixed results. By means of connecting financial literacy level to behavioral attributes, this study will attempt to provide a clearer understanding of this relationship. Subsequently, the following hypothesis was developed:

H1: *Financial literacy has a positive impact on financial behavior, such that individuals with high financial literacy will exhibit more responsible financial behavior than individuals with low financial literacy.*

According to Norman (2010), the majority of financial stress is brought on by poor spending choices that are the result of insufficient financial literacy. Two people in the same financial situation may report different levels of stress, supporting the idea that financial stress is a subjective experience. $10,000 in credit card debt could be regarded as too much for some people while being acceptable for others. Similarly, $100,000 in student loans may be seen acceptable to some and excessive to others for a degree. Financial stress can be brought on by a significant amount of debt, medical expenses, a job loss, or just being reckless with one's expenditures. According to a 2014 study by Heckman, Lim, and Montalto, those who feel more financially self-sufficient and more financially optimistic about the future are much less likely to experience financial stress (Heckman, S., Lim, H., & Montalto, C., 2014).

Alban (2021) study from the FINRA Investor Education Foundation & Global Financial Literacy Excellence Center that identified a lack of financial literacy as the primary contributor to financial stress. According to Steen and MacKenzie (2013) making bad life decisions may be caused by a lack of financial literacy. These life choices could lead to or exacerbate financial hardship, which can have detrimental consequences. Financial suffering and financial literacy are correlated, according to Idris, Krishnan, and Azmi (2013). Their research showed a link between financial literacy and degrees of financial distress. West, Cull and Johnson (2020) predetermined that higher financial literacy was predicted to encourage good behavior and reduce stress related to money management. However, their research discovered that there is no correlation between financial stress and financial literacy.

These investigations show that there are conflicting findings about the relationship between financial literacy and financial stress. This study aims to clarify this association by linking the level of financial literacy to stress related characteristics. Subsequently, the following hypothesis was developed:

H2: Financial literacy has a positive impact on financial stress, such that individuals with high financial literacy will exhibit low level of financial stress than individuals with low financial literacy.

Numerous studies that focused on the connection between financial behavior and financial well-being have produced important findings. The most important element affecting financial well-being, aside from income and financial knowledge, is financial behavior, claim Sabri and Falahati (2013). Mokhtar and Husniyah (2017) found the same conclusion, demonstrating that financial behavior is a key component of financial well-being. They suggested that developing strong financial behavioral principles through practicing sound financial management skill are the most effective method to improve financial well-being. Riyazahmed (2021) investigated the psychological traits that affect a person's financial behavior and well-being, while also looking at the impact of individual self-control variances and other non-cognitive elements. The findings stated, self-control increases the likelihood that people will save money from every paycheck, engage in better general financial behavior, experience less financial anxiety, and feel more secure about their present and future financial circumstances.

According to the findings of Ghazali, Alwi, Aziz & Hazudin (2020) financial well-being will rise in tandem with sound financial behavior. Joo and Grable (2004), financial behaviors including sticking to a weekly or monthly budget, paying off credit card debt in full each month, and placing money aside for savings all have a direct or indirect impact on one's financial well-being. Shim Xiao, Barber & Lyons (2009) studied the financial well-being of young adults was found to be connected to financial behaviors, such as budgeting and saving management. This finding suggests that good financial behaviors should enhance financial well-being. Kim and Garman (2003) agreed by stating poor financial management was found to be inversely associated to wellbeing. Worthy, Jonkman, & Pike (2010), college students' bad financial behavior may have an impact on their future financial security. College students' financial behaviors and their consequences on their wellbeing were explored by Xiao, Shim, Barber & Lyons (2007). They discovered a positive relationship between general well-being and effective money, credit, and saving management. Additionally, it was discovered that college students' financial contentment increased when they established good financial habits. Iramania and Lutfi (2021) findings demonstrate that financial well-being is directly influenced by financial experience, financial knowledge, financial status, and marital status. Furthermore, the study’s findings demonstrated a favorable correlation between age, education, financial literacy and well-being.

These research papers show that there are several factors that may play a significant role in the development of a person’s financial well-being as it relates to their financial literacy. By applying a literacy level score to their financial behavior we can analyze these contributions to determine a deeper connection on a person's well-being. Subsequently, the following hypothesis was developed:

H3: Financial behavior has a positive impact on financial well-being, such that those individuals with more responsible financial behavior will experience higher levels of financial well-being than those with less responsible financial behavior.

Financial stress can be viewed as the unpleasant sensation of not being able to meet one's basic necessities, manage one's expenses or have enough money to cover one's living expenses. According to results from an American Psychological Association (APA) 2019 Stress in America study, money and finances are one of the biggest sources of stress, 6 out of 10 adults mentioned it as a significant source of personal stress (Cobo, 2023). These individualized stressors can be as minor as losing your wallet or being late with a bill payment. To more significant personal concerns, such as an unanticipated large-cost emergency like a medical bill or the need to buy a replacement vehicle. Or even greater pressures, like having a lot of debt or spending money carelessly.

Financial stress would conceivably worsen as a result of debt accumulation or cash flow problems, lowering one's level of financial well-being (Bryant CM, Mancini JA, 2016). Steen and MacKenzie (2013) stated financial stress increases the risk of hopelessness and has a negative impact on a person's physical and psychological health. Comparably, Kim and Garman (2003), acknowledged that financial stress can have a negative impact on one's general well-being, including their state of health, as well as their ability to do their jobs effectively. Choi, Heo & Lee (2020) analyzed whether financial well-being mediates the recognized link between job instability and financial stress, this study presented a nuanced approach to the topic. Archuleta, Dale & Spann (2013) studied the relationship between debt and financial anxiety is related to financial contentment, student debt, and gender, according to the findings of two hierarchical regression analyses.

These studies demonstrate that a number of variables may have an impact on how one develops their financial stress and their overall financial well-being. Applying a literacy level score to a person's financial conduct allows us to examine these contributions and draw deeper conclusions about the impact they have on a person's wellbeing. Subsequently, the following hypothesis was developed:

H4: *Financial stress has a negative impact on financial well-being, such that those individuals with less responsible financial behavior will experience lower levels of financial well-being than those with more responsible financial behavior.*

As referenced in these hypotheses, a person level of financial literacy positively influences financial behavior and financial well-being, meaning optimistic performance with financial decisions will increase a person economic position. Whereas a person level of financial literacy contributes negatively toward financial stress and financial well-being, hence their economic situation maybe the source of high anxiety. Consequently, level of financial literacy directly impacts financial well-being both positively and negatively.

III.c. Control Variables Development

Control variables are essential in research to minimize the effects of confounding variables and to enhance the accuracy of the results. Control variables are the factors that may affect the dependent variable but are not of primary interest to the study. In this study, the main construct is financial well-being, and the following control variables have been selected based on their potential influence on the outcome variable. It is a well-established demographic factor that impacts financial well-being (Furnham, A., & Cheng, H., 2017). The significant control variables in this study are age, gender, education, income and financial freedom (debt).

Age influences various aspects of financial well-being, such as income, savings, investments, and retirement planning. Previous research has shown that gender differences exist in financial behaviors and outcomes (Walczak, D., & Pieńkowska-Kamieniecka, S., 2018). Women, for instance, are more likely to face financial constraints due to the gender wage gap and societal expectations regarding caregiving responsibilities. Education influences financial literacy, financial attitudes, and financial behaviors (Mandell, L., & Klein, L. S., 2009). Highly educated individuals are likely to have better financial knowledge and skills, which can translate into improved financial well-being. Previous studies have shown a positive association between income and financial well-being (Foong, H. F., Haron, S. A., Koris, R., Hamid, T. A., & Ibrahim, R., 2021), suggesting that income may be a relevant control variable in other contexts. Financial freedom (debt) can significantly impact financial well-being, with high levels of debt leading to financial stress and reduced financial security (Mafulela, B., 2019). As such, it is essential to control for debt levels when examining financial well-being outcomes. Controlling for these variables allows for a more accurate examination of financial well-being outcomes and enhances the validity and generalizability of the study findings.

III.d. Chapter Culmination - Research Model & Hypothesis

Hypotheses Table	
H1:	*Financial literacy has a positive impact on financial behavior, such that individuals with high financial literacy will exhibit more responsible financial behavior than individuals with low financial literacy.*
H2:	*Financial literacy has a positive impact on financial stress, such that individuals with high financial literacy will exhibit low level of financial stress than individuals with low financial literacy.*
H3:	*Financial behavior has a positive impact on financial well-being, such that those individuals with more responsible financial behavior will experience higher levels of financial well-being than those with less responsible financial behavior.*
H4:	*Financial stress has a negative impact on financial well-being, such that those individuals with less responsible financial behavior will experience lower levels of financial well-being than those with more responsible financial behavior.*

Table 1: Hypotheses

This chapter presented study research model (Figure 1) and the hypotheses that were formulated based on the research questions. The model posits that financial literacy contributes to financial behavior and financial stress, and control variables play a role in a person's financial well-being. The hypotheses focus on the impact of financial literacy on financial behavior and the relationship between financial stress and financial literacy. The literature review reveals that financial literacy affects financial behavior positively, while financial stress is linked to a lack of financial literacy.

CHAPTER IV: METHODOLOGY

The research objective for this study is to identify the connections that exists between a person's level of financial literacy and their financial well-being. To ensure ethical and safe research, this study followed federal regulations protecting human participants and their rights. Florida International University (FIU) - Institutional Review Board (IRB) reviewed the proposal request and provided the necessary approval for this study. The research strategy used for this study is positivist paradigm and employs a conventional survey methodology.

Data were gathered for the study using a quantitative methodology via survey. The questionnaire design consists of six (6) sections, the first dealing with demographics. The validated scales for the four constructs of this research study are covered in the preceding section. In an effort to combat comment method biasness, validation questions were added. Furthermore, the questionnaire was systematically structured to gather comprehensive and relevant data. Survey administration was via Qualtrics Online Sample (Qualtrics) and distributed through Connect Cloud Research (Connect). A pilot study was conducted to ensure the survey questions are relevant and effective for answering the research question and hypotheses.

IV.a. Questionnaire Design

The questionnaire is comprised of multiple sections, each designed to measure a component of the research model. The survey questions used to measure the study variables were taken from validated scales that are discussed in more detail later in this section. The quality and accuracy of the data obtained are directly impacted by the questionnaire design, making it a crucial part of this study examination. The survey was meticulously crafted to assure that the study's findings are accurate and significant. The survey begins with a set of questions related to the respondents' characteristics, then an exam style set of questions to measure a person's level of financial literacy. The remaining survey questions on the variables of financial behavior, financial stress and financial well-being are designed for scaled responses.

IV.b. Demographics

The particular characteristics of the respondents' demographics were collected as part of the study, excluding identifying questions such as, but not limited to, name, address, birthday, etc. The demographics characteristics that were incorporate into the survey include age, race, gender, income, education, homeownership, marital status and financial standing.

Population of Interest

The population of interest is a crucial aspect of any research study as it defines the group of individuals that the study aims to investigate. The population of interest in this dissertation comprises American adults aged 18 or older. This group was selected because they represent a significant segment of the population that is likely to face financial decisions that have long-lasting implications. The age range was chosen to target individuals who are early in their careers, starting families, or going through significant life changes that impact their financial stability. By focusing on this population, the study aims to provide insights into the financial literacy and financial behavior of American adults that can inform financial education and policy initiatives aimed at improving financial well-being.

Sample

Participant selection was via convenience sampling, a nonprobability sampling technique. An a priori power analysis was conducted using G*Power version 3.1.9.7 (Faul, 2007) to determine the minimum sample size required to test the study hypothesis. The test family employed for this study was t–tests, while the correlation of point biserial model was selected as the statistical test. The input parameters setting that were recorded to analyze the necessary sample size begin with a two-tailed bell-curve and reviewed Cohen's (1988) general guidelines for detecting specification effect size. Results indicated the required sample size to achieve 80% power for detecting a medium effect, at a significance criterion of alpha equaling half a point ($\alpha = .05$). Thus, the obtained sample size of 300 ($N = 300$) is adequate to test the study hypothesis.

IV.c. Construct Measurements Analysis

As part of this research study, the statistical technique of selecting measurement scales that have already been tested for validity and reliability was employed. This approach was chosen to ensure that the study's data collection and analysis were as accurate and robust as possible. The theoretical model of the study consists of four key variables: level of financial literacy, financial behavior, financial stress and financial well-being. Financial well-being was chosen as the independent variable, while the other three variables were considered paradigm dependent. The study aimed to investigate the relationships between these variables and determine how financial well-being impacts financial literacy, behavior, and stress. Through careful analysis of the data collected, this study hopes to draw accurate conclusions and make meaningful recommendations based on the findings.

Financial Literacy

The Financial literacy measured from "Financial knowledge, experience and learning preferences: Preliminary results from a new survey on financial literacy" (Hogarth, J. M., & Hilgert, M. A., 2002) was used to validate the financial literacy findings in this study. Financial literacy was measured by testing for correct indictors of a 28-item scale containing topics such as credit, savings, mortgage, general knowledge on personal finance. Respondents were provided with the option "True" and "False" for each item. Correct responses counted for a score of one (1) and subsequently zero (0) was assigned to incorrect responses. These items received an overall score for measuring financial literacy as obtained based on the total number of correct choices, chosen by the respondents.

Financial Behavior

Financial behavior was measured using questions from the Financial Management Behavior Scale (FMBS) (Dew, J., & Xiao, J. J., 2011), where the respondents were asked to rate how often they have engaged in a number of stated behaviors during the last six months. Using information from a nationally representative sample of adults, this scale was created and the psychometric features related to financial behaviors were evaluated. With an alpha of 0.81, the FMBS demonstrated adequate dependability. The FMBS was a strong predictor of participants' actual levels of savings and consumer debt and was substantially correlated with other measures of financial management behaviors. These results imply that, despite the subscales' needs for improvement, the full FMBS is a viable and reliable way to assess financial management habits.

Financial Stress

The financial stress scale that was used in this study was APR Financial Stress Scale: Development and Validation of a Multidimensional Measurement (Heo, W., Cho, S. H., & Lee, P., 2020), where APR is for Affective, Physiological and Relational as aspects of financial stress. The authors were able to create and test a novel financial stress measure using two distinct online survey samples and an expert panel. A total of 688 responses were used in an exploratory factor analysis and 1,115 responses were used in a confirmatory factor analysis. This multidimensional financial stress scale consists of 24 items designed to study the complex nature of financial stress and tailor their intervention efforts accordingly. The Cronbach's Alpha values for affective reaction, relational behavior, and physiological responses were 0.95, 0.91, and 0.94, respectively. Therefore, the items in each category showed high reliability.

Financial Well-Being

A person's level of financial well-being was determined using the InCharge Financial Distress/Financial Well-Being Scale (IFDFW) (Prawitz, A., Garman, E. T., Sorhaindo, B., O'Neill, B., Kim, J., & Drentea, P, 2006). A group of academics throughout the country worked for several years to create the IFDFW Scale, a tool for measuring financial distress and/or well-being. Throughout the development process, indicators were added and eliminated as part of the statistical testing for validity and reliability. One aspect of a spectrum of viewpoints, from severe financial distress to the lowest level of financial well-being, is measured by the collection of indicators. Then, there would be no financial hardship and maximum financial prosperity. The IFDFW has a strong Cronbach's alpha of 0.956, which denotes great internal consistency. The IFDFW Scale gives respondents and groups of customers a high degree of confidence that the scores reflect their perceived degrees of financial distress and/or well-being.

IV.d. Common Method Bias (CMB)

Due to the multicollinearity of the dependent and independent variables of this study there may be an increase chance of Common Method Bias (CMB). In investigations when data for both independent and dependent variables are gathered from the same person in the same measurement context, utilizing the same item context and similar item attributes, CMB is typically prominent. Podsakoff, MacKenzie and Lee (2003) examined the extent to which CMB influence behavioral research results. According to their research there is not much that can be done to eliminate CMB. However, Podsakoff, MacKenzie and Lee (2003) made a few recommendations on how to reduce its impact and how to select suitable procedural and statistical treatments for different types of research settings.

After careful research on which of the methods recommended by Podsakoff, MacKenzie and Lee (2003) that can be applied to this study to avoid or decrease CMB the following method was implemented. A short time gap between measurements to temporarily segregate independent and dependent variables which was inserted in the form of a validation question. By introducing a validation question, not only does the survey attempt to reduce CMB but the survey was able to identify respondents who might not be providing accurate or consistent answers, which could be due to a lack of attention or intentional deception. This helped to filter out responses that are not useful or reliable, allowing for more accurate data analysis.

Common Method Bias (CMB) refers to a systematic variance that is attributable to the measurement method rather than to the constructs being measured (Doty, D. H., & Glick, W. H., 1998). CMB is a problem in many studies, across many disciplines and researchers need to do whatever can be done to lessen its impact on the study. Using both procedural and statistical methods of control, one may effectively reduce bias by carefully examining the study environment to pinpoint any potential causes of bias.

IV.e. Questionnaire Structure

The structure of a questionnaire is critical to its success as it determines how the questions are organized and presented to the participants. The way the questions are framed and arranged can influence the quality of data obtained, which can, in turn, affect the accuracy and validity of the study's findings. This study questionnaire structure begins with a clear introduction and instructions, followed by characteristic questions and then questions that address the research hypotheses. The questions are structured, closed ended and each question requires a response before participant can move on to the next section. It is essential to ensure that the questionnaire structure is consistent, concise, and relevant to the research objectives. Proper questionnaire structure is crucial for effective data collection, analysis, and interpretation.

The survey featured ten (10) questions to determine demographic and relevant information of the individuals participating in the study. Understanding the traits of the sample group and how they could affect the research variables depends critically on the demographic questions that are asked in a survey. Demographic information was examined in this study in relation to several research variables. Insights into how different groups within the sample population respond to survey questions differently and if these variations are significant enough to merit further inquiry was gained through the analysis of demographic data. Demographic information was also utilized to detect any potential confounding factors that might have an impact on the research findings and to account for them in later statistical analyses.

Out of the 28-items on the Hogarth & Hilgert (2002) scale, 15-items were applied to measure a person's level of financial literacy. Respondents was provided with the option of "True or False" for each item, with correct response earning one (1) and incorrect responses earning zero (0). The FMBS tool will measure financial behavior using ten (10) out of the 15-item scale from Garman, Kim, Kratzer, Brunson & Joo (1999) utilizing a 5-point Likert-scale ranging from 1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always. The APR Financial Stress Scale will measure financial stress employing ten out of the 15-items adapted from Heo, Cho & Lee (2020) by 5-point Likert-scale receiving scores of 1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Neither Agree nor Disagree, 4 = Somewhat Agree, 5 = Strongly Agree. A five-question edition of the eight-item

Prawitz, Garman, Sorhaindo, O'Neill, Kim, & Drentea (2006) IFDFW scale with a mixed Likert scale was modified for measuring financial well-being.

This survey will include two (2) validation questions, asking respondents to select a specific response option. For the purpose of identifying respondents who are not providing accurate or consistent answers and to provide a short time gap between measurements to temporarily segregate independent and dependent variables in an effort to reduce Common Methods Bias (CMB).

Upon compiling the adopted questions from each construct, this study survey will include approximately 50 questions, to elicit data for accepting or rejecting the study's hypotheses. Considerations in survey creation was question design, phrasing, order, and ease in completion.

IV.f. Survey Administration and Distribution

The online survey program that was utilized to create and collect the survey data was Qualtrics Online Sample (Qualtrics). Qualtrics offers a user-friendly interface, with a range of question types and formatting options that were tailored for the specific needs of this study. The survey was distributed using an online labor market, Cloud Research Connect (Connect), to recruit participants for the experimental studies examining financial aspects of a person well-being. Connect provided access to a vast network of survey participants, with the ability to target specific demographics and geographic regions to ensure that the study is representative of the desired population. The combination of Qualtrics and Connect provided a comprehensive and efficient solution for administering this study questionnaire and collecting high-quality data by streamlining the survey distribution process, with the ability to distribute surveys to a large and diverse pool of potential participants. Participants via Connect received a monetary compensation of $0.50 for a completed survey.

IV.g. Pilot Study

As a means to determine the validity of the survey questions, instructions, instruments, identification of correlation and the approximate time needed to complete the survey, a pilot study was conducted. The pilot's main goal was to increase the effectiveness of the survey questions, research model through modified survey instrument design, subject selection and the reduction of bias in data collection. Furthermore, the pilot was used to authenticate the statistical assessment of the research model and hypotheses use existing measurements to evaluate responses, identifying elements or items that are not supportive of the research venture (Leon, A. C., Davis, L. L., & Kraemer, H. C., 2011).

This pilot study aimed to investigate the relationship between financial behavior, financial stress, and financial literacy among individuals within the convenience sample via Facebook and social media groups and the study was administered using Qualtrics. The survey was available for one week, and 137 responses were obtained. The raw data was uploaded into SPSS for cleaning, and demographic descriptive data was analyzed within SPSS. After cleaning the raw data of missing information, selecting “I do not consent” or completing the survey in less than 60 seconds, 127 respondents remained. The majority of respondents for each demographic category by percentage are as followed; women (60%), aged group 30-40 (57%), African American (88%), with a graduate degree (38%), employed (89%), married (55%), and homeowners (55%). The household income ranged from less than $20,000 (26%) to $40,000-$79,999 (35%), and some had investments and savings (60%).

The data was then transferred to SmartPLS for further analysis. Financial literacy responses were summed up for each respondent and treated as an index in SmartPLS. The PLS-SEM algorithm factor analysis was conducted. Using the value of <0.65 as the measure, five questions were removed from financial behavior, and five questions were removed from financial stress, which provided with positive outcomes for the following test: Reliability & Validity, Outer Loadings, Graphical Output, Path Coefficients and Discriminant validity. The results of this pilot study suggest that financial behavior, financial stress, and financial literacy are interrelated. The study's findings contribute to the existing body of knowledge on financial well-being.

Feedback from individuals who were interviewed after taking the survey were very positive. The survey questions had flow and were easy to understand. The survey questions were relatable and interesting. However, on the back end of this process there were two major findings that were identified, response scores and diverse population group. The response scores for the different questionnaire sections were inconsistent and at times inaccurate. To ensure more accurate and valid outcomes from factor analysis outputs this problem was corrected within Qualtrics. The lack of diversity problem was addressed by posting the survey link within Cloud Research Connect, which provided an extremely large pool of diverse individuals.

CHAPTER V: DATA ANALYSIS AND RESULTS

After making the necessary adjustments to the questionnaire, based on from the results of the pilot study, Connect, by Cloud Research was used for collecting data for the main study. Connect participants who completed the survey were paid $0.50 for their time. At the end of the survey response window, the data was collected for analysis. The raw data was transferred from Qualtrics into SPSS for coding and subsequent cleaning. The data cleaning process is an essential step, where the quality and reliability of the data are critical (Van den Broeck, J., Argeseanu Cunningham, S., Eeckels, R., & Herbst, K., 2005). The data cleaning process involved eliminating respondents who responded incorrectly to the validation questions, reviewing the data for any errors and ensuring that the data is in the correct format for analysis. A total of 354 survey responses were collected; however, due to the data cleaning process 4 responses were removed. Leaving a final sample of 350 respondent responses available for analysis.

In addition to SPSS, SmartPLS (which employs the Partial Least Squares) was utilized to analyze the data. SmartPLS structural equation modeling is a statistical software package used for analyzing data with a graphical user interface for variance-based structural equation modeling (SEM) using the partial least squares (PLS) path modeling method (Wong, K. K., 2013). Descriptive statistics covering the study demographic, mean analysis, reliability analysis and tests of normality were assessed using SPSS. In order to verify and validate the research model, PLS-SEM, as implemented in the SmartPLS package, was employed Path coefficients were used to estimate the strength and direction of the relationships between variables. To assess the quality of the indicators and their relationships with the latent variables outer loadings were used, as well as tests for convergent and discriminant validity. To determine how much variance the model can explain, R-Square was employed. To ascertain the precision and consistency of the employed measures, construct reliability was evaluated. Lastly, bootstrapping analysis, using the percentile confidence interval approach, was used to test the significance of the relationships and to determine the standard errors of the estimates. These statistical techniques provided a comprehensive analysis of the collected data and help to answer the research questions posed in this study.

V.a. Demographics Descriptive Statistics Analysis

Table 2 presents the demographic characteristic of the final sample of 350 respondents. With regards to gender of the participants, there were slightly more male 53% than female 47%. The age allocation of the sample was relatively evenly distributed, with the exception of 30-39 year-olds making up the majority of the studies age group with 39% of the responses; 22% of the respondents were aged 18-30, 20% were aged 40-50, and 19% were aged 50 or older. Regarding ethnicity, 9% of respondents identified as African American, 74% as White non-Hispanic, 8% as Hispanic, and 9% as Asian/Pacific Islander. In terms of education, the sample lacks diversity, with a majority 43% of the responses holding a bachelor's degree, while 1% reporting some high school education, 13% holding a high school degree/GED, 20% reporting some college education, 13% holding an associate’s degree and 10% holding a graduate degree.

Additionally, the descriptive statistics of the study sample revealed that 80% of the participants were employed, while 12% were unemployed, 5% were retired, and 3% were students. In terms of marital status, 49% of the participants were single, 34% were married, 7% were divorced and 10% indicated that they are in a domestic partnership. Regarding the current housing situation, 36% of the participants were renting, 49% were homeowners and 15% were living with family or friends. The yearly household income before taxes was categorized as under \$40,000 for 32% of the participants, \$40,000-\$79,999 for 38% of the participants, \$80,000-\$119,999 for 19% of the participants, \$120,000-\$159,999 for 7% of the participants, and \$160,000 or more for 3% of the participants. Furthermore, the current level of debt varied, with 38% of the participants reporting no debt, 33% reporting less than \$20,000, 10% reporting \$20,000-\$49,999, 8% reporting \$50,000-\$99,999, 5% reporting \$100,000-\$199,999, and 6% reporting \$200,000 or more. Finally, 18% of the participants reported having significant investments and savings, 52% had some investments and savings, and 30% had very little or no investments and savings.

Variables		No.	(%)	Variables		No.	(%)
Gender	Male	184	52.6%	Marital Status:	Single	172	49.1%
	Female	164	46.9%		Married	119	34.0%
	Non-Binary	2	0.6%		Divorced	25	7.1%
Age:	18 - 29	75	21.4%		Dom. Partn.	34	9.7%
	30 - 39	137	39.1%	Housing Sit.:	Renting	126	36.0%
	40 - 49	70	20.0%		Homeowner	172	49.1%
	50 or Older	68	19.4%		Family/Friend	52	14.9%
Ethnicity:	African Am.	31	8.9%	Income:	Under \$40,000	112	32.0%
	White, not Hisp.	259	74.0%		\$40,000 - \$79,999	134	38.3%
	Hispanic	27	7.7%		\$80,000-\$119,999	67	19.1%
	Asian/Pacific	33	9.4%		\$120,000-\$159,999	27	7.7%
Education:	Some HS	4	1.1%		\$160,000 or more	10	2.9%
	HS Degree/GED	44	12.6%	Debt:	No Debt	132	37.7%
	Some College	70	20.0%		Less than \$20,000	115	32.9%
	Associate Degree	45	12.9%		\$20,000 - \$49,999	37	10.6%
	Bachelor Degree	150	42.9%		\$50,000 - \$99,999	28	8.0%
	Graduate Degree	37	10.6%		\$100,000-\$199,999	17	4.9%
Employment:	Employed	280	80.0%		\$200,000 or more	21	6.0%
	Unemployed	40	11.4%	Investments / Savings:	Yes, Significant	64	18.3%
	Retired	20	5.7%		Yes, Some	183	52.3%
	Student	10	2.9%		No, Very Little	103	29.4%

Table 2: Descriptive Statistics – Demographics

These descriptive statistics provide a comprehensive overview of the study sample, which can be used to understand the general characteristics of the participants and how they may influence the results of the study.

V.b. Graphical Output

The graphical output is a visual representation of the relationships between latent variables and their observed indicators (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019). The path diagram, which is a key component of graphical output, is used to illustrate the study's main data model (Kock, 2015). The path diagram displays the relationships between the latent variables, represented by blue circles, and their associated indicators, represented by yellow boxes. The amount of explained variance is displayed within each circle, providing a clear and concise view of the model's overall structure (Kock, 2015). In the model showed below; Financial Behavior, Financial Stress and Financial Well-Being were measured using every question related to their segment. Level of Financial Literacy was measured as an index, where respondents received a point for correct responses to the true/false questions and their total were added up into a single value representing the construct.

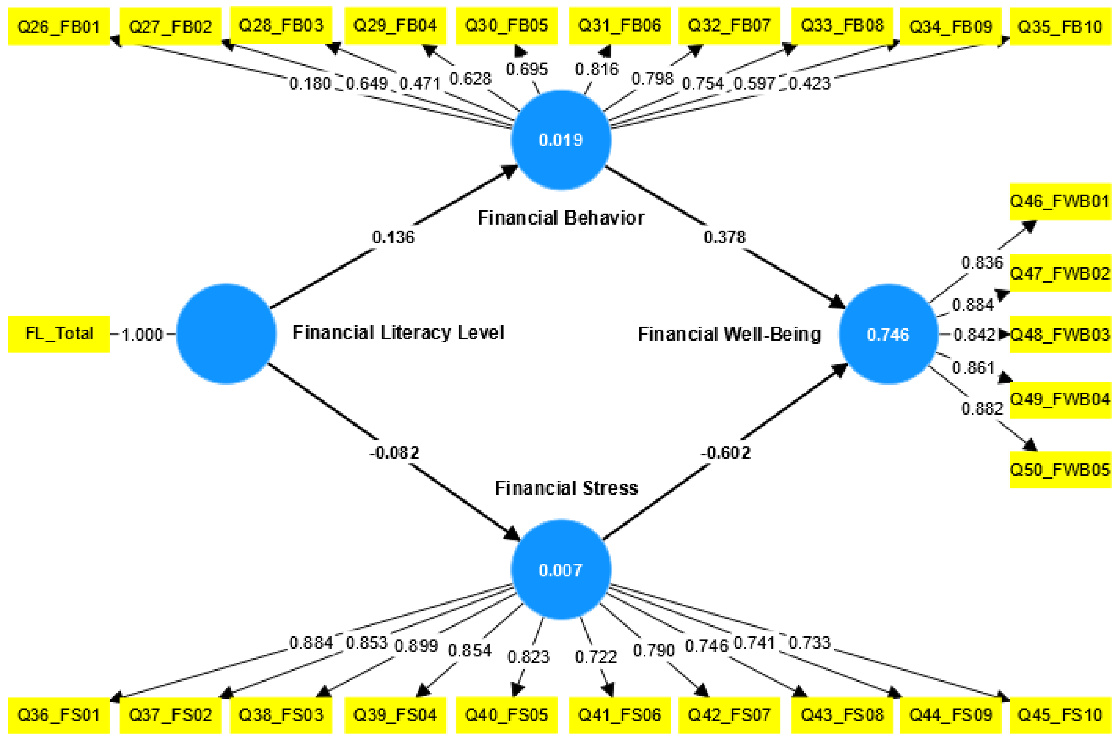

Figure 2: Initial PLS-SEM Analysis Output

In PLS-SEM Analysis, several indicators were used to assess the model's quality and the relationships between the latent variables and their observable indicators. Path coefficients and outer loadings are the first indicators observed in the model, they provide information about the strength and direction of the relationships between latent variables and their observable indicators (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019). To improve the model's convergent validity, which reflects the extent to which different indicators of the same latent construct are measuring the same underlying concept, weak outer loadings that fall below the acceptable threshold of 0.65 are eliminated (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019).

The initial assessment of the construct's reliability was met for all observed items for Financial Literacy, Financial Stress and Financial Well-Being of loadings of 0.65 or more (> 0.65). However, five out of ten items for Financial Behavior, showed poor factor loadings (FB01 = 0.180, FB10 = 0.423, FB03 = 0.471, FB09 = 0.597, FB04 = 0.628). Based on these statistical results the five items were deleted and the PLS-SEM Analysis was run again.

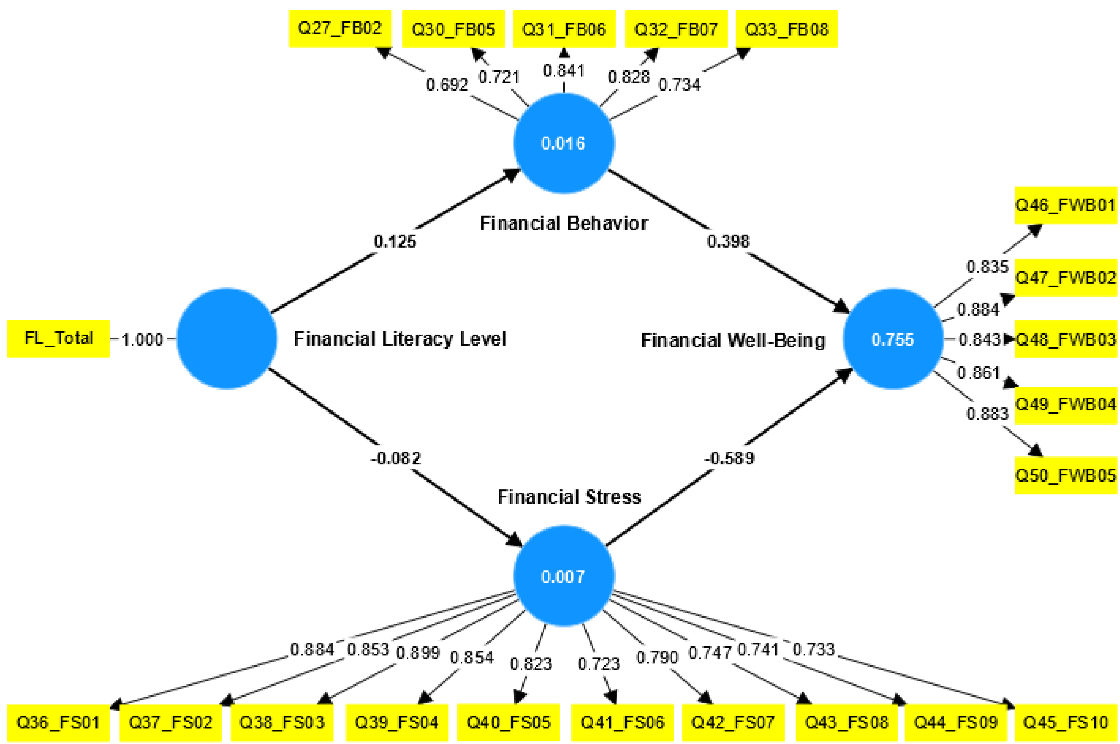

Figure 3:PLS-SEM Analysis Output – 5 FB Outer Loadings Removed

After a second-round of assessments was run, the construct reliability was met for all observed items, in all four constructs. The following subcategory were analyzed based on the revised model above.

V.c. Tests of Normality

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Level of Financial Literacy *(FL_Total)*	0.197	350	<.05	0.918	350	<.05
Financial Behavior *(FB_Total)*	0.123	350	<.05	0.942	350	<.05
Financial Stress *(FS_Total)*	0.096	350	<.05	0.945	350	<.05
Financial Will-Being *(FWB_Total)*	0.094	350	<.05	0.953	350	<.05

Table 3: Test of Normality

In order to ensure the validity of the statistical analysis, the normality of the data distribution for each construct was examined using the Kolmogorov-Smirnov test. The threshold for significance level in this study was selected at 0.05. If the p-value is less than 0.05, the null hypothesis will be rejected, and the data does not follow a normal distribution (Field, 2013).

The skewness and kurtosis values for each construct were examined, the Level of Financial Literacy had a skewness value of 0.197, Financial Behavior had a skewness value of 0.123, Financial Stress had a skewness value of 0.096 and the Financial Well-Being had a skewness value of 0.094. The standard deviations for the same variables are 0.041, 0.037, 0.035, and 0.038, respectively. The results revealed that all constructs had a significance level of greater than 0.05, indicating that the assumption of normality was achieve (Field, 2013). These results suggest that using parametric tests, such as t-tests or ANOVA, may be appropriate for these variables, as they assume normality (Sheskin, 2020).

V.d. Constructs Means Descriptive Statistics Analysis

This section presents the results of the data analysis conducted to investigate the relationship between financial literacy, financial behavior, financial stress, and financial well-being. The study collected responses from 350 participants using a survey. Financial literacy was measured using correct and incorrect indictors, the other contracts were analyzed using Likert scale. This section focuses on the results of the survey aimed to gauge participants' feelings about their current financial situation, their ability to cope with financial emergencies, and their frequency of living paycheck to paycheck. The mean and standard deviation of responses for each question are presented within their respected table. It should be noted that the items that were removed from the final model were excluded from these averages.

Furthermore, a comprehensive analysis of the mean scores for each construct were discussed for context. Analyzing these scores for each construct provides valuable insights into the financial attitudes and behaviors of the study participants. For instance, high mean scores on financial behavior questions suggest that participants have a strong understanding of financial actions and may be more likely to make informed financial decisions. Conversely, low mean scores on financial stress questions may suggest that participants have a lower level of financial stress and may be better equipped to handle financial emergencies.

Financial Literacy Assessment Analysis

A person level of financial literacy was measured using 15 questions from this study survey. Respondents was provided with the option of "True or False" for each item, with correct response earning one (1) and incorrect responses earning zero (0). The percentage score for each literacy response is reported in Table 4.

No.	Question	Correct	Count	%
01	The finance charge on your credit card statement is what you pay to use credit.	TRUE	219	62.60%
02	If you expect to carry a balance on your credit card, the APR is the most important thing to look at when comparing credit card offers.	TRUE	322	92.00%
03	Using extra money in a bank savings account to pay off high interest rate credit card debt is a good idea.	TRUE	285	81.40%
04	Your credit report includes employment data, your payment history, any inquiries made by creditors, and any public record information.	TRUE	297	84.90%
05	With compound interest, you earn interest on your interest, as well as on your principle.	TRUE	325	92.90%
06	Mutual funds pay a guaranteed rate of return.	FALSE	223	63.70%
07	A stock mutual fund combines the money of many investors to buy a variety of stocks.	TRUE	321	91.70%
08	Over the long-term, stocks have the highest rate of return on money invested.	TRUE	247	70.60%
09	If the interest rate on an adjustable-rate mortgage loan goes up, your monthly mortgage payments will also go up.	TRUE	308	88.00%
10	You could save thousands of dollars in interest costs by choosing a 15-year rather than a 30-year mortgage.	TRUE	313	89.40%
11	Repeatedly refinancing your home mortgage over a short period of time results in added fees and points that further increase your debt.	TRUE	310	88.60%
12	When you use your home as collateral for a loan, there is no chance of losing your home.	FALSE	325	92.90%
13	You should have an emergency fund that covers two to six months of your expenses.	TRUE	337	96.30%
14	Employers are responsible for providing the majority of funds that you will need for retirement.	FALSE	64	18.30%
15	The cash value of a life insurance policy is the amount available if you surrender your life insurance policy while you're still alive.	FALSE	133	38.00%

Table 4:Financial Literacy Assessment Analysis

Despite an overall score of 77%, respondents scored less than 70% on four questions, with the lowest score being 18%, “Employers are responsible for providing the majority of funds that you will need for retirement (false.)”. This indicates a lack of knowledge on certain financial topics among some respondents. On the other hand, respondents scored more than 90% on five questions, with the highest score being 96%, “You should have an emergency fund that covers two to six months of your expenses (true)”, indicating a high level of knowledge on these topics, which suggests that there is a significant gap in financial literacy among individuals.

The relatively moderate overall score and the outlier scores on both the higher and lower ends of the spectrum indicate that financial literacy levels are mixed, with some individuals demonstrating a strong understanding of financial topics, but a significant gap in financial literacy among others remains. This finding is consistent with previous research that emphasizes the need for increased financial education and literacy programs to improve financial decision-making (Lusardi, A., & Mitchell, O. S, 2014; Chen, H., & Volpe, R. P. , 1998). It is worth noting that the results of this study may not be generalizable to the broader population, as the true/false format of the exam may not fully capture the complexity of individuals' financial knowledge, as discussed in previous studies (Huston, S. J, 2010).

Financial Behavior Means Analysis

In this study, financial behavior was measured through a series of questions regarding specific actions individuals have taken in managing their finances. Respondents were asked to rate the frequency of their financial behaviors on a five-point Likert scale ranging from “never (1) to “always (5)”. The mean score for each behavior response is reported in Table 5.

No.	Item	Mean	Std.
1.)	Paid all your bills on time	4.45	0.75
2.)	Paid off credit card balance in full each month	3.78	1.31
3.)	Began or maintained an emergency savings fund	3.53	1.30
4.)	Saved money from every paycheck	3.60	1.18
5.)	Contributed money to a retirement account	3.27	1.51

Table 5: Financial Behavior Question and Scores

The mean score for paying all bills on time was the highest at 4.45, indicating that most participants were responsible with their bill payments. The mean score for paying off credit card balance in full each month was 3.78, which suggests that while many participants were making an effort to pay their credit card balance, they were not always able to pay it off in full. The mean score for beginning or maintaining an emergency savings fund was 3.53, indicating that participants were somewhat proactive in saving for emergencies, but there was room for improvement. The mean score for saving money from every paycheck was 3.60, suggesting that participants were making an effort to save, but there was still room for improvement. The mean score for contributing money to a retirement account was the lowest at 3.27, indicating that many participants were not taking advantage of retirement savings opportunities.

These findings support the hypothesis that a higher level of financial literacy positively affects financial behavior and financial behavior positively affects financial well-being. Specifically, individuals with a higher level of financial literacy are more likely to engage in positive financial behaviors such as paying bills on time, maintaining an emergency savings fund, and contributing to a retirement account, which in turn leads to higher levels of financial well-being. A study by Hung, Parker, and Yoong (2009) found that financial literacy was significantly associated with positive financial behavior, such as saving and investing. Additionally, a study by Lusardi and Mitchell (2011) found that financial literacy was positively associated with retirement planning and saving. The mean scores for financial behavior in this study provide evidence to support the hypothesis that a higher level of financial literacy positively affects financial behavior, and financial behavior positively affects financial well-being.

Financial Stress Means Analysis

The data analysis for the financial stress construct revealed that participants reported experiencing various negative emotions due to their financial situation. Respondents were asked to rate the frequency of their financial stress on a five-point Likert scale ranging from "strongly disagree (1)" to "strongly agree (5)". The mean score for each stress related item is reported in Table 6.

No.	Items	Mean	Std.
01.)	I feel depressed because of my financial situation.	2.83	1.40
02.)	I feel anxious because of my financial situation.	3.24	1.41
03.)	I feel emotionally drained because of my financial situation.	2.83	1.47
04.)	I feel frustrated because of my financial situation.	3.12	1.48
05.)	My financial situation interferes with my daily job performance.	2.18	1.28
06.)	My financial situation frequently interferes with my relationship with co-workers/colleagues.	1.85	1.17
07.)	My financial situation frequently interferes with my family relationship.	2.30	1.33
08.)	I have stomach aches frequently because of my financial situation.	1.91	1.26
09.)	I have more sweat because of my financial situation	1.87	1.21
10.)	I have more frequent muscle pain because of my financial situation	1.82	1.19

Table 6: Financial Stress Questions

Based on the mean scores of the financial stress survey, it can be assumed that participants who reported higher levels of financial stress experienced negative physical and emotional symptoms related to their financial situation. The higher means for feeling anxious (mean 3.24), frustrated (mean 3.12), and feeling emotionally drained (mean 2.83) suggest that financial stress is associated with negative emotional states. This stress may manifest itself in physical symptoms such as stomach aches (mean 1.91), sweating (mean 1.87), and muscle pain (mean 1.82). Additionally, the higher means for financial stress negatively affecting family relationships (mean 2.30) and interfering with daily job performance (mean 2.18) suggest that financial stress can have negative effects on personal and professional relationships.

These findings support the hypothesis that higher levels of financial literacy can have a negative impact on financial stress. Studies have shown that individuals with higher levels of financial literacy tend to experience less financial stress and anxiety (Hastings, J. S., & Tejeda-Ashton, L., 2008). Furthermore, reducing financial stress has been linked to improved financial well-being (Kahneman, D., & Deaton, A., 2010). In conclusion, the mean scores from the financial stress survey suggest that higher levels of financial stress can have negative impacts on both physical and emotional well-being.

Financial Well-Being Means Analysis

The data analysis for the financial well-being construct revealed that financial attitudes and behaviors play a crucial role in determining financial outcomes. Respondents were asked to rate the frequency of their financial well-being using a mixed four-point Likert scale where item one ranged from Overwhelmed (1) to Comfortable (4) and item three ranged from No Confidence (1) to High Confidence (4). Items two, four and five were measured using the same range of All the time (1) to Never (4). The mean score for each stress related item is reported in Table 7.

No.	Items	Mean	Std.
01.)	How do you feel about your current financial situation?	2.31	0.92
02.)	How frequently do you find yourself just getting by financially and living paycheck to paycheck?	2.43	1.10
03.)	How often do you worry about being able to meet normal monthly living expenses?	2.51	0.98
04.)	How often does this happen to you: You want to go out to eat, go to a movie or do something else and don't go because you can't afford to?	2.58	1.02
05.)	How confident are you that you could find the money to pay for a financial emergency that costs about $1,000?	2.77	1.17

Table 7: Financial Well-Being Questions

The financial well-being survey results reveal that the participants have a moderate level of financial well-being. The mean score for confidence in being able to handle a $1,000 financial emergency is 2.77, indicating that there is room for improvement in emergency preparedness. The mean score for how often individuals can't afford to do things they want is 2.58, indicating that financial limitations can impact quality of life. The mean score for how often individuals worries about meeting monthly expenses is 2.51, indicating that financial concerns are present for many. The mean score for how frequently individuals finds themselves living paycheck to paycheck is 2.43, suggesting that this is a somewhat common occurrence. Lastly, the mean score for how individuals feel about their current financial situation is 2.31, indicating a less positive outlook. These mean scores suggest that financial stress and insecurity may be common among the survey respondents, which may have negative effects on their overall well-being.

The mean scores for the financial well-being survey indicate that the participants in this study were experiencing some level of financial hardship. These findings suggest respondents had a negative perception of their current financial situation, were frequently living paycheck to paycheck, worried about meeting monthly expenses, and had difficulty affording small luxuries (Solheim, C. A., Zuiker, V. S., & Levchenko, P., 2011). These findings suggest that financial stress is a significant issue affecting the financial well-being of the participants (Netemeyer, R. G., Warmath, D., Fernandes, D., & Lynch Jr, J. G, 2018). Furthermore, the mean score for the question on confidence in handling a financial emergency was relatively low, indicating that participants lacked the necessary financial resources to handle unexpected expenses. This is a significant issue, as unexpected financial events can significantly impact an individual's financial well-being.

To fully comprehend the survey results and derive meaningful conclusions, it is crucial to interpret the mean scores of the four constructs in this study, namely financial literacy, financial behavior, financial stress, and financial well-being. These mean scores offer valuable insights into the central tendencies and average levels of these constructs within the surveyed population, facilitating a comprehensive analysis of the survey data (Fink, 1995). By understanding the mean scores, this study can effectively identify relative strengths and weaknesses across the different constructs, enabling a more nuanced evaluation of the participants' financial profiles (Sullivan, 2013).

V.e. PLS-SEM Analysis

Partial Least Squares Structural Equation Modeling (PLS-SEM) is a statistical technique to examine the relationships between latent variables (Henseler, J., Ringle, C.

M., & Sarstedt, M., 2015). This dissertation aims to utilize PLS-SEM to investigate the relationships between financial literacy, financial behavior, financial stress and financial well-being. A PLS-SEM analysis, using the Factor option, was run on the survey data. It estimated the parameters of the model by maximizing the explained variance in the dependent constructs. The following outcomes were examined: outer loadings, R-Square, construct reliability and validity, and discriminant validity (Kock, 2015). The results from these statistics provided insights into the complex relationships between this study constructs and their observable indicators.

Outer Loadings

	Financial Behavior	Financial Literacy	Financial Stress	Financial Well-Being
FL_Total		1.00		
Q27_FB02	0.692			
Q30_FB05	0.721			
Q31_FB06	0.841			
Q32_FB07	0.828			
Q33_FB08	0.734			
Q36_FS01			0.884	
Q37_FS02			0.853	
Q38_FS03			0.899	
Q39_FS04			0.854	
Q40_FS05			0.823	
Q41_FS06			0.723	
Q42_FS07			0.79	
Q43_FS08			0.747	
Q44_FS09			0.741	
Q45_FS10			0.733	
Q46_FWB01				0.835
Q47_FWB02				0.884
Q48_FWB03				0.843
Q49_FWB04				0.861
Q50_FWB05				0.883

Table 8: Outer Loadings

Outer loadings represent the strength of the relationship between the observed indicators and their corresponding latent variables. Ranging from 0 to 1, with higher values indicating a stronger relationship (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019). A factor analysis was conducted to evaluate the psychometric properties of each hypothesis and assess the outer loadings of each item to determine its association with its respective construct (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019). A threshold of 0.65 or more (>0.65) was used to determine the items that were strongly associated and had a substantial relationship with their corresponding constructs.

The results of the factor analysis indicated that the total score of Financial Literacy loaded perfectly at 1.00, indicating a strong relationship with the construct. The five remaining items of Financial Behavior loaded above the threshold, with the highest load at 0.841 (FB06) and the lowest at 0.692 (FB02), suggesting a strong relationship with the construct. The Financial Behavior items assessed various financial behaviors related to saving, investing, and debt management. All items of Financial Stress loaded over the threshold, indicating a strong relationship with the construct. These items assessed different financial stressors, such as concerns about financial future, inability to cover expenses, and difficulty making ends meet, with the highest load amount being 0.899 (FS03) and the lowest 0.723 (FS06). All items of Financial Well-Being scored higher than the cutoff point, indicating a strong relationship with the construct. The load scores for financial stability, security, and satisfaction for FWB02 and FWB01 respectively were 0.884 and 0.835.

These findings suggest that the measures used in the study for financial literacy, financial behavior, financial stress, and financial well-being have strong psychometric properties, with all items demonstrating substantial relationships with their corresponding constructs (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019).

Construct Reliability & Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Financial Behavior	0.821	0.826	0.876	0.586
Financial Stress	0.941	0.953	0.949	0.651
Financial Well-Being	0.913	0.913	0.935	0.742

Table 9: Construct Reliability & Validity

The construct reliability and validity test of the measures used in the model are important to establish the accuracy and robustness of the findings. In this study, the measures for each construct were evaluated using Cronbach's alpha, composite reliability (rho_a), composite reliability (rho_c), and average variance extracted (AVE) (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019). Cronbach's alpha and composite reliability was assessed using 0.7 or more (> 0.07) as the threshold for significance. While AVE's threshold for significance was assessed at 0.5 or more (> 0.05).

The measure for Financial Behavior had a Cronbach's alpha of 0.821, indicating high internal consistency reliability. The composite reliability (rho_a) and composite reliability (rho_c) values for Financial Behavior were 0.826 and 0.876, respectively, indicating high construct reliability. The average variance extracted (AVE) for Financial Behavior was 0.586, indicating that the construct explains 58.6% of the variance in the observed variables and is above the recommended threshold of 0.5, indicating good convergent validity.

With a Cronbach's alpha of 0.941, the Financial Stress measure has a very high level of internal consistency reliability. High construct reliability was shown by the composite reliability (rho_a) and composite reliability (rho_c) values for Financial Stress, which were 0.953 and 0.949. The average variance extracted (AVE) for Financial Stress was 0.651, which means the construct explains 65.1% of the variance in the observed variables. This value is higher than the suggested cutoff point of 0.5, showing good convergent validity.

For Financial Well-Being, the composite reliability (rho_a) and composite reliability (rho_c) values were 0.913 and 0.935, showing strong construct dependability. The construct explains 74.2% (0.742) of the variation in the observed variables, according to the average variance extracted (AVE) for financial well-being, which is over the suggested cutoff point of 0.5 and suggests strong convergent validity.

The measures for Financial Behavior, Financial Stress, and Financial Well-Being demonstrate good internal consistency reliability, construct reliability, and convergent validity. These findings provide support for the use of these measures in the model and suggest that the model provides a valid and reliable representation of the underlying constructs.

Discriminant Validity

	Financial Behavior	Financial Literacy	Financial Stress	Financial Well-Being
Financial Behavior				
Financial Literacy Level	0.140			
Financial Stress	0.589	0.092		
Financial Well-Being	0.821	0.082	0.842	

Table 10: Discriminant Validity

Discriminant validity is the extent to which a construct is distinct from other constructs in the study. In this study, discriminant validity was assessed using the Average Variance Extracted (AVE) values. The AVE represents the amount of variance captured by a construct compared to the total variance observed in its indicators. It is an important measure in assessing the discriminant validity between constructs. The results of the analysis indicate that the constructs have discriminant validity, as shown in Table 10. Based on the table 10, each construct has a value greater than 0, indicating that they capture a significant portion of the variance in their respective indicators. This suggests that the indicators within each construct are reliable and internally consistent (Fornell & Larcker, 1981).

The Average Variance Extracted (AVE) values provide insights into the discriminant validity between the constructs. The Financial Behavior AVE of 0.347, calculated as ((0.140^2 + 0.589^2 + 0.821^2)/3), suggests that there is discriminant validity between all but one pair of factors, specifically Financial Behavior and Financial Literacy Level. Similarly, the Financial Stress AVE of 0.354, obtained through ((0.589^2 + 0.092^2 + 0.842^2)/3), indicates discriminant validity between all but one pair, namely Financial Stress and Financial Literacy Level. Furthermore, the Financial Well-Being AVE of 0.463, computed as ((0.821^2 + 0.082^2 + 0.842^2)/3), suggests discriminant validity between all but one pair, which is Financial Well-Being and Financial Literacy Level.

These AVE values demonstrate that there is discriminant validity among most pairs of constructs, highlighting their distinctiveness. However, the pairing involving Financial Literacy Level may indicate some common variance, suggesting a potential overlap in measurement. Therefore, it can be concluded that most of the constructs in this study is distinct from the others, and there is minimal evidence of construct overlap.*R-Square*

	R-Square (R^2)	(R^2) Adjusted
Financial Behavior	0.016	0.013
Financial Stress	0.007	0.004
Financial Well-Being	0.755	0.754

Table 11: R-Square (R^2)

R-squared (R^2) measures the amount of variance in the observed indicators that can be explained by their corresponding latent variables. Ranges from 0 to 1, with higher values indicating that the latent variable explains more variance in the observed indicators (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019). The adopted threshold for value to be considered significant this study examination of R^2 is 0.20 or more (> 0.20).

The R^2 value for Financial Behavior (0.016) and Financial Stress (0.007), are both below the threshold of 0.02. Suggesting that the independent variables in the regression model explain only a small proportion of the variance in each of their constructs, indicating a weak relationship between the independent and dependent variables. Whereas the R^2 value for Financial Well-Being is 0.755, which is well above the threshold of 0.02. This suggests that the independent variables in the regression model are highly effective at explaining the variance in Financial Well-Being, indicating a strong relationship between the independent and dependent variables.

Based on the R^2 values, the regression model used in this study has a weak relationship between Financial Behavior and Financial Stress, while a strong relationship exists between the independent variables and Financial Well-Being. Therefore, the model may be more effective in predicting Financial Well-Being than Financial Behavior and Financial Stress.

V.f. Bootstrapping Analysis

In structural equation modeling (SEM), the standard errors and confidence intervals of parameter values are frequently estimated using the resampling process known as bootstrapping. The standard errors and confidence intervals of the path coefficients and R-square values were estimated using bootstrapping with 5,000 samples (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019). The threshold for statistical significance in the bootstrapping analysis that was applied in this study was $p < 0.05$. If the p-value of a path coefficient is less than 0.05, then the coefficient is considered to be statistically significant.

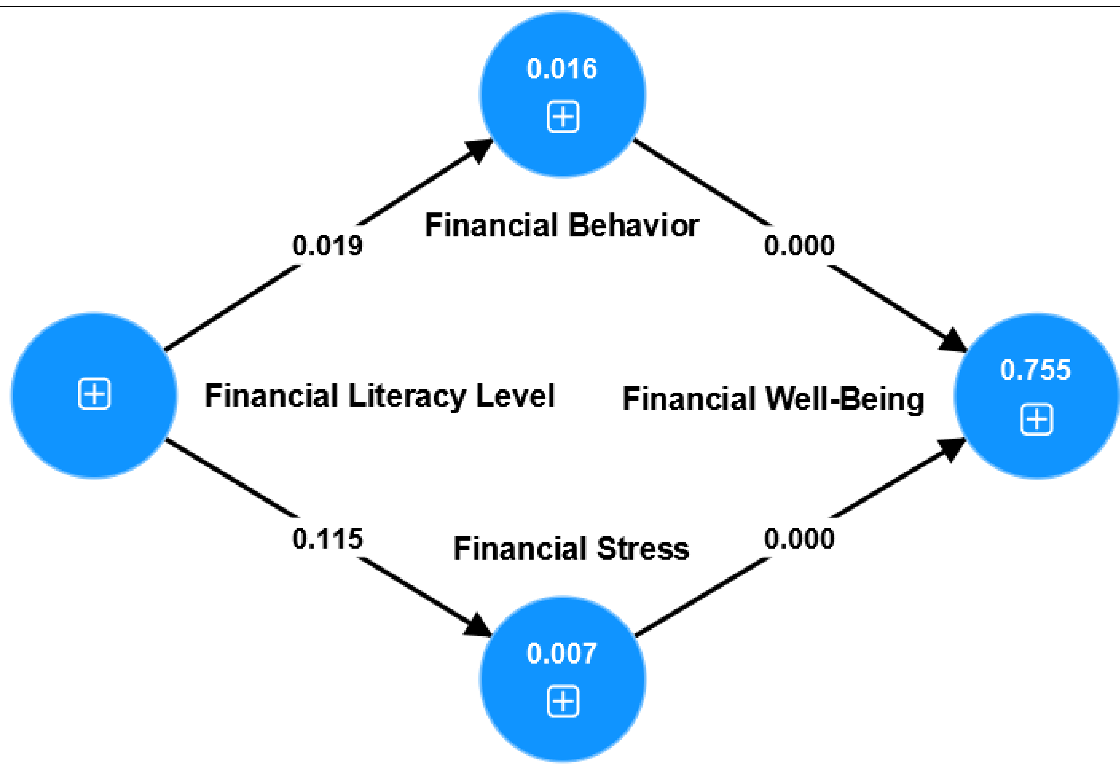

Figure 4: Bootstrapping Analysis – Structural Equation Modeling (SEM)

The relationship between financial literacy level and financial behavior was found to be statistically significant ($\beta = 0.019$, $p < 0.05$), indicating that as financial literacy levels increase, financial behavior also increases. The relationship between financial behavior and financial well-being was also found to be statistically significant ($\beta = 0.000$, $p < 0.05$), indicating that as financial behavior increases, financial well-being also increases. The relationship between financial stress and financial well-being was found to be statistically significant ($\beta = 0.000$, $p < 0.05$), indicating that as financial stress increases, financial well-being decreases.

The results of the bootstrapping analysis show that the relationship between financial literacy level and financial stress is not statistically significant ($0.115 > 0.05$), which is above the threshold for significance. This suggests that financial literacy does not have a significant effect on financial stress in this model. It is important to note that while the relationship is not statistically significant, it is still possible that there is a small or moderate effect of financial literacy level on financial stress. However, the results of the bootstrapping analysis do not provide evidence to support this claim.

The bootstrapping analysis proved to be a useful tool in estimating standard errors and confidence intervals of the path coefficients and R-square values in this study. According to the bootstrapping findings, the path coefficients was statistically significant for all but one of the four path coefficients. The results provide valuable insights into the importance of financial literacy and financial behavior in promoting financial well-being.

V.g. Control Variables Analysis

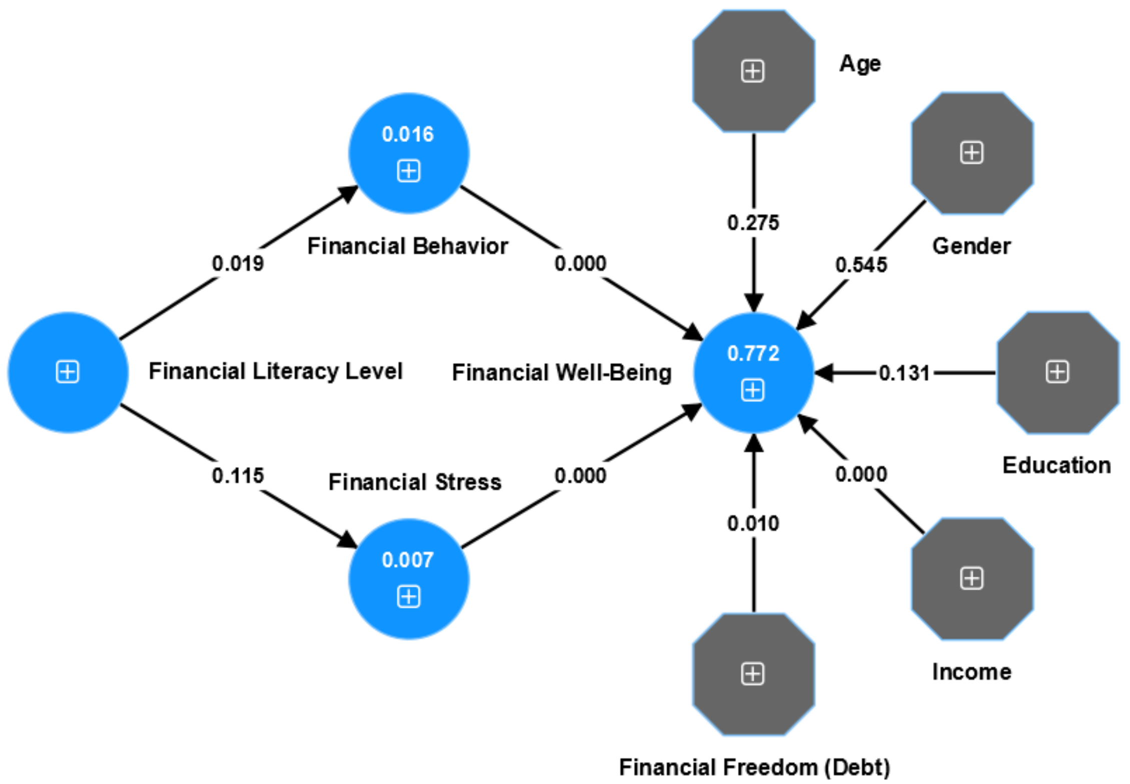

Figure 5: Bootstrapping Analysis – With Control Variables

The statistical significance of the control variable was determined by the p-value associated with its coefficient. A p-value less than or equal to 0.05 ($p < 0.05$) was used as a threshold to test for statistical significance (McGlothlin, A. E., & Killian, M. O., 2019). The goal of this technique is to examine the effect of the control variables on the dependent variable (Financial Well-being) and is not due to random chance and is likely a true effect. In this study, the control variables include age, gender, education, income, and financial freedom (debt). Each of these control variables were added to the research model and connected to Financial Well-Being and analyzed using bootstrap method.

The results indicated that age, gender and education are not statistically significant control variables in this study. The coefficient for age is 0.275, gender is 0.545 and education is 0.131, all values greater than 0.05, suggesting that these variables have little to no impact on financial well-being. However, Income and financial freedom (debt) control variables are statistically significant. The coefficient for Income and financial freedom (debt) are 0.000 and 0.010, both values well below the threshold of 0.05. These control variables are essential in isolating the effect of financial well-being on the independent variables and in ensuring the validity of the results of this study.

The results of this analysis indicated that age, gender, and education are not statistically significant control variables in the relationship between financial well-being and the independent variables. However, income and financial freedom (debt) were found to be statistically significant control variables. These findings highlight the importance of considering control variables in research studies related to financial well-being. By including relevant control variables, the effects of the independent variables on financial well-being can be isolated, increasing the validity of the results.

V.h. Path Coefficients and P-Value Analysis (Hypotheses Results)

This section is dedicated to addressing the research questions that the study aimed to investigate. In order to achieve this goal, the data collected was analyzed to evaluate the statistical significance of the relationships between the constructs. Ultimately, the statistical test that was used to determine if the hypotheses were supported or rejected were Path Coefficients and P-Value. Path coefficients represent the strength and direction of the relationships between the latent variables and their observed indicators. With positive values indicating a positive relationship and vice versa with negative values. The threshold that was used for analyzing the path coefficients for this study was the absolute value of 0.1 or greater ($|0.01|$). The strength of the relationship was interpreted using the following thresholds: 0.1 (weak), 0.3 (moderate), and 0.5 (strong) (Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M., 2019). The p-value is a statistical measure used to determine the significance of a hypothesis test. It represents the probability of obtaining the observed results or more extreme results, assuming that the null hypothesis is true (Dahiru, 2008). A p-value less than or equal to 0.05 ($p < 0.05$) was used as a threshold to test for statistical significance (McGlothlin, A. E., & Killian, M. O., 2019).

Furthermore, each result hypothesis was filled using the Personal Financial Wellness (PFW) framework for more insightful comprehend data findings. The PFW framework as elaborated further in chapter 2 literature review of this study, refers to the overall state of an individual's financial well-being, encompassing various dimensions of personal finance and their interplay. It is a comprehensive framework that takes into account factors such as financial knowledge, attitudes, behaviors, goal setting, security, and psychological well-being to evaluate and improve an individual's financial health (Buabang, E. K., Ashcroft-Jones, S., Serna, C. E., Kastelic, K., Kveder, J., Lambertus, A., ... & Ruggeri, K., 2022).

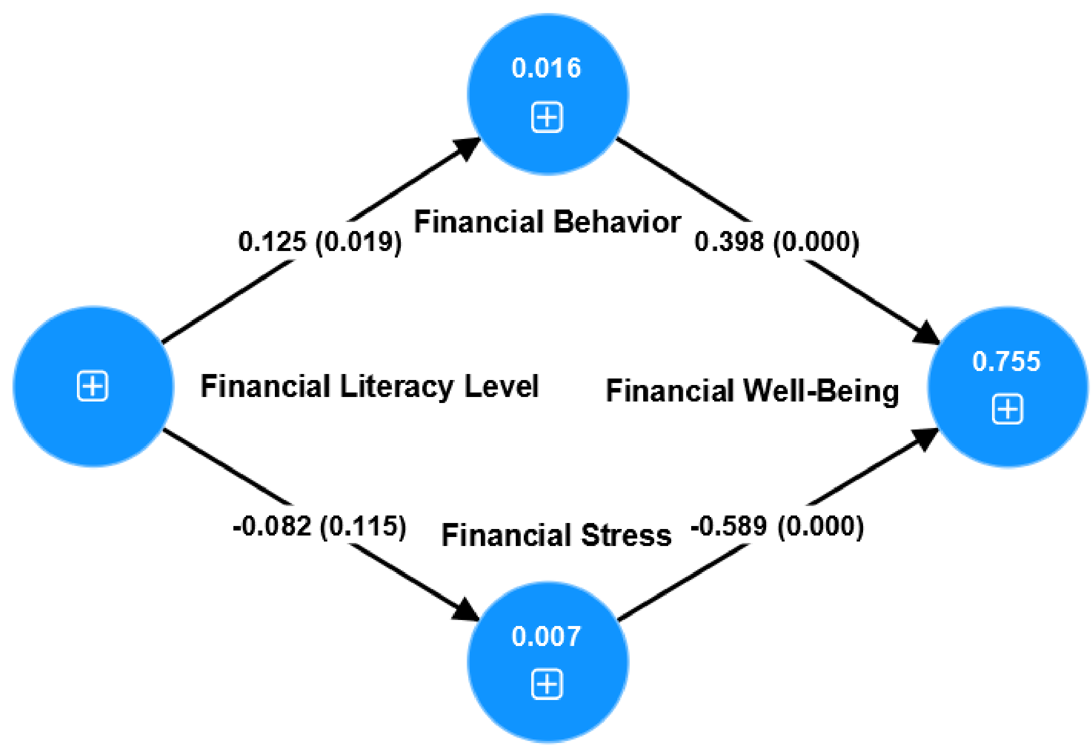

Figure 6: Path Coefficient and P-Value

Hypothesis One (H1)

Financial literacy has a positive impact on financial behavior, supported: The path coefficient between level of financial literacy and financial behavior is 0.125, indicating a weak positive relationship. This means that as the level of financial literacy increases, financial behavior is also likely to increase, albeit slightly. The p-value from the level of financial literacy to financial behavior was 0.019 ($\beta = 0.019$, $p < 0.05$), indicating a positive relationship between the two variables. This suggests that individuals with a higher level of financial literacy tend to exhibit better financial behaviors.

The PFW framework provision the first hypothesis (H1) that financial literacy has a positive impact on financial behavior. It highlights the role of financial knowledge in shaping attitudes, behaviors, goal setting, security, and independence. When individuals are financially literate, they are more likely to exhibit responsible financial behaviors and experience improved financial well-being.

Hypothesis Two (H2)

Financial literacy has a positive impact on financial stress, not supported: The path coefficient between level of financial literacy and financial stress is -0.082, indicating a weak negative relationship. This means that as the level of financial literacy increases, financial stress is likely to decrease, but only to a small degree. The path coefficient from the level of financial literacy to financial stress was 0.115 ($\beta = 0.115$, $p < 0.05$), indicating a negative relationship between the two variables. This theory failed to suggest that individuals with a higher level of financial literacy tend to experience less financial stress.

The second hypothesis (H2) was not statistically supported by the data. However, the PFW framework primarily supports that positive impact of financial literacy on financial stress. It provides insights into factors that may support the hypothesis that financial literacy reduces financial stress. These factors include the presence of other financial and psychological factors, ineffective financial behaviors, challenging circumstances, and the need for comprehensive support systems. Examining these aspects can help provide a more comprehensive understanding of the relationship between financial literacy and financial stress.

Hypothesis Three (H3)

Financial behavior has a positive impact on financial well-being, supported: The path coefficient between financial behavior and financial well-being is 0.398, indicating a moderate positive relationship. This suggests that individuals who exhibit positive financial behavior are more likely to experience better financial well-being. The p-value from financial behavior to financial well-being was 0.000 ($\beta = 0.000$, $p < 0.05$), indicating a positive relationship between the two variables. This suggests that individuals who exhibit better financial behaviors tend to have higher levels of financial well-being.

PFW framework also supports the third hypothesis (H3) that financial behavior has a statistically significant positive impact on financial well-being. By examining the role of financial knowledge, attitudes, behaviors, goal setting, security, and independence, the framework highlights the importance of engaging in positive financial behaviors to enhance overall financial well-being. When individuals exhibit responsible financial behaviors, they are more likely to experience improved financial outcomes and a greater sense of financial well-being.

Hypothesis Four (H4)

Financial stress has a negative impact on financial well-being, supported: The path coefficient between financial stress and financial well-being is -0.589, indicating a strong negative relationship. This means that as financial stress increases, financial well-being is likely to decrease significantly. The p-value from financial stress to financial well-being was 0.000 ($\beta = 0.000$, $p < 0.05$), indicating a negative relationship between the two variables. This suggests that individuals who experience higher levels of financial stress tend to have lower levels of financial well-being.

PFW framework supports the fourth hypothesis (H4) that financial stress has a statistically significant negative impact on financial well-being. By examining the role of financial knowledge, attitudes, behaviors, security, and psychological well-being, the framework emphasizes the importance of mitigating financial stressors to enhance overall financial well-being. When individuals possess the necessary knowledge, adopt positive financial behaviors, establish financial security, set clear goals, and prioritize their psychological well-being, they can better manage financial stress and improve their overall financial well-being.

The path coefficients and p-value in this study provided valuable insights into the relationships between financial literacy, financial behavior, financial stress, and financial well-being. By using the absolute value of 0.1 as a threshold for analyzing the path coefficients and less than or equal to 0.05 for the p-value, we were able to interpret the strength and direction of these relationships. When analyzing these results against the PFW framework the data suggest that financial literacy and positive financial behavior are important factors that can contribute to better financial well-being. On the other hand, financial stress is a significant factor that can negatively impact an individual's financial well-being. These results suggest that financial literacy plays an important role in influencing financial behaviors and financial stress, which in turn have a significant impact on financial well-being. Therefore, efforts to improve financial literacy may have a positive effect on individuals' financial well-being.

V.i. Hypotheses Summary

	Hypotheses	Result	Significance
H1:	Financial literacy has a positive impact on financial behavior, such that individuals with high financial literacy will exhibit more responsible financial behavior than individuals with low financial literacy.	Supported	$\beta = 0.019$
H2:	Financial literacy has a positive impact on financial stress, such that individuals with high financial literacy will exhibit low level of financial stress than individuals with low financial literacy.	Not Supported	$\beta = 0.115$
H3:	Financial behavior has a positive impact on financial well-being, such that those individuals with more responsible financial behavior will experience higher levels of financial well-being than those with less responsible financial behavior.	Supported	$\beta = 0.000$
H4:	Financial stress has a negative impact on financial well-being, such that those individuals with less responsible financial behavior will experience lower levels of financial well-being than those with more responsible financial behavior.	Supported	$\beta = 0.000$

Table 12: Hypotheses Results Overview

Data Analysis and Results, this section has provided a detailed account of the data obtained from the survey responses collected. The use of Cloud Research Connect for dissemination and the subsequent data cleaning process ensured the quality and reliability of the data. SPSS and SmartPLS were utilized for statistical analysis and validation of the theoretical models. The various statistical techniques used, including descriptive statistics, factor analysis, path coefficients, outer loadings, R-Square, construct reliability and validity, discriminant validity, and bootstrapping analysis, provided a thorough assessment of the relationships and significance of the variables. These results have significantly contributed to answering the research questions posed in this study and have provided valuable insights into the relationships between financial literacy, financial behavior, financial stress and financial well-being.

CHAPTER VI: CONCLUSION

Studying the relationships between financial literacy, financial behavior, financial stress, and financial well-being is important because it can help identify factors that contribute to financial success or failure. Having a true understanding of these relationships can foster educational interventions to improve financial outcomes for individuals and communities. This study aims to bridge the gaps in financial literacy education and investigate how financial literacy contributes to financial stress and behavior, ultimately aiming to improve financial stability and overall well-being for individuals and societies. This study also emphasizes the importance of understanding the factors that contribute to financial well-being and introduces the methodology of the study, which involves measuring a person's financial literacy using exam-style questions and applying the score to their financial behavior and stress. Furthermore, this study performed a literature review that investigates these factors individually as well as supplementary connections that were studied in prior works.

This dissertation focused on answering two questions; “To what extent does a person level of financial literacy contribute to their financial stress and their mindset toward financial behavior?” and “In what manner does factors such as financial behavior and financial stress shape a person sense of financial well-being?”. A thorough examination was done on existing literature on the research topic to provide a comprehensive overview of the current state of knowledge on the subject. These questions were investigated by analyzing four hypotheses: (H1) Financial literacy has a positive impact on financial behavior, (H2) Financial literacy has a positive impact on financial stress, (H3) Financial behavior has a positive impact on financial well-being and (H4) Financial stress has a negative impact on financial well-being. To observe the four hypotheses, a 50-question survey was constructed and distributed. This study's employs conventional survey methodology. The questionnaire has six sections, the population of interest is American adults between the ages of 18 to 59. The minimum number of participants needed to this study is 300, the study received a total of 354 responses four of which were removed during the data cleaning process. The data collected through the survey was authenticated using the reliable and validated scales. The study hopes to draw accurate conclusions and meaningful recommendations based on the analysis of the data.

In this conclusion section, the findings of the study will be discussed, along with their implications for theoretical and managerial use. Furthermore, the limitations of the study and future research directions will be deliberated. Finally, the conclusions drawn from the research will be summarized.

VI.a. Findings (Hypotheses Results)

This study investigated the key antecedent of the four constructs and the results exhibited that three out of the four hypotheses formulated for the study were supported by the data, offering valuable insights into the relationship between financial literacy, financial behavior, and financial well-being. This section covers the main findings related to each hypothesis, providing a comprehensive overview of the research results.

(H1): The results indicates that financial literacy has a positive impact on financial behavior. Specifically, individuals with higher levels of financial literacy are more likely to exhibit responsible financial behavior compared to those with lower levels of financial literacy. This finding is further supported by Lusardi & Mitchell (2014), where their finding underscores the importance of financial education programs, as they can help individuals make better financial decisions and ultimately achieve better financial outcomes.

(H3): The results reveal that financial behavior has a positive impact on financial well-being. Individuals with more responsible financial behavior are more likely to experience higher levels of financial well-being compared to those with less responsible financial behavior. This finding is further supported by Hastings, Madrian, & Skimmyhorn (2013), where their finding highlights the importance of cultivating responsible financial habits such as saving regularly, managing debt, and planning for retirement.

(H4): The results demonstrates that financial stress has a negative impact on financial well-being. Individuals who experience high levels of financial stress are more likely to report lower levels of financial well-being compared to those who experience lower levels of financial stress. This finding is further supported by Shim, Xiao, Barber, & Lyons (2009), where their findings emphasizes the need for interventions that address financial stressors, such as providing financial counseling, promoting savings, and reducing debt burdens.

(H2) The results for financial literacy having a positive impact on financial stress was not supported. There are several potential explanations for this finding. First, Mandell & Klein (2009) stated, it is possible that financial literacy is not sufficient to alleviate financial stress, as other factors such as income, debt, and life events may also contribute to financial stress. Additionally, there may not have been a significant correlation between financial literacy and financial stress among the sampled participants in this study due to a lack of diversity in financial literacy levels (Lusardi, A., & Mitchell, O. S, 2014).

This study explored the complex relationships between all four constructs and was able to draw significant conclusions from regarding their association with each other. These findings provide valuable comprehensions into the importance of financial education programs, cultivating responsible financial habits, and addressing financial stressors. The unsupported hypothesis related to the positive impact of financial literacy on financial stress underscores the need for further research in this area.

VI.b. Discussion

This section provides a comprehensive analysis of the research questions and hypotheses, offering considerations into the relationships between the four constructs. The research question (Q1) "To what extent does a person's level of financial literacy contribute to their financial stress and their mindset toward financial behavior?" was examined using hypotheses (H1) Financial literacy has a positive impact on financial behavior and (H2) Financial literacy has a positive impact on financial stress. The research question (Q2) "In what manner do factors such as financial behavior and financial stress shape a person's sense of financial well-being?" was examined using the hypotheses (H3) Financial behavior has a positive impact on financial well-being and (H4) Financial stress has a negative impact on financial well-being. These findings are significant in the context of existing literature, as they help to deepen our understanding of the factors that contribute to financial well-being and provide valuable associations for financial education programs and interventions.

The first research question aimed to investigate the extent to which a person's level of financial literacy contributes to their financial stress and their mindset towards financial behavior. The results of this study indicate that financial literacy has a positive impact on financial behavior, which supports the first hypothesis. This finding is consistent with previous research that has shown a positive correlation between financial literacy and financial behavior (Lusardi & Mitchell, 2011). Individuals with higher levels of financial literacy are more likely to exhibit responsible financial behavior, such as saving regularly, managing debt, and planning for retirement, compared to those with lower levels of financial literacy. Therefore, the importance of financial education programs cannot be overemphasized, as they can help individuals make better financial decisions and ultimately achieve better financial outcomes.

Along with the first research question, the second hypothesis, which theorized that financial literacy has a positive impact on financial stress, was not supported by the data. Shim, Xiao, Barber & Lyons (2009) stated, individuals who lack financial literacy are more likely to experience financial stress due to a lack of understanding of financial concepts and poor financial decision-making. Joo, Durband & Grable. (2008) expressed that financial literacy enables individuals to make informed financial decisions, plan for the future, and manage financial risks, reducing their financial stress levels. Similarly, Mandell and Klein (2009) argue that financial literacy is a key factor in reducing financial stress. While this study did not find a significant correlation between a person’s level of financial literacy and financial stress, it is important to note that prior research suggests a strong relationship between the two. Therefore, the lack of significant findings in this study may be due to the limitations of the sample size or measurement tools used. Further research is needed to better understand the relationship between financial literacy and financial stress.

The second research question aimed to examine how factors such as financial behavior and financial stress shape a person's sense of financial well-being. The results of this study indicate that financial behavior has a positive impact on financial well-being, which supports the third hypothesis. Individuals with more responsible financial behavior are more likely to experience higher levels of financial well-being compared to those with less responsible financial behavior. Which was also pointed out by Shim, Xiao, Barber & Lyons (2009). Furthermore, Hastings, Madrian & Skimmyhorn (2013), findings are consistent with the research done in this study that has shown a positive correlation between financial behavior and financial well-being. This finding highlights the importance of cultivating responsible financial habits, such as saving regularly, managing debt, and planning for retirement, for achieving financial well-being.

The fourth hypothesis, deriving from the second question of this research study, which posited that financial stress has a negative impact on financial well-being, was also supported by the data. Individuals who experience high levels of financial stress are more likely to report lower levels of financial well-being compared to those who experience lower levels of financial stress. This finding is consistent with previous research that has shown a negative correlation between financial stress and financial well-being (Shim, Xiao, Barber, & Lyons, 2009). Ozyuksel, (2022) expressed that financial stress can negatively impact an individual's sense of financial happiness, leading to anxiety, depression and other mental health issues. Lim, Heckman, Montalto & Letkiewicz (2014) formulated that individuals who develop effective coping mechanisms to manage financial stress, such as seeking support from friends and family or seeking professional financial advice, are more likely to maintain a positive sense of financial well-being despite the challenges they may face. This finding underscores the need for interventions that address financial stressors, such as providing financial counseling, promoting savings, and reducing debt burdens.

The level of financial literacy, financial behavior, financial stress, and financial well-being are crucial topics in the field of personal finance. Financial literacy is a vital skill that is not commonly taught in schools, but its absence can lead to poor financial behavior and financial stress. As innovation make it easier for individuals to manage their financial lives, it is essential to understand how these variables are related and how they impact financial outcomes.

VI.c. Implications (Theoretical & Managerial)

The research findings indicate that individuals with a higher level of financial literacy tend to exhibit better financial behaviors, supporting the first hypothesis. However, the second hypothesis, which theorized that individuals with a higher level of financial literacy tend to experience less financial stress, was not supported by the data. The study did support the third and fourth hypotheses, indicating that individuals who exhibit better financial behaviors tend to have higher levels of financial well-being, and individuals who experience higher levels of financial stress tend to have lower levels of financial well-being. These findings suggest that improving financial literacy can lead to better financial behaviors and well-being, but it may not necessarily reduce financial stress.

This subsection will discuss both the theoretical and managerial implications of these findings. Financial Satisfaction and Personal Financial Wellness as the theoretical frameworks was used to shape the study’s’ findings. Discuss the practical implications of the study's results for managers, practitioners, and policymakers. Highlighting the potential impact of the study's findings on the business or organizational practices. As well as provide specific recommendations for actions that managers can take based on the study's results.

Theoretical Implications

The theoretical framework utilized in this study to structure the research outcomes is the Personal Financial Wellness (PFW) theory developed by Joo (2008). PFW proposed four elements of the framework that includes objective status (income, or financial status), financial satisfaction, financial behavior, and subjective perception (including financial attitudes and financial knowledge). PFW emphasizes the importance of managing one's financial resources to achieve financial well-being (Gerrans, P., Speelman, C., & Campitelli, G., 2014). In conjunction with PFW, special consideration was applied for financial satisfaction, which is a subjective measure of how content or pleased an individual is with their financial situation. Financial satisfaction refers to an individual's overall sense of contentment with their financial situation and is influenced by various factors, including financial literacy, financial behavior, and financial stress (Archuleta, K. L., Britt, S. L., Tonn, T. J., & Grable, J. E., 2011).

This study’s findings indicate that individuals with higher levels of financial literacy tend to exhibit better financial behaviors, which is consistent with the financial satisfaction framework. Research has shown that financial literacy is positively associated with financial behaviors that contribute to financial satisfaction, such as saving and investing (Lusardi, A., & Mitchell, O. S, 2011). Therefore, increasing financial literacy can help individuals make more informed financial decisions and improve their financial behaviors, ultimately leading to greater financial satisfaction.

The study also supported the hypotheses that better financial behaviors and lower levels of financial stress are positively associated with higher levels of financial well-being. These findings are consistent with the both PFW framework, which suggests that financial behaviors and stress play critical roles in determining an individual's overall sense of financial satisfaction and well-being (Diener, E., & Biswas-Diener, R., 2002).

However, the study did not support the hypothesis that higher levels of financial literacy are associated with lower levels of financial stress. While financial literacy can help individuals make more informed financial decisions, it may not necessarily reduce their financial stress levels. These findings suggest that financial literacy can be an important factor in promoting better financial behavior and ultimately improving financial well-being, but it may not be the sole solution to reducing financial stress (Gathergood, J., & Weber, J., 2014).

The PFW framework provides a comprehensive lens to analyze the four hypotheses, which reveals the complex relationships between the four constructs. Based on this study analysis, the results validate the PFW framework in several key areas. The findings indicate that financial literacy is a crucial factor for financial behavior, supporting the framework's recognition of the importance of financial literacy and its positive impact on financial behavior (Mandell, L., & Klein, L. S., 2009). Additionally, the PFW framework's emphasis on financial behavior as a key component of financial well-being is supported by the findings, which indicate that financial behavior has a positive impact on financial well-being (Lyons, A. C., 2004). Furthermore, the PFW framework's recognition of the negative impact of financial stress on financial well-being is also supported by the findings (Joo, 2008). The results suggest that the PFW framework can serve as a useful tool for promoting financial well-being and can inform the development of financial education programs and policies aimed at improving financial outcomes.

This study's findings have important theoretical implications for financial wellness frameworks and the development of financial education programs. The PFW framework's recognition of the importance of financial literacy and financial behavior aligns with previous research (Mandell, L., & Klein, L. S., 2009; Lyons, A. C., 2004; Joo, 2008), highlighting the importance of these factors in promoting financial well-being. Furthermore, the recognition of financial stress as a negative factor affecting financial well-being is consistent with previous studies (Joo, 2008), indicating the need to address financial stress as a part of financial education and financial wellness programs. However, the PFW framework also emphasizes that reducing financial stress may require additional strategies beyond just improving financial literacy. Therefore, it is crucial to consider multiple factors when assessing an individual's financial satisfaction and well-being.

Managerial Implications

The Managerial Implications section of this study aims to provide practical and actionable recommendations for managers and organizations based on the research findings. By summarizing the study's key insights, this section can help bridge the gap between academic research and practical applications. The recommendations may include specific actions, best practices, or new strategies that can enhance organizational performance (Levy, 1994). These suggestions are designed to be relevant, feasible, and effective, and can assist managers in making informed decisions that align with their organizational goals and objectives (Levy, 1994). Ultimately, the Managerial Implications section can help organizations translate research findings into actions that benefit both the organization and its stakeholders.

Reviewing the findings for first hypothesis, the positive relationship between financial literacy and financial behavior suggests that individuals with higher levels of financial literacy tend to make more informed financial decisions and engage in better financial behaviors. Therefore, financial educators and institutions should focus on improving financial literacy levels among individuals through financial education programs, workshops, and training (Lusardi, A., & Mitchell, O. S, 2011).

Creating age-appropriate financial literacy courses for elementary school, middle school, and high school students is crucial in fostering a strong foundation of financial knowledge and skills at different stages of their educational journey. Making personal finance courses mandatory in college would provide students with valuable knowledge and skills to navigate their financial lives effectively. Creating an online 6-week financial literacy course for individuals not in school presents a valuable opportunity to equip them with essential knowledge and skills to enhance their financial well-being.

Even though the findings for the second hypothesis were not supported, that financial literacy is negatively related to financial stress suggests that improving financial literacy can help individuals better manage their financial stress. Therefore, financial educators and institutions should not solely rely on improving financial literacy as a strategy for reducing financial stress levels. Instead, they should consider other strategies, such as providing financial counseling and coaching, promoting financial wellness, and offering flexible financial products and services (Gathergood, J., & Weber, J., 2014).

Through government grants, non-profit organizations can establish or expand financial counseling services specifically tailored to the needs of low-to-moderate-income individuals earning less than $100,000 a year. This action can have immense potential for reducing financial stress and improving financial well-being. These services can encompass various aspects, including budgeting, debt management, savings strategies, credit building, and access to affordable financial products. By providing personalized guidance and support, financial counselors can help individuals develop realistic financial goals, create budgeting plans, and make informed choices to improve their financial health.

Analyzing the results of the third hypothesis, positive relationship between financial behavior and financial well-being highlights the importance of promoting good financial behaviors, such as saving and investing, in improving an individual's financial well-being. Therefore, financial educators and institutions should consider interventions that help individuals develop and maintain responsible financial behaviors by offering incentives for positive financial behaviors (Kim, J., & Chatterjee, S., 2013).

Similar to high school students who qualify for college scholarships by completing a certain number of community service hours, individuals who achieve a specified level of financial literacy can also become eligible for college scholarships. Moreover, lending institutions have the potential to provide incentives to those who complete a financial literacy course, such as discounts on finance charges when purchasing a home or car. By recognizing and rewarding the efforts put into enhancing financial literacy, these initiatives encourage individuals to prioritize their financial education, fostering a more financially capable and responsible society.

Lastly, examining the findings for the fourth hypothesis, negative relationship between financial stress and financial well-being suggests that reducing financial stress is critical in improving an individual's financial well-being. Financial institutions and educators should offer resources to help individuals manage their financial stress, such as debt management programs, financial coaching, and mental health resources (Britt, S. L., Canale, A., Fernatt, F., Stutz, K., & Tibbetts, R., 2015). Financial educators should also consider incorporating stress management techniques into financial education programs to help individuals better manage financial stress (Heo, W., Lee, J. M., & Rabbani, A. G., 2021).

Aside from the aforementioned financial managerial implications recommendation, that will also help reduce financial stress. Another activity that can be undertaken would be to create financial health resources community meeting, similar to Alcoholics Anonymous (AA) meetings. Encouraging open conversations about personal finance, sharing experiences and tips. Providing a support network can help individuals can reduce financial stress, gain a sense of control over their finances and improve their overall financial well-being.

These implications have shown that financial literacy, financial behavior, financial stress and financial well-being are interrelated concepts that should be addressed comprehensively to promote financial satisfaction and wellness. The PFW framework has provided a useful lens to analyze the complex relationships between these factors. While the study findings suggest that increasing financial literacy can promote better financial behaviors and improve financial well-being, it is not enough to reduce financial stress levels. Therefore, financial educators and institutions should consider multiple strategies, such as financial coaching, mental health resources, and stress management techniques, to enhance individuals' financial well-being. The Managerial Implications section of this study provides practical recommendations for managers and organizations to improve organizational performance and assist individuals in achieving financial wellness. By incorporating these recommendations into their practices, managers and organizations can create a more financially literate, responsible, and satisfied community.

VI.d. Limitations

Despite the significant findings outlined in the previous sections, it is important to acknowledge the limitations of this study. The limitations section of this dissertation serves to highlight the potential constraints and challenges that may have affected the validity and generalizability in this study’s findings. The purpose of this section is not to undermine the credibility of the research, but rather to acknowledge the complexities and limitations that are inherent in any study. The limitations that will be discussed in this section relate to three main areas: research design, data analysis, and research context. By recognizing these limitations, any researcher who wishes to examine these constructs or similar hypotheses more thoroughly can be more informed in their decision-making and design of future studies.

Limitations related to research design is the development of the financial literacy scale (True/False Questions) used to measure financial stress. While the scale was based on a well-established financial literacy framework, it was not validated specifically for measuring financial stress. These limitations may have impacted the validity and generalizability of the results. The financial literacy scale used may not have accurately captured the level of financial stress experienced by participants.

Several limitations were identified in relation to data analysis. First, the quality of data collected was dependent on participants' self-report, which may have introduced bias or inaccuracies. Additionally, social desirability bias may have influenced participants' responses. Finally, the use of a single point in time to collect data may not have captured the fluctuations and changes that occur over time. These limitations may have impacted the validity and reliability of the results. Self-report data and social desirability bias may have introduced errors into the analysis, and the use of a single point in time may have limited the ability to observe changes over time.

One limitation related to research context is the demographics of the population studied. Specifically, the age group (30-39, 39%) and ethnicity (White non-Hispanic, 74%) of participants may not be representative of other populations, which limits the generalizability of the results and may limit this study’s ability to apply the findings to other contexts or populations. The findings and conclusions drawn from the data may not be generalizable to a broader population. The demographic characteristics of the participants, such as age, gender, socioeconomic status, and educational background, can influence their financial behaviors, attitudes, and experiences. Therefore, the results may be specific to the demographic group under study and may not be applicable to other populations. It is important to consider the potential limitations in generalizing the findings and to exercise caution when applying the results to a wider context. Future research could explore the same research questions with a more diverse sample to enhance the external validity and generalizability of the findings. Additionally, conducting replication studies across different demographics would provide a more comprehensive understanding of the relationships and phenomena being investigated.

Another limitation of this study is that the data collected were cross-sectional, meaning that all measures were taken at the same point in time (Smith, S. M., Zhang, Y., Jenkinson, M., Chen, J., Matthews, P. M., Federico, A., & De Stefano, N., 2002). Therefore, this study cannot provide direct evidence of how changes in the predictor affect the outcome, as these were not manipulated. While the study established associations between financial literacy, financial behavior, financial stress, and financial well-being, it cannot establish causation. Longitudinal studies, in which measures are taken at multiple time points, would provide a stronger foundation for causal inference.

Overall, this limitations section has identified several potential constraints and challenges that may have impacted the validity, reliability, and generalizability of the research findings. Specifically, the limitations related to research design include the financial literacy scale used to measure financial stress better. Limitations related to data analysis include data quality, self-reported data, social desirability, and the use of a single point in time. Finally, limitations related to research context include the demographics of the population studied, including age group and ethnicity. These limitations provide opportunities for future research to explore these topics in greater depth and with larger and more diverse samples.

VI.e. Future Research

The present study has identified significant associations between financial literacy, financial behavior, financial stress, and financial well-being. However, the findings of this study also suggest that there is room for further research in these fields. Future research directions are important to provide a roadmap for future researcher who may be interested in furthering the examine that has been conducted. In this section, potential research directions will be discussed based on the limitations identified in the previous section and a few ideas that may not have been appropriate for this study but could play a more prominent role in other studies.

Future research can explore the use of more reliable and valid measures of financial literacy to ensure accurate measurement of financial stress. Additionally, further research can explore alternative research designs to provide stronger evidence of the relationship between financial literacy and financial stress (Heo, W., Lee, J. M., & Rabbani, A. G., 2021). Future research can explore the generalizability of the findings to other populations. The current study had a limited sample size, with a majority of participants being White non-Hispanic individuals in the 30-39 age range. Future research can explore the relationship between the four constructs in a more diverse sample, including individuals from different age ranges, ethnicities, and socioeconomic backgrounds (Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B., 1997).

Potential research can explore the use of objective measures of financial stress and mental health to mitigate these limitations. Also, there is an opportunity to explore the use of longitudinal data to explore the causal relationship between the four constructs (Choi, 2009). The limitations identified in this study suggest several directions for future research. One area of inquiry that warrants attention is the role of technology in promoting financial literacy and financial well-being. As technology continues to play an increasingly significant role in our daily lives, exploring its potential for enhancing financial literacy and well-being is essential (Farida, M. N., Soesatyo, Y., & Aji, T. S., 2021).

In conclusion, the limitations of the current study provide several potential future research directions. These include improving the research design, improving the data analysis methods, and exploring the generalizability of the findings to other populations. These future research directions can provide a foundation for future scholars to build upon and expand our understanding of the relationship between financial stress and mental health.

VI.f. Chapter Culmination (Conclusion)

The lack of financial literacy among individuals is a major problem that can lead to negative financial outcomes such as debt, financial stress, and overall financial insecurity. Financial education is important for improving financial decision-making, achieving greater financial security and stability, and reducing feelings of financial anxiety. The COVID-19 pandemic has highlighted the importance of financial literacy, as it has exacerbated wealth disparities. The rise in inflation in the US economy has led to changes in consumer behavior, with many people reducing their spending on non-essential items and seeking out more affordable options. More than 60% of Americans struggle to make ends meet, living paycheck to paycheck and are unable to save money for either short or long-term financial objectives. This study investigated the relationship between financial literacy, financial behavior, financial stress, and financial well-being.

The literature review in this study examined existing research on the constructs. The study's theoretical framework is Personal Financial Wellness (PFW), which includes four components: objective status, subjective perception, financial security and financial satisfaction. Financial literacy and financial behavior are closely related, with higher financial literacy leading to better financial habits. Financial stress refers to the experience of feeling burdened, anxious, or overwhelmed due to financial circumstances. Financial well-being is multidimensional, including financial stability, security, freedom, and satisfaction.

This study aims to evaluate the influence of financial literacy level, financial behavior, and financial stress on financial well-being. The study adopts a positivist paradigm and conventional survey methodology. Four hypotheses were developed, where the first and second hypotheses suggest that high financial literacy level will result in more responsible financial behavior and lower financial stress, respectively. The third hypothesis suggests that responsible financial behavior positively affects financial well-being, and the fourth hypothesis suggests that financial stress negatively affects financial well-being. Control variables such as age, gender, education, income, and financial freedom (debt) were used to more accurately examine the impact on financial well-being.

The study used a quantitative methodology with a survey that followed federal regulations for protecting human participants. The survey included questions about financial literacy, financial behavior, financial stress, and financial well-being, and demographic information. The survey was 50 questions and used validated scales with different response options. A pilot study was conducted to test the survey questions and instruments used in the main study. The study found that financial behavior, financial stress, and financial literacy are interrelated, and there were some issues identified with inconsistent response scores and lack of diversity in the sample, which were addressed for the main study. The study used Qualtrics Online Sample to create and collect survey data and distributed it using an online labor market, Connect Cloud Research.

The study collected data from 354 respondents, participants received a monetary compensation of $0.50 for completing the survey. Data cleaning was conducted to ensure quality and reliability, and 4 responses were removed, leaving 350 valid respondents. The study measured financial literacy, financial behavior, financial stress, and financial well-being using validated scales. The study concludes that the model provides a valid and reliable representation of the underlying constructs. A bootstrapping analysis was conducted, revealing that financial literacy level has a statistically significant positive effect on financial behavior, while financial behavior has a statistically significant positive effect on financial well-being and a negative effect on financial stress. The control variables analysis examines the effect of variables on the dependent variable (Financial Well-being) and identifies statistically significant variables. In this study, income and financial freedom (debt) were statistically significant.

The study's limitations include the demographics of the population studied, self-reported data, social desirability bias, and the use of a single point in time, which provide opportunities for future research. Future research could explore more reliable and valid measures of financial literacy, generalizing the findings to more diverse populations, and exploring the role of technology in promoting financial literacy and well-being. The study's managerial implications suggest that managers and organizations can enhance their performance by improving financial literacy and behavior and addressing financial stress.

In conclusion, this dissertation aimed to explore the relationship between financial literacy, financial behavior, financial stress, and financial well-being. Through the use of quantitative data analysis, it was found that financial literacy is positively associated with financial behavior and financial well-being. Unfortunately, the findings were unable to support the assumption that financial literacy has adverse associated with financial stress. These findings have important implications for financial education programs, policymakers, and individuals who seek to improve their financial well-being. Additionally, this study has identified certain limitations related to research design, data analysis, and research context, which should be considered when interpreting the results. Nevertheless, this study provides a starting point for future research directions, which could explore the role of technology in promoting financial literacy and financial well-being, given the increasing prevalence of technology in our daily lives.

CHAPTER VII: REFERENCES

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CHAPTER VIII: APPENDICES

VIII.a. Adult Online Consent

FLORIDA INTERNATIONAL UNIVERSITY

ADULT ONLINE CONSENT TO PARTICIPATE IN A RESEARCH STUDY
HIGH FINANCIAL LITERACY LEAD TO FINANCIAL WELL-BEING

SUMMARY INFORMATION

Things you should know about this study:

- **Purpose:** The purpose of the study is to:

  Research does High Financial Literacy Lead to Financial Well-Being.

- **Procedures**: If you choose to participate, you will be asked to:

  Complete an online survey.

- **Duration:** This will take about.

  The survey should not exceed more than 15 minutes.

- **Risks**: The main risk or discomfort from this research is.

  Risks to participants are considered minimal. We are not aware of any known risks or discomfort for individuals participating in this survey more than what the participants would encounter in everyday use of the internet.

- **Benefits:** The main benefit to you from this research is

  There are no direct benefits to individual participants.

- **Alternatives:** There are no known alternatives available to you other than not taking part in this study.

  There are no known alternatives available to study participants other than not taking part in the study.

- **Participation:** Taking part in this research project is voluntary.

  Participants will be identified anonymously via online survey and are unknown to the investigator.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of this study is to:

- **Research does High Financial Literacy Lead to Financial Well-Being**.

NUMBER OF STUDY PARTICIPANTS

- If you decide to be in this study, you will be one of **300** people in this research study.

DURATION OF THE STUDY

Your participation will involve:

- **Ten (15) Minutes**

PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. **To complete a survey**

RISKS AND/OR DISCOMFORTS

The study has the following possible risks to you:

- **Risks to participants are considered minimal. We are not aware of any known risks or discomfort for individuals participating in this survey more than what the participants would encounter in everyday use of the internet.**

BENEFITS

The study has the following possible benefits to you:

- **There are no direct benefits to individual participants.**

ALTERNATIVES

There are no known alternatives available to other than not taking part in this study

Any significant new findings developed during the course of the research which may relate to your willingness to continue participation will be provided to you

COMPENSATION & COSTS

- **You will receive a payment of $1.00 for your participation.**

- **There is no cost to me for participating in this study.**

RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact:

Patrick Dulcio
Pdulc001@fiu.edu

IRB CONTACT INFORMATION

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. By clicking on the "consent to participate" button below I am providing my informed consent.

(Insert Consent to Participate Button Here on the Website)

VIII.b. Survey/Questionnaire

Demographic Questions	
Response Type: Multiple Choice	
(01) – (DG01)	Please indicate your gender identity: a.) Male b.) Female
(02) – (DG02)	Please select the category that includes your age: a.) 18-30 b.) 30-40 c.) 40-50 d.) 50 or older
(03) – (DG03)	Which of the following options best describe you: a.) African American b.) White c.) Hispanic d.) Asian
(04) – (DG04)	What best describes your level of education? a.) Some High School b.) High School Degree c.) Some College d.) Associate’s Degree e.) Bachelor's Degree f.) Graduate Degree
(05) – (DG05)	What best describes your employment status? a.) Employed b.) Unemployed c.) Retired d.) Student
(06) – (DG06)	What best describes your marital status? a.) Single b.) Married c.) Divorced
(07) – (DG07)	What best describes your current housing situation? a.) Renting b.) Homeowner c.) Living with family or friends d.) Homeless
(08) – (DG08)	Which one of the following ranges includes your total yearly household income before taxes? a.) Under \$40,000 b.) \$40,000 - \$79,999 c.) \$80,000 - \$119,999 d.) \$120,000 - \$159,999 e.) \$160,000 or more
(09) – (DG09)	Which one of the following ranges includes your current level of debt? a.) No Debt b.) Less than \$20,000 c.) \$20,000 - \$49,999 d.) \$50,000 - \$99,999 e.) \$100,000 - \$199,999 f.) \$200,000 or more
(10) – (DG10)	Do you have any financial investments or savings? a.) Yes, significant investments and savings b.) Yes, some investments and savings c.) No, very little or no investments and savings

Financial Literacy Questions		
Response Type: True/False		
(11) – (FL01)	The finance charge on your credit card statement is what you pay to use credit. *(Credit)*	True
(12) – (FL02)	If you expect to carry a balance on your credit card, the APR is the most important thing to look at when comparing credit card offers. *(Credit)*	True
(13) – (FL03)	Using extra money in a bank savings account to pay off high interest rate credit card debt is a good idea. *(Credit)*	True
(14) – (FL04)	Your credit report includes employment data, your payment history, any inquiries made by creditors, and any public record information. *(Credit)*	True
(15) – (FL05)	With compound interest, you earn interest on your interest, as well as on your principle. *(Saving)*	True
(16) – (FL06)	Mutual funds pay a guaranteed rate of return. *(Saving)*	False
(17) – (FL07)	A stock mutual fund combines the money of many investors to buy a variety of stocks. *(Saving)*	True
(18) – (FL08)	Over the long-term, stocks have the highest rate of return on money invested. *(Saving)*	True
(19) – (FL09)	If the interest rate on an adjustable-rate mortgage loan goes up, your monthly mortgage payments will also go up. *(Mortgage)*	True
(20) – (FL10)	You could save thousands of dollars in interest costs by choosing a 15-year rather than a 30-year mortgage. *(Mortgage)*	True
(21) – (FL11)	Repeatedly refinancing your home mortgage over a short period of time results in added fees and points that further increase your debt. *(Mortgage)*	True
(22) – (FL12)	When you use your home as collateral for a loan, there is no chance of losing your home. *(Mortgage)*	False
(23) – (FL13)	You should have an emergency fund that covers two to six months of your expenses. *(General)*	True
(24) – (FL14)	Employers are responsible for providing the majority of funds that you will need for retirement. *(General)*	True
(25) – (FL15)	The cash value of a life insurance policy is the amount available if you surrender your life insurance policy while you're still alive. *(General)*	False
Hogarth, J. M., & Hilgert, M. A. (2002). Financial knowledge, experience and learning preferences: Preliminary results from a new survey on financial literacy. Consumer interest annual, 48(1), 1-7.		

Financial Behavior Questions	
Scale Responses: 1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always	
(26) – (FB01)	Comparison shopped when purchasing a product or service
(27) – (FB02)	Paid all your bills on time
(28) – (FB03)	Kept a written or electronic record of your monthly expenses
(29) – (FB04)	Stayed within your budget or spending plan
(30) – (FB05)	Paid off credit card balance in full each month
(31) – (FB06)	Began or maintained an emergency savings fund
(32) – (FB07)	Saved money from every paycheck
(33) – (FB08)	Contributed money to a retirement account
(34) – (FB09)	Bought bonds, stocks, or mutual funds
(35) – (FB10)	Maintained or purchased adequate life insurance
Dew, J., & Xiao, J. J. (2011). The financial management behavior scale: Development and validation. Journal of Financial Counseling and Planning, 22(1), 43.	

Financial Stress Questions	
1=Strongly Disagree, 2=Somewhat Disagree, 3=Neither Agree nor, 4=Somewhat Agree, 5=Strongly Agree	
(36) – (FS01)	I feel depressed because of my financial situation.
(37) – (FS02)	I feel anxious because of my financial situation.
(38) – (FS03)	I feel emotionally drained because of my financial situation.
(39) – (FS04)	I feel frustrated because of my financial situation
(40) – (FS05)	My financial situation interferes with my daily job performance.
(41) – (FS06)	My financial situation frequently interferes with my relationship with co-workers/colleagues.
(42) – (FS07)	My financial situation frequently interferes with my family relationship.
(43) – (FS08)	I have stomach aches frequently because of my financial situation.
(44) – (FS09)	I have more sweat because of my financial situation
(45) – (FS10)	I have more frequent muscle pain because of my financial situation

Heo, W., Cho, S. H., & Lee, P. (2020). APR Financial Stress Scale: Development and validation of a multidimensional measurement. Journal of Financial Therapy, 11(1), 2.

Financial Well-Being Questions	
Response Type: Mixed	
(46) – (FWB01)	How do you feel about your current financial situation? (1 = Overwhelmed, 2 = Somewhat worried; 3 = Not Worried; 4 = Comfortable)
(47) – (FWB02)	How often do you worry about being able to meet normal monthly living expenses? (1 = All the Time; 2 = Sometimes Worry, 3 = Rarely Ever 4 = Never Worry)
(48) – (FWB03)	How confident are you that you could find the money to pay for a financial emergency that costs about $1,000? (1 = No Confidence; 2 = Somewhat Confidence; 3 = Confidence; 4 = High Confidence)
(49) – (FWB04)	How often does this happen to you: You want to go out to eat, go to a movie or do something else and don’t go because you can’t afford to? (1 = All the time; 2 = Sometimes; 3 = Rarely; 4 = Never)
(50) – (FWB05)	How frequently do you find yourself just getting by financially and living paycheck to paycheck? (1 = All the time; 2 = Sometimes; 3 = Rarely; 4 = Never)
Prawitz, A., Garman, E. T., Sorhaindo, B., O'Neill, B., Kim, J., & Drentea, P. (2006). InCharge financial distress/financial well-being scale: Development, administration, and score interpretation. Journal of Financial Counseling and Planning, 17(1).	

VIII.c. Approved Institutional Review Board Letter

FLORIDA INTERNATIONAL UNIVERSITY

Office of Research Integrity
Research Compliance, MARC 414

MEMORANDUM

To:	Dr. George Marakas
CC:	Patrick Dulcio
From:	Maria Melendez-Vargas, MIBA, IRB Coordinator
Date:	May 18, 2022
Protocol Title:	"C3D-Dulcio-High Financial Literacy Lead to Financial Well-Being"

The Florida International University Office of Research Integrity has reviewed your research study for the use of human subjects and deemed it Exempt via the **Exempt Review** process.

IRB Protocol Exemption #: IRB-22-0211 **IRB Exemption Date:** 05/18/22
TOPAZ Reference #: 111854

As a requirement of IRB Exemption you are required to:

1) Submit an IRB Exempt Amendment Form for all proposed additions or changes in the procedures involving human subjects. All additions and changes must be reviewed and approved prior to implementation.
2) Promptly submit an IRB Exempt Event Report Form for every serious or unusual or unanticipated adverse event, problems with the rights or welfare of the human subjects, and/or deviations from the approved protocol.
3) Submit an IRB Exempt Project Completion Report Form when the study is finished or discontinued.

Special Conditions: N/A

For further information, you may visit the IRB website at http://research.fiu.edu/irb.

MMV/em

CHAPTER IX: VITA

Patrick R. Dulcio
Born in Miami, Florida

2001 - 2003	Associate in Arts Maim Dade College Miami, FL
2005 - 2008	Bachelor of Science in Marketing & Finance Florida A&M University Tallahassee, FL
2010 - 2012	Master of Business Administration (MBA) in Finance NOVA Southeastern University Miami, FL
2020 - 2023	Doctor of Business Administration (DBA) Florida International University Miami, Florida

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