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Differences in Debt Holdings and Financial Satisfaction Across Age During COVID

Loryn Elaine Law
Utah State University

DIFFERENCES IN DEBT HOLDINGS AND FINANCIAL SATISFACTION ACROSS AGE DURING COVID

by

Loryn Elaine Law

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Approved:

_____	_____
Yoon Lee, Ph.D. Major Professor	Ryan Seedall, Ph.D. Committee Member
_____	_____
Lucy Delgadillo, Ph.D. Committee Member	D. Richard Cutler, Ph. D Vice Provost of Graduate Studies

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ABSTRACT

Differences in Debt Holdings and Financial Satisfaction Across Age During COVID

by

Loryn Elaine Law, Master of Science

Utah State University, 2024

Major Professor: Dr. Yoon G. Lee
Department: Human Development and Family Studies

Access to credit has allowed many individuals to reach their own version of the American dream as credit offers them resources to improve quality of life by buying homes, purchasing automobiles, funding higher education, and financing everyday needs. However, accumulating debt may have negative impacts on their financial satisfaction. Since the 2021 wave of the National Financial Capability Study (NFCS) was collected during the COVID-19 Pandemic, this study was able to look at how financial stressors (e.g., unexpected income drops, being laid-off, difficulty paying on-going bills), financial anxiety, and financial literacy variables (e.g., subjective financial knowledge, objective financial knowledge, perceived financial capability) during COVID were associated with debt holdings and financial satisfaction. This study further investigated how holding different debt types was associated with financial satisfaction and how these associations vary across three age groups.

As for factors associated with debt holdings, results showed that individuals who experienced financial stressors and higher levels of financial anxiety during COVID had higher levels of debt holdings than those who did not have such experiences. In contrast,

there was a negative association between objective financial knowledge, perceived financial capability, and debt holdings, suggesting as these financial literacy variables increased, debt holdings decreased. Additionally, when considering age differences, individuals in the young (e.g., MZ generation) and middle (e.g., Gen-Xer) age groups reported holding more debt types than those in the older (e.g., Boomer/silent generation) age group.

As for the association between holding different debt types and financial satisfaction, results revealed that credit card debt, automobile debt, and medical debt were negatively associated with financial satisfaction, whereas mortgage and student loan debt were positively associated with financial satisfaction. This study further found that, compared to those in the older age group, individuals in the young age group had higher levels of financial satisfaction, while individuals in the middle age group had lower levels of financial satisfaction. Importantly, the findings of this thesis can add to the current literature regarding what role age plays in the type of debt utilized at different periods of the life cycle to inform new financial and debt management programs for financial practitioners aimed at increasing financial satisfaction.

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PUBLIC ABSTRACT

Differences in Debt Holdings and Financial Satisfaction Across Age During COVID

Loryn Elaine Law

Access to credit has allowed many individuals to reach their own version of the American dream as credit offers them resources to improve quality of life by buying homes, purchasing automobiles, funding higher education, and financing everyday needs. However, accumulating debt may have negative impacts on their financial satisfaction. Since the 2021 wave of the National Financial Capability Study (NFCS) was collected during the COVID-19 Pandemic, this study was able to look at how financial stressors (e.g., unexpected income drops, being laid-off, difficulty paying on-going bills), financial anxiety, and financial literacy variables (e.g., subjective financial knowledge, objective financial knowledge, perceived financial capability) during COVID were associated with debt holdings and financial satisfaction. This study further investigated how holding different debt types was associated with financial satisfaction and how these associations vary across three age groups.

Results of the study show that individuals who experienced financial stressors and higher levels of financial anxiety during COVID had higher levels of debt holdings than those who did not have such experiences. In contrast, there was a negative association between financial literacy and debt holdings, suggesting that as objective financial knowledge and perceived financial capability increased, the number of debt types held

decreased. Additionally, when considering age differences, individuals in the young (e.g., MZ generation) and middle (e.g., Gen-Xer) age groups reported holding more debt types than those in the older (e.g., Boomer/silent generation) age group.

Results of the study also revealed that credit card debt, automobile debt, and medical debt were negatively associated with financial satisfaction, whereas mortgage and student loan debt were positively associated with financial satisfaction. This study further found that, compared to those in the older age group, individuals in the young age group had higher levels of financial satisfaction, while individuals in the middle age group had lower levels of financial satisfaction. Importantly, the findings of this thesis can add to the current literature regarding what role age plays in the type of debt utilized at different periods of the life cycle to inform new financial and debt management programs for financial practitioners aimed at increasing financial satisfaction.

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CHAPTER I

INTRODUCTION

The increase in access to credit has allowed many to reach their own version of the American dream. Whether it is purchasing a home, buying an automobile, or buying groceries, "keeping up with the Jones'" is easier than ever as everything can be financed with credit. Consumer debt in America continues to increase as U.S. households take on significantly more debt yearly. At the beginning of 2023, total household debt, including mortgages, credit cards, auto loans, student loans, and all other debt, rose to $17.05 trillion in the U.S., averaging $104,215 per household (Caporal, 2024; Federal Reserve Bank of New York, 2023). Credit is a tool that can affect individuals and families both positively and negatively. Credit allows access to resources that can improve quality of life for borrowers, such as buying homes, purchasing automobiles, funding higher education, and financing everyday needs. However, accessing credit and accumulating debt may have negative impacts on one's financial satisfaction and well-being (Aboagye & Jung, 2018; Coste et al., 2020). This study examined factors associated with accumulating debt and how different credit types are associated with financial satisfaction.

This study applied the life cycle theory of savings to examine what factors are associated with the number of debt holdings and how holding different types of debt influence financial satisfaction differently across ages. The life cycle theory of savings assumes that income increases for those younger individuals, peaks in middle age, and then declines for those in the older age (Ando & Modigliani, 1963). While income is low,

individuals smooth their consumption by borrowing and as income increases, so do savings, with those at peak income saving more. When entering retirement, individuals begin dissaving by living off the savings accrued over their lifetime (Ando & Modigliani, 1963). Following this theory, this study considered age an important variable in determining the number of debts held, with younger individuals holding more debt than older individuals. This study further examined how the association between different debt holdings and financial satisfaction varied across different age groups.

Additionally, to understand the relationships between financial stressors, financial anxiety, financial literacy, and the holding of different debt types, this study employed the Joo and Grable's (2004) determinants of financial satisfaction model as a theoretical framework. The Joo and Grable model is appropriate to understand those key variables because their model included demographic characteristics, financial stressors, financial knowledge, solvency, financial behavior, risk tolerance, and financial stress. The conceptual model of this study is a modified version of the Joo and Grable model and included similar variables, such as financial stressors, financial anxiety, financial literacy, types of debt held, age, and socio-demographic characteristics.

Statement of the Problem

American households are leveraging their debt to increase their ability to purchase goods and services. By spring of 2023, American mortgage balances rose to $12.04 trillion; credit card debt was estimated to be $986 billion; student loan balances were at $1.6 trillion; and auto loan debt increased to $1.56 trillion (Federal Reserve Bank of New York, 2023). The Federal Reserve Bank of New York reported that from July to

September 2022, $633 billion was extended for new mortgages. It was also reported that credit card debt had increased by $38 billion (Federal Reserve Bank of New York, 2023). At the beginning of 2023, $1.57 trillion of student loan debt was in default, with about 4% of student loan debt delinquent by 90 days or more (Federal Reserve Bank of New York, 2023). These borrowing behaviors not only have broad implications for the U.S. but also affect individuals and families as they manage their day-to-day finances.

Debt can disrupt human development by decreasing one's ability to save, cutting into future resources needed later in the life cycle, and delaying life events. Studies found that student loans reduce the odds of marrying and increase financial strain (Bozic & Estacion, 2014). Increased debt not only delays marriage, but also diverts career paths and disrupts savings overall. Those entering the workforce are doing so with more debt than ever. Fulford and Schuh (2017) found that debt increased rapidly for those in their 20s and continued into their 30s. However, borrowing behaviors were not equal among all age groups, as the type of debt utilized varied by age.

It is important to understand what types of credit are being utilized across age groups. The life cycle theory of savings assumes that income increases with age, allowing individuals to increase their savings that can then be spent down at retirement (Ando & Modigliani, 1963). The theory then hypothesizes that borrowers seek to smooth consumption when they are young, and income is low, by borrowing, then saving as their income increases (Ando & Modigliani, 1963). At the end of 2022, borrowers ages 18-29 had the highest credit card and auto loan debt, as compared to other age groups (Federal Reserve Bank of New York, 2023). This same age group was less likely to have taken out a mortgage, as compared to older age groups (Federal Reserve Bank of New York, 2023).

This data illustrates that younger borrowers take on more consumer debt and are not utilizing debt to acquire wealth building assets, as compared to older borrowers. Borrowers aged 70 and older were more likely to have taken out a home equity line of credit than those in all younger age groups (Federal Reserve Bank of New York, 2023). Thus, illustrating the necessity to invest in wealth. However, when older borrowers utilize credit to tap into nonliquid assets, they reduce the likelihood of forwarding generational wealth, leaving less for their descendants.

In April of 2020 and the peak of the Covid-19 pandemic, the U.S. unemployment rate reached 14.8%, and consumer debt levels rose $800 billion (Fay, 2023c). During this time, student loan debt, mortgage debt, and personal loan debt all increased, while credit card debt dropped 9% compared to 2019 (Fay, 2023c). At the end of 2022, and the end of federal emergency programs, total debt had risen $2.75 trillion since 2019 (Fay, 2023c). Average inflation in 2022 was 8.3%, reaching its peak in June of 2023 at 9.1% (Statista Research Department, 2023). Financial stressors, like a sudden drop in income, were especially prevalent during the Covid-19 Pandemic (Argabright et al., 2022). During the pandemic, financial stressors were found to have a negative effect on financial satisfaction and a significant impact on serious psychological distress and depressive symptoms (Argabright et al., 2022; Tsuchiya et al., 2020).

Financial stress arises when current and ongoing financial obligations are unable to be met (Friedline, 2021). Financial stress is alleviated when the source or stressor is removed (Lee et al., 2023). When a financial stressor is eliminated, financial stress may be alleviated but financial anxiety is not (Lee et al., 2023). Negative impacts of financial anxiety on financial satisfaction have been explored in previous research (Archuleta et

al., 2013; Lee et al., 2023). Financial anxiety has been explained as constant worry about finances leading to deeper physiological symptoms that are not alleviated once a financial stressor is removed (Lee et al., 2023).

Increased levels of total debt are an important factor contributing to financial anxiety (Archuleta et al., 2013). Financial anxiety from debt has been linked with increased health issues, decreased marital satisfaction, and a reduction in resources left for retirement (Dew, 2011; Kim et al., 2017; Moore, 2018, Payne et al., 2019). Further, research shows that employees with higher levels of debt are less productive at work than those with lower debt levels due to financial stress (Moore, 2018). Both financial stress and financial anxiety were found to have negative associations with financial satisfaction, with a greater negative association found between financial anxiety and financial satisfaction (Lee et al., 2023).

Purpose of the Study

The extensive use of credit can lead to over indebtedness, cutting into future resources. A negative association between total debt level and financial satisfaction was found in previous research (Lee et al., 2023). When nearing the period of dissaving (i.e., spending of retirement funds), unresolved debt may cut into resources available for retirement. At the age of 18 and the advent of adulthood, individuals gain access to tools of credit and debt. Using data from the 2021 National Financial Capability Study (NFCS), the first objective of this study is to examine the associations between financial stressors, financial anxiety, financial literacy, and the number of debt holdings during the Covid-19 pandemic. The second objective of this study is to examine the association

between types of debt and financial satisfaction and how these associations vary across age groups. This study first focused on what factors contribute to the number of debt holdings and then examined what influences the number of debt holdings across age. The 2021 wave of the NFCS was collected during the Covid-19 Pandemic, allowing this study to look at how financial stressors (e.g., unexpected income drops, being laid-off, difficulty paying on-going bills) and financial anxiety during the pandemic are associated with the accumulation of debt holdings.

Considering the current extensive use of credit and increasing debt levels among families and individuals in the U.S., it is timely and important to understand what factors are associated with debt type accumulation. The first objective of this study is to examine the associations between financial stressors, financial anxiety, financial literacy, and number of debt holdings during the Covid-19 pandemic. The second objective of this study is to examine the association between types of debt and financial satisfaction and how these associations vary across ages.

Research Questions

Employing data from the 2021 National Financial Capability Study (NFCS) which was collected from June 2021 to October 2021, the following five research questions were assessed in this study:

During the Covid-19 Pandemic:

Research Question 1: How are financial stressors and financial anxiety associated with the number of debt types held?

Research Question 2: How is financial literacy associated with the number of debt types held?

Research Question 3: What factors are associated with the number of debt types held across age?

Research Question 4: How do different types of debt associate with financial satisfaction across age?

Research Question 5: What associations do socio-demographic characteristics (e.g., gender, race/ethnicity, education, marital status, employment status, and household income) have with financial satisfaction?

Importance of the Study

While employing data from the 2021 NFCS, collected during the height of the Covid-19 Pandemic, the findings of this study add to the literature of the effects of the pandemic on the type of debt held and financial satisfaction. Understanding the associations between types of debt, financial stressors, socio-demographic characteristics, and financial satisfaction during this time may aid financial professionals (i.e., financial counselors, financial coaches, financial advisors, etc.) to best assist individuals and families recovering from the financial effects of the pandemic. Knowing these associations can help financial professionals provide comprehensive programs to aid those dealing with financial difficulties. Further, the findings of this study may aid in creating new policies and programs geared towards increasing and improving financial satisfaction. As Covid-19 related policies toward mortgage and student loan forbearance

end and payments on these debts resume, the findings of this study may also shine a light on issues related to debt accumulation and elimination after the pandemic.

This study adds to the literature focused on debt holdings by age and how financial satisfaction is affected by types of debt held at different points in the life cycle. Understanding what role age plays in the type of debt utilized at different periods of the life cycle and how that is tied to life satisfaction provides important insights when counseling clients on the effects of debt at various stages in life. In particular, understanding associations between financial stressors, types of debt, and financial satisfaction across age groups provides broad insights that financial practitioners can use to assist future clients in debt management with an eye toward improving financial satisfaction. Previous studies have focused on financial behaviors and how financial behaviors affect financial satisfaction. However, little research exists on how types of debt and financial stressor variables influence financial satisfaction across different age groups. Thus, the findings of this study will add to the literature focused on factors influencing financial satisfaction across age.

The findings of this study also offer new approaches toward debt accumulation and elimination based on how debt affects overall financial satisfaction. In particular, the findings of this study can help develop programs focusing on reducing financial anxiety and financial stress and enhancing financial satisfaction by targeting debt payoff solutions by age rather than the current approach that targets debt pay off based on those debts with the lowest balance or highest interest rates first (Kagan, 2024). Further, it is hoped that the findings of this study offer important insights into which types of debts

cause greater disruptions to the life cycle and which debts aid in increased financial satisfaction across age.

While utilizing data from the 2021 National Financial Capability Study (NFCS) which was collected during the Covid-19 Pandemic, the findings of this study shine a light on the association between financial stressors/events and their influence on the number of debt holdings. While past research has focused on debts' influence on financial stress and anxiety, a gap in research exists exploring the influence of financial stressors and financial anxiety on the type of debt held. A new strategy for financial counselors may be advising clients to consider reducing financial stressors that are associated with holding more debt types. Importantly, understanding the situations in which various financial stressors influence the accumulation or reduction of overall debt holdings by type can aid in the development of public policy focused on debt relief. In addition, understanding the association that financial stressors play in the number of debt holdings can assist in creating financial education tools to increase financial capability.

CHAPTER II

LITERATURE REVIEW

Credit has become an important tool to allow borrowers to reach their financial goals. However, as household debt continues to rise, it is important to understand the roles that various types of debt and the acquisition of different debt holdings at different points in the life cycle play in financial satisfaction. This chapter reviews the literature on topics related to the focus of this study by documenting factors associated with holding various debt holdings. This chapter also reviews the association between holding specific debt holdings and financial satisfaction across ages. Specifically, the topics in this chapter include 1) financial satisfaction, 2) debt perception: "good" debt vs. "bad" debt, 3) financial stressors, financial stress, and financial anxiety, 4) financial literacy, 5) debt across age, 6) types of debt and financial satisfaction, and 7) socio-demographic and other factors. At the end of this chapter, the conceptual framework of the study and study hypotheses are presented.

Financial Satisfaction

Financial satisfaction is defined as one's satisfaction with their current financial situation (Fan & Henager, 2021; Gerrans et al., 2013; Joo & Grable, 2004; Zimmerman, 1995). Xiao (2016, p.10) explains that financial satisfaction measures "self-perceived overall financial status." Thus, those who consider themselves to be doing well financially are likely to have a greater feeling of financial satisfaction. Positive net worth can make someone feel financially stable and be viewed as doing well financially by

others, contributing to a greater feeling of perceived financial satisfaction (Sussman & Shafir, 2011).

Financial satisfaction and financial well-being are often used interchangeably as higher levels of financial satisfaction are positively correlated with an increase in financial well-being (Fan & Henager, 2021; Gerrans et al., 2013; Xiao, 2016). Financial well-being has been defined as one's perception of their current financial situation, one's ability to sustain their current and desired standard of living and uses both objective and subjective measurements to evaluate associations in financial well-being (Bruggen et al., 2017; Xiao, 2016). Objective measures of financial well-being include increased financial knowledge, savings for emergencies, increased asset levels, and low debt levels. The subjective measure of financial well-being is financial satisfaction, or how satisfied one is with their current financial situation (Fan & Henager, 2021; Gerrans et al., 2013; Xiao, 2016).

A previous study found that increased levels of financial knowledge, financial capability, and financial advice were positively associated with an increase in financial satisfaction, whereas high risk tolerance was associated with a decrease in financial satisfaction (Cera et al., 2020). Joo and Grable (2004) found that positive financial solvency and healthy financial behaviors were positively associated with an increase in financial satisfaction and high levels of financial risk tolerance and high financial stress levels were associated with low financial satisfaction levels. How satisfied someone is with their financial situation may be the most important factor associated with financial well-being. Gerrans et al. (2013) used financial satisfaction to subjectively measure financial well-being and found that financial satisfaction was found to be the only

predictor of personal well-being. However, differences in satisfaction level may be influenced by other factors, as the study suggested differing influences of financial satisfaction on personal well-being for males and females (Gerrans et al., 2013).

Fan and Henager (2021) examined what factors are associated with financial well-being, while conceptualizing financial perception and knowledge factors, financial stress, and positive financial behaviors as determinants of financial well-being. The authors found positive associations between short-term positive financial behaviors (e.g., having savings for emergencies, being able to pay monthly bills without difficulty, spending within one's monthly income, and paying with credit cards off in full monthly) and financial well-being (Fan & Henager, 2021; Lee & Dustin, 2021). Fan and Henager (2021) found that positive financial perception, an increased level of financial knowledge, and positive financial behaviors were positively associated with an increase in financial wellness.

Debt Perception: Good Debt vs. Bad Debt

How one perceives a financial obstacle may be an important factor in determining financial satisfaction. Thus, not all debt types are created equal for everyone. An individual's financial goals, financial habits, and financial biases can determine whether one sees a debt as "good" or "bad." When individuals and families use credit, their perception of whether the debt they hold is "good debt" or "bad debt" could contribute to their perception of how satisfied they are with their current financial situation.

Additionally, social perception of whether a debt is considered a "good debt" or "bad debt" and may be a factor associated with financial satisfaction. Different debt types

are perceived differently based on cultural and personal values and how one identifies their debt obligations may play an influencing role in financial satisfaction. Greenberg and Mogilner (2021) found that some debts were more likely to be mentally labeled as "debt" than other debts. They compared student loan debt, mortgage debt, and credit card debt and found that student loans are more likely to be considered debt, while mortgages were not perceived as debt at all.

Good debts are debts that help to accomplish one's goals and provide some type of long-term benefit to a borrower, such as debts that help you generate income, build wealth, provide equity, and increase net worth (Capital One, 2023; Chase, 2020; Equifax, n.d.; Fidelity Smart Money*,* 2023; Rosenburg, n.d.). Bialowolski and Weziak-Bialowolska (2021) found that debt used to purchase a durable good, such as an automobile or mortgage loan**,** were associated with an increase in life satisfaction for borrowers. However, debts that were not tied to durable goods, such as credit card and student loan debt, were associated with a decrease in financial satisfaction (Bialowolski & Weziak-Bialowolska, 2021).

Bad debts are described as debts with high interest rates, used to purchase depreciating assets that do not offer a return on investment, and are unaffordable for the borrower causing a strain on financial resources and leading to an increase in financial stress (Capital One, 2023; Chase, 2020; Equifax, n.d.). Good debts may become bad debts when changes in circumstances make a previously manageable debt no longer sustainable. The financial strain created by bad debts is likely to lead to a decrease in financial satisfaction.

In general, mortgages are considered “good debt,” whereas credit card debt and other high interest loans are considered “bad debt” (Akin, 2023). The perception of student loan debt and auto loan debt were mixed, as auto loans allow borrowers access to transportation to increase income and student loans allow borrowers to invest in their own human capital (Fay, 2023a). However, auto loans are tied to a depreciating asset and the amount of student loan debt one has cuts into future resources and affects the borrower’s ability to repay the loan and manage their monthly expenses (Alvarez, 2020; Fay, 2023a). Medical debts usually rise out of necessity as unexpected expenses. One study found that carrying medical debt can push low and middle-income households into poverty, contributing to the difficulty of paying off medical debt (Li et al., 2020).

This study examined the association between five types of debt (e.g., credit card debt, automobile debt, medical debt, mortgage debt, and student loan debt) and financial satisfaction across age. Among these five types of debt, literature has shown that while credit card debt and auto loan debt can be considered “bad debt,” mortgage debt and student loan debt can be considered “good debt.” It has shown that good debt is described as debts that provide a return on investment, either in equity or human capital (Akin, 2023; Alvarez, 2020). Thus, mortgage debt and student loan debt can be considered as “good debt.”

On the other hand, bad debt is described as debt that is either unsecured or tied to depreciating assets and likely increases financial strain, while reducing financial satisfaction (Fay, 2023a; Fidelity Smart Money, 2023). Medical debts are usually taken out in a time of need in which the borrower did not have sufficient savings to cover an emergency expense, increases monthly debt obligations, and reduces financial resources

that are usually allocated to other expenses (Rae et al., 2022). Thus, medical debt can be considered “bad debt.”

Financial Stressors, Financial Stress, and Financial Anxiety

Individuals with a higher amount of debt are more susceptible to financial stressors because holding debt reducing resources available to manage unexpected financial stressors (Hunter & Heath, 2017). Financial stressors are defined as events that impact one’s financial situation but are usually short term in nature and may lead to financial stress (Lee et al., 2023). A recent survey showed that Americans listed financial stress as the number one stressor affecting their lives (White, 2020). Financial stress arises when current and ongoing financial obligations are not able to be met (Friedline, 2021). Unexpected changes in one’s financial situation may place a burden on household finances leading to increases in financial stress.

A study by Fan and Henager (2021) found that financial stress was negatively associated with short term financial behaviors, such as having an emergency fund, experiencing no difficulty making monthly bills, spending less than one’s monthly income, and paying off credit cards in full (Fan & Henager, 2021). However, the same study found that financial stress was positively associated with the likelihood of a respondent participating in positive long term financial behaviors. Long term financial behaviors included calculating retirement needs, having savings accounts, having retirement accounts, and investing. Thus, financial stress may be a motivating factor in developing positive long term financial behaviors.

Increases for individuals in debt level and accumulating additional debt types may create an inability to cover monthly debt payments. Coste et al. (2020) found that those who are past due on their debt obligations were more likely to report a decrease in financial satisfaction compared to those without debt or those with debt but who were not past due. Financial stress from being overextended from debt payments can increase debt pressure and decrease financial satisfaction (Xiao & Yao, 2020). Bauchet and Evans (2019) looked at determinants of filing personal bankruptcy and found that high levels of credit card debt was a strong predictor of bankruptcy filing. Among older adults ages 62 and older, credit card debt was found to have the largest association with financial stress, as compared to other types of loans (Moulton et al., 2019).

Past negative financial behaviors may also influence current financial behaviors as a study that looked at how outstanding credit card balances influenced spending (Wilcox et al., 2011). The study found that for those individuals who had greater self-control, spending increased when they already carried a balance on their credit card. When there was no balance on their credit card, individuals spent less to avoid carrying a balance. However, those with low self-control who had incurred a balance spent less than those who did not carry a balance (Wilcox et al., 2011). These findings suggest that past financial behaviors that restrain resources, such as carrying a credit card balance, may lead to an increase in financial stress.

The Covid-19 pandemic influenced families' financial stress levels in various ways. Kelley et al. (2023) examined financial stressors and their influence on financial capability and financial stress during Covid-19. While 48.7% of participants reported no change in financial stress due to Covid-19, 35.8% of participants reported an increase in

financial stress at the height of the pandemic, as compared to prior to the pandemic (Kelley et al., 2023). The study found that common stressors that negatively influenced financial stress during Covid-19 included: worry about the future economic situation, income cuts due to a reduction in work hours, unexpected job loss, increases in monthly expenses, difficulty balancing work and home life, fluctuations in the stock market cutting into retirement needs, the inability to receive financial assistance from the government, and the inability to cope with financial stress.

Previous research has also found a negative association between financial stressors and health. One study found that financial stressors were associated with serious psychological distress with multiple financial stressors increasing the odds of reporting psychological distress (Tsuchiya et al., 2020). Reported general health decreased when stress from debt increased and stress from debt was found to be related to increases in reports of depressive symptoms (Tran et al., 2018). Stress from debt was negatively associated with increases in income level and reports of increased health (Tran et al., 2018). Interestingly, a negative correlation was found between perceived financial strain and mental health, while actual debt level did not correlate to mental health (Selenko & Batinic, 2011), suggesting how one perceives their debt burden has a stronger impact then the debt itself.

Financial stress and financial anxiety are terms that are often used interchangeably. However, financial stress typically results from a negatively perceived financial situation caused by a financial stressor and can be allayed when the financial stressor is resolved, while financial anxiety is tied to a deeper cause and can be psychological in nature (Lee et al., 2023). Financial anxiety is defined as worry or fear

about one's finances, often lasting an extended period of time, and continuing after a stressor is eliminated (Lee et al., 2023). Although there has been a recent push to define financial stress and financial anxiety separately, previous research has often measured financial stress and financial anxiety using similar variables. Fan and Henager (2021) measured financial stress as a construct variable combining variables of financial worry, financial anxiety, and financial stress.

Previous studies have found that financial stress and financial anxiety are factors associated with a decrease in financial satisfaction. Fan and Henager (2021) found that increased levels of financial stress were significantly associated with lower level of financial well-being. Lee et al. (2023) found that both variables were significantly and negatively associated with financial satisfaction, but that financial anxiety had a stronger negative association with financial satisfaction, as compared to financial stress. Archuleta et al. (2013) examined determinants of financial anxiety and found that financial satisfaction was found to be statistically relevant in predicting financial anxiety, as those with high levels of financial satisfaction more likely to report low levels of financial anxiety.

Financial anxiety can be alleviated by financial preparedness. A study that examined the relationship between financial knowledge, financial capability, and financial anxiety found that financial capability, when combined with financial knowledge, can decrease financial anxiety (Lee, Rabbani, & Heo, 2023). Financial capability is defined as having the knowledge and ability to understand and act on that understanding to improve one's own financial circumstances (Sherraden, 2010). Lee, Rabbani, and Heo (2023) also found that when financial capability was low, financial

knowledge was not enough to moderate financial anxiety. Archuleta et al. (2020) compared feelings of financial anxiety before and after setting goals using solution focused therapy. Solution focused therapy assumes the client is an expert in their own lives and approaches financial behavior change with clients visualizing their financial goals and identifying the steps needed to work toward accomplishing those goals (Archuleta et al., 2020). Their study found that using solution focused therapy to set financial goals lessened feelings of financial anxiousness (Archuleta et al., 2020).

Financial Literacy

In literature, while financial stress and financial anxiety have been found to have a negative association with financial behaviors, a positive association between financial literacy and positive financial behaviors has been found. Financial knowledge, financial literacy, and financial capability are all terms used, often interchangeably, to describe one's grasp on financial information. Financial knowledge is often referred to when dealing with objective financial information, or the facts, skills, and education needed to understand financial concepts (Delgadillo, 2014). Henager and Cude (2016) found that objective financial knowledge increased with age. Financial literacy is defined as one's ability to understand financial terms and tools as well as the ability to effectively implement the information to one's financial life (Huston, 2010). The difference between financial knowledge and financial literacy is in the ability to act and implement knowledge (Delgadillo, 2014; Huston, 2010).

In recent years, there has been a shift away from financial knowledge and towards financial capability. Financial capability has gone a step further than financial literacy to

include the ability to access and use asset building products and the legal protection for consumers (Delgadillo, 2014). Xiao (2016) defined financial capability as a combination of financial literacy and positive financial behaviors which can lead to overall financial well-being. The goal of financial capability is improving consumers' financial decision-making by improving knowledge and understanding, skills, confidence, and attitudes (Xiao, 2016). Perceived financial capability was a factor found to be positively associated with financial well-being and financial satisfaction (Fan & Henager, 2021).

Financial confidence and financial capability terms are often used interchangeably, as both are subjective measures of financial knowledge. A positive correlation was found between financial confidence, or capability, and healthy credit card use behaviors (Atlas et al., 2019). Those with higher levels of financial confidence, or perceived financial knowledge, were more likely to display healthy credit card use behaviors and higher levels of financial satisfaction, even when objective financial knowledge was low (Atlas et al., 2019). Additionally, Allgood and Walstad (2013) found that when compared to objective financial knowledge, perceived financial knowledge was a stronger predictor of positive credit card use behaviors.

Further, those who had higher levels of subjective and objective financial knowledge were less likely to be financially stressed or financially anxious, and these individuals were more likely to practice positive financial behaviors (Hwang & Park, 2022; Lee et al., 2023). Previous literature reveals further evidence that financial literacy plays a role in determining financial satisfaction. Studies have shown that those with increased objective financial knowledge were more likely to report lower levels of financial satisfaction, while subjective financial knowledge was positively associated

with financial satisfaction (Fan & Henager, 2021; Hwang & Park, 2022; Robb et al., 2018).

Seay et al. (2017) found that financial literacy was positively associated with positive financial decision making. The study looked at the relationship between financial literacy and interest-only mortgages and found that financial literacy was negatively associated with holding an interest only mortgage. Financial literacy also decreased the likelihood of being a revolving credit user, increased financial confidence, and decreased the likelihood of taking on more debt than manageable (Kim & DeVaney, 2001). Financial literacy was found to be negatively associated with the amount of debt held by individuals (Kim & DeVaney, 2001). These findings suggest that belief in one's ability to handle one's finances may be more beneficial to financial satisfaction than just the knowledge needed.

Xiao and Yao (2020) also examined the association between financial literacy and financial burden. In their study, financial burden was defined by having a debt-to-income ratio greater than 40%, being delinquent on a debt 60 days or more, and being insolvent. The study found that higher levels of financial literacy were associated with lower levels of financial burden. Additionally, a negative association between subjective financial literacy and higher levels of financial burden was found, while no association was found between objective financial literacy and financial burden (Xiao & Yao, 2020). The results of their study suggest that financial knowledge alone does not influence financial burden. However, past literature reports that subjective knowledge increases when objective knowledge increases (Atlas et al., 2019). With access to objective financial knowledge,

increases in perception of financial ability may lead individuals to make different financial decisions.

Consequently, when financial confidence, or perceived financial capability, exceeds actual financial knowledge, the result is financial overconfidence (Atlas et al., 2019). Seay et al. (2017) found that those with higher financial confidence were more likely to take on loans with higher interest rates. The study suggested that while those with higher financial knowledge may take on less risk, those with high levels of financial confidence or over confidence, may take on more risk, increasing the likelihood of financial distress and decreasing financial well-being. Atlas et al. (2019) found a direct relationship between financial confidence and financial satisfaction; however, a stronger relationship was found between financial confidence and financial satisfaction for those with increased levels of financial knowledge. They concluded that financial knowledge increases with confidence and confidence increases with financial knowledge (Atlas et al., 2019).

Debt across Age

In 2023, the highest debt average by age was found among those in Generation X (age 43-58) with total household debt averaging $61,036 (Depietro & Lapera, 2023). Baby boomers (ages 59-77) had the second highest debt level by age, with an average total debt level of $52,401 (Depietro & Lapera, 2023). A reduction in the average total debt level of $41,077 was seen in the Silent Generation (ages 78-95) (Depietro & Lapera, 2023). Gen Z (ages 18-26) had the lowest reported debt level, with an average total debt level of $16,283 (Depietro & Lapera, 2023). Average debt level then rose to $48,611 in

2023 for Millennials (age 27-42) (Depietro & Lapera, 2023). Graphing these numbers shows a curvilinear line, like the life cycle theory of savings, with those entering the debt market (Gen Z) holding lower debt levels, debt levels increasing until mid-age (Millennials and Gen X) and then decreasing as one enters retirement and dissaving begins (Boomers and Silent Gen).

According to a 2015 report by the Urban Institute, those without debt tend to be younger, with 54.5% and 39.2% ages 18-22 and 23-27, respectively, not holding any debt (Li & Goodman, 2015). Additionally, as age increased, so did the percentage of people who had debt (Li & Goodman, 2015). Credit card debt is the most prevalent debt held by borrowers in their 30s to early 70s. Student loan debt was most common for those in their 20s and 30s, auto loan debt was most common for those in their 30s through 50s, and mortgage debt was more common for those in their late 30s to early 60s (Li & Goodman, 2015). However, debt characteristics and types of debt held by households have shifted over time, with today's youth carrying more unsecured debt than past generations at the same age. Houle (2014) examined debt held at the age of 24-28 in the 1970s (currently those in the Early Boomer generation), in 1989 (Late Boomers), and in the late 2000s (Gen Y). The study found that 33% of debt carried by Gen Y, 28% of debt carried by Early Boomers, and 26% of debt carried by Late Boomers when they were 24-28 years old were unsecured debts (Houle, 2014).

Credit card debt was found to increase for those in their 30s and then decrease with age (Plagnol, 2011). Total average credit card debt by age suggests a bell-shaped curve similar to that of the life cycle hypothesis of savings with debt lowest for those in the youngest age group (Gen Z), increasing in the middle years and peaking for Gen X,

then decreasing for those in the older age group (silent generation) (Depietro & Lapera, 2023). Specifically, average credit card debt was about $2,781 for Gen Z and increased to $5,898 and $8,266 for millennials and Gen X, respectively (Depietro & Lapera, 2023). Then, average credit card debt began to fall for those in the Baby Boomer Generation to $7,464, dropping again for the Silent generation to $5,649 (Depietro & Lapera, 2023).

A previous study also found that 52% of millennials (age 18-35) and 48.9% of non-millennials (ages 36 and older) held auto loan debt (Lee et al, 2019). In 2023, average auto loan payments for those ages 18-26 was $450 monthly with average balances of $23,766 (Depietro & Lapera, 2023). Those aged 27-42 reported an average auto loan payment and balance of $559 and $23,766, respectively. For those aged 43-58, average automobile payments continued to rise, with monthly payments of $645 and balances of $26,765. Average monthly automobile payments decreased to $574 and balances of $22,530 and $490 with balances of $18,529, respectively, for those age groups 59-77 and 78-95 (Depietro & Lapera, 2023). For those with auto loans, total debt ratios were highest for consumers in their late 30s to early 50s, with almost 40% of consumers in their 40s reporting that they carried auto loan debt (Li & Goodman, 2015). For those ages 60-66, 37.4% carried auto loan debt (Houle, 2014).

As for mortgage debt, compared to those aged 18-35, those aged 36 and older had higher mortgage balances than those in the younger age group (Lee et al, 2019). Those aged 18-35 with housing loans (e.g., mortgage, home equity lines of credit, and home equity loans), were less likely to be delinquent in overall debt than those without home loans. Average debt on homes increased with age until about age 47, then begins to decline (Plagnol, 2011). Homeowners ages 45-59 reported higher levels of subjective

debt burden than younger homeowners (Keese, 2012). The percentage of those in their late forties holding mortgage debt dropped from 43% in 2010 to 39% in 2014 (Li & Goodman, 2015). Mortgage debt comprised 43% of total household debt for Early Boomers (Hougle, 2014).

As for the medical debt by age, in 2017, 19% of U.S. households carried medical debt (Bennett et al., 2021). Compared to all other adults, those ages 35-49 and 50-64 were more likely to report having medical debt as compared to other debt (KFF, 2022). In 2018, 4.5 million adults ages 65 and older had medical debt (CFPB Office for Older Americans, 2021). In 2018, 23% of those ages 18-24, 33% of those ages 25-33, 30% of those ages 35-44, 26% of those ages 45-54, 18% of those ages 55-64, and 9% of those ages 65 and older had medical debt (CFPB Office for Older Americans, 2021). Additionally, households with children were more likely to carry medical debt, compared to households without children (Bennett et al., 2021). Medical debt decreased for those 65 and older, as compared to younger heads of households (Bennett et al., 2021).

Student loan debt varies by age, with 55% of all student loan debt owing to borrowers under 40 years of age totaling $871 billion dollars (Hanson, 2023b). Student loans make up 22% of the total debt for young adults (Hougle, 2014). Compared to other adults, those ages 35-49 and 50-64 were more likely to report having student loan debt (Hanson, 2023b). Twenty-three percent of student loan borrowers were 18-29 years old with an average debt load of $23,857 (Hanson, 2023b). Borrowers ages 30-39 held an average of $42,748 in student loan debt and made up 32% of all student loan borrowers (Hanson, 2023b). Twenty-two percent of borrowers were ages 40-49 with an average student loan balance of $44,864 (Hanson, 2023b).

The likelihood of holding student loan debt dropped for those ages 50-59 and 60 years and older, at 15% and 8% respectively (Hanson, 2023b). The total amount of student loan debt on average dropped for those in the older age groups with an average student loan debt of $44,020 for those ages 50-59 and $35,897 for those ages 60 years and older (Hanson, 2023b). Regardless of age group, those holding student loans were more likely to be delinquent in overall debt payments than those without student loans (Lee et al., 2019).

In summary, as for types of debt across age, those holding the most debt levels by age were reportedly in held among those in middle years (Gen Xers) and those transitioning to later years (early Baby Boomers) with debt levels rising with age (Depietro & Lapera, 2023). When considering each debt type, credit card debt rose with age peaking at middle age then decreasing (Depietro & Lapera, 2023; Plagnol, 2011). Auto loan debt balances rose with age; however, debt burden was highest in middle years (30–50-year-olds) (Depietro & Lapera, 2023; Li & Goodman, 2015). Mortgage debt also rose with age, peaking in middle age then declining (Plagnol, 2011). However, those in earlier years (18-35-year-olds) with a mortgage also practiced better financial management than those without a mortgage in the early years (Lee et al., 2019). Those in middle years (Gen Xers) and those transitioning to later years (early Baby Boomers) were more likely to have medical debt than individuals in other age groups (KFF, 2022). Those in the early and middle years (under 40-years-old) were most likely to hold student loans, and those with student loans were more likely to mismanage other financial debts than those without student loans (Hanson, 2023b; Lee et al., 2019).

Types of Debt and Financial Satisfaction

While debt may be a factor affecting financial satisfaction, an increase in debt level is usually associated with more financial dissatisfaction (Xiao, 2016). Past research has found that holding debt, regardless of type, is associated with a decrease in life satisfaction (Greenberg & Mogilner, 2021). While having debt has been linked to a decrease in financial satisfaction, the amount of debt held also influences financial satisfaction as increases in debt levels constrain financial resources available for future consumption. Xiao and Yao (2020) found that types of debt associated differently with debt pressure, debt delinquency, and insolvency to impact financial burden. Those with an increased financial burden are more likely to report lower levels of financial satisfaction (Xiao & Yao, 2020).

Credit Card Debt

During the Covid-19 pandemic, the use of cash was discouraged, increasing the need to use credit or debit cards (Dickler, 2021). In 2016, cash spending was still the most common form of payment, with 18% of all payments made by credit cards, 27% of payments made by debt card, and 31% of payments made with cash (Cubides & O'Brien, 2023). By 2021, 57% of all purchases were by consumers using their credit and debit cards to finance their purchases and cash spending declined to 20% (Cubides & O'Brien, 2023). Cash spending has continued to decline with 18% of all payments made using cash in 2022 (Cubides & O'Brien, 2023). Along with the convenience of use and increases in online shopping, discouragement of cash spending during the pandemic could be one factor contributing to increases in credit card spending.

Credit cards have become a readily available tool accepted in U.S. households with the average American holding 2.7 credit cards and over 191 million Americans carrying at least one credit card (Fay, 2023b). At the end of 2022, U.S. credit card debt rose to $986 billion (Federal Reserve Bank, 2023). During this time, credit card debt saw a $130 billion increase, with total credit card debt for Americans rising to $986 billion (Fay, 2023c). Delinquency rates for credit cards steadily increased from 2019 to 2022 with 18.3 million borrowers behind on their credit card debt (Fay, 2023c). Credit card debt is the most common form of debt, as compared to other forms of debt (Li & Goodman, 2015). Pokora (2023) reported that in 2021, 84% of adults in the U.S. had a credit card and 73% of adults in the U.S. have a credit card by the age of 25.

Kim and DeVaney (2001) found a positive relationship between the number of credit cards held and the likelihood of being a revolving credit user. Paul et al. (2017) found a positive relationship between the number of credit cards a student carries and the likelihood that the student would be financially at risk. Financially at-risk behaviors were defined as carrying a balance of $1,000 or more, being delinquent on credit card payments for two or more months, maxing out their credit card, and not always paying off their credit card balance in full every month. The more credit cards a student had the more likely they were to report engaging in financially risky behaviors (Paul et al., 2017).

Hunter and Heath (2017) looked at the relationship between credit card use behaviors and financial well-being during the Great Recession and found that households that never carry a credit card balance or only occasionally carry a credit card balance, compared to households that carry a balance most of the time, were 92% and 83%, respectively, less likely to report being in financially risky situations and more likely to

report a positive financial situation. The results of the study also showed that those households with more than one credit card were less financially stable than households with three or more cards (Hunter & Heath, 2017). The study went on to imply that those households that use credit cards for convenience, instead of using it to mitigate current consumption needs, are better able to handle times of economic shock (Hunter & Heath, 2017).

Gutter and Copur (2011) found that those with positive credit card behaviors (e.g., pay off credit cards in full monthly, keep their balances low, and make on time payments) reported higher financial satisfaction as compared to those with poor credit card behaviors. Women with negative credit card behaviors reported lower levels of financial satisfaction, as compared to women with positive credit card behaviors (Santos et al., 2015). In general, access to credit cards has positive influences on financial satisfaction. However, poor handling of credit cards is likely to lead to a decrease in financial satisfaction.

Automobile Debt

At the end of 2022, $186 billion was extended in new auto loans and leases, with auto loan balances increasing by $28 billion (Center for Microeconomic Data, 2023). By the middle of 2023, total auto loan debt balances rose from $1.56 trillion in the first quarter of 2023 to $1.58 trillion by the second quarter (Trading Economics, 2023). The average monthly car payment for new and used cars in 2023 was $729 and $528, respectively (Trading Economics, 2023). Increased average monthly auto debt payments may contribute to feelings of decreased financial satisfaction, as it leaves less money available for other expenses.

Not a lot of research has been done exploring automobile debt and its association with financial satisfaction. However, Bialowolski and Weziak-Bialowolska (2020) found that obtaining a new auto loan or lease showed an increase in life satisfaction. Compared to those without an automobile loan, those with an automobile loan were 37% less likely to be behind on total debt payments (Lee et al., 2019). These findings suggest that borrowers who have an auto loan may be better able to manage their debt payments, leading to increases in financial satisfaction.

Medical Debt

It was estimated that 17.8% of individuals had medical debt, with the average household holding $429 in medical debt (Kluender et al., 2021) One study found that 23 million people owe medical debt and total U.S. medical debt neared $195 billion (Rae et al., 2022). Medical debt was the largest source of debt in collection, as compared to non-medical debt (Kluender et al., 2021). Those with medical debt were more likely to report low levels of financial well-being, compared to those without medial debt (Consumer Financial Protection Bureau, 2022).

Medical debt burden and inability to make medical debt payments are likely to decrease financial satisfaction. A factor found relevant to medical debt and its impact on financial well-being was insurance. Medical insurance coverage was found to lessen the burden of medical debt and increase reports of financial well-being (Batty et al., 2022). These findings suggest that holding medical debt likely decreases financial satisfaction. However, there may be other ways to alleviate the burden of medical debt and its influence on financial satisfaction.

Mortgage Debt

Mortgages allow individuals to build equity while also securing shelter at fixed rates. Total mortgage balances in the U.S. stood at $12.14 trillion at the end of the third quarter of 2023 (Federal Reserve Bank of New York, 2023). Mortgage delinquency rates have risen in 2023. Mortgage delinquency rates are calculated as the percentage of homeowners who were 30 or more days late on their mortgage payment. In September 2023, mortgage delinquency rates rose to 3.29% and the number of mortgages actively in the foreclosure process were at 214,000 (Stuart, 2023). National interest rates for mortgages have risen to 7.8% by November 2023, which is the highest it has been in 23 years (Rothstein, 2023). High interest rates on mortgages are one factor pushing the dream of homeownership out of reach for many Americans.

Holding mortgage debt was found to be associated with increased levels of financial stress, a factor associated with lower levels of financial satisfaction (Joo & Grable, 2004). Furthermore, becoming delinquent on a mortgage debt decreased financial satisfaction (Bialowolski & Weziak-Bialowolska, 2020). Those with mortgage debt were 3.8 times more likely to feel debt pressure than those without mortgage debt and more likely to report financial stress than renters (Joo & Grable, 2004; Xia & Yao, 2020).

Other studies show a positive association between utilizing mortgages to become homeowners and financial satisfaction. Bialowolski and Weziak-Bialowolska (2020) found mortgage debt to be associated with an increase in financial satisfaction. Hales (2021) found that 82% of homeowners reported high levels of financial well-being. Joo and Grable (2004) found that homeowners were more likely to report higher levels of financial solvency and that financial solvency had both direct and indirect effects on

financial satisfaction. Millennials who had a housing loan were 52% less likely to be delinquent on all debt payments, as compared to millennials without a housing loan (Lee et al., 2019). Obtaining a mortgage provides benefits for borrowers in the form of increased equity and net worth that may improve financial status and increase financial satisfaction.

Student Loan Debt

Total student loan debt in the U.S. reached $1.6 trillion (Federal Reserve Bank of New York, 2023). In 2023, 93.1% of all student loans were federal student loans with 43.6 million people holding federal student loan debt (Hanson, 2023c). The average federal student loan balance is $37,718 with average monthly student loan payments estimated to be $503 (Hanson, 2023a). New student loan borrowing dropped from 1.53% in March of 2023 to 1.17% in June of 2023 (Hanson, 2023c). The average borrower takes 20 years to repay their student loan debt with interest accruing, on average, $27,000 over the life of their loan (Hanson, 2023a).

In literature, the association between holding student loan debt and financial satisfaction varies. A positive association was found between holding student loan debt and increases in stress from debt (Tran et al., 2018). Holding student loan debt was not a significant indicator of having poor financial behaviors but those who were happy with their intellectual life at school were less likely to practice negative financial behaviors (Paul et al., 2017). However, as compared to holding credit card debt and mortgages, holding student loan debt significantly decreased levels of financial satisfaction (Greenberg & Mogilner, 2021).

A study by Robb et al. (2018) looked at student loan debt and its impact on financial satisfaction. They found that having both federal and private or private only student loans were negatively associated with high levels of financial satisfaction (Robb et al., 2018). It was also revealed that 38% of the study sample reported that they would not change their decision to take out student loans, suggesting that the larger 62% of students would have made a different decision regarding their student loan debt (Robb et al., 2018). Regret of past financial decisions likely leads to lower levels of financial satisfaction.

Those with a college degree earn, on average, 71% more income compared to those with only a high school diploma (Fay, 2023b). Obtaining student loans may have differing influences on financial satisfaction based on the perception of the borrower and their belief that they made the right investment in their own human capital. Those who obtained employment in their field may feel greater financial satisfaction compared to those who did not find employment in their field of choice (Robb et al., 2018).

Socio-Demographic and Other Factors

Age

Age is explored in previous research as an important predictor of financial behavior and attitude as age indicates one's place in the life cycle and their generational cohort (Pew Research Center, 2015). Financial satisfaction steadily increased with age (Plagnol, 2011). There was a curvilinear relationship between age and financial satisfaction across age groups (e.g., 18-34, 45-64, and 65-74) (Hsieh, 2003). On the other hand, a significant linear relationship was found between age and financial satisfaction

for those ages 75 and older (Hsieh, 2003). Among student loan borrowers, millennials were more likely to report higher levels of financial satisfaction than baby boomers and Gen Xers (Hales, 2021).

Other research has been conducted to understand what influences the change in financial satisfaction across age. Studies have looked at income, asset accumulation, financial behavior, and financial knowledge as potential influences in financial satisfaction as one ages (Hales, 2021; Hansen et al., 2008; Hsieh, 2003). Hsieh (2003) suggests the reason for the shift from a curvilinear relationship between age and financial satisfaction and to a linear relationship is a shift in focus from increasing financial assets, income level, and financial freedom in younger age groups to maintaining current financial status in older age groups.

Additionally, Riitsalu et al. (2023) looked at whether the change in financial satisfaction across age was due to a change in financial values. The study found that younger age cohorts defined financial well-being as the ability to keep their current lifestyle, pay current expenses, achieve their desired lifestyle, and achieve financial freedom (Riitsalu et al., 2023). Middle-aged adults defined financial well-being as being able to meet their current needs, purchase desired goods and services, and obtain financial security (Riitsalu et al., 2023). Those in the older age group defined financial well-being as maintaining current and future financial independence with money saved for retirement, funeral expenses, and to support their families (Riitsalu et al., 2023). Findings from studies like Riitsalu et al. (2023) and Hsieh (2003) suggest changes in financial outlook may be due to a shift in financial priorities across the life cycle and one’s financial ability to attend to shifting perspectives.

Gender

The majority of previous research reveals that men are more likely to report being satisfied with their financial situation as compared to women (Aboagye & Jung, 2018; Fan & Babiarz, 2019; Gerrans et al., 2013; Gutter & Copur, 2011; Hales, 2021; Škreblin Kirbiš et al., 2017). However, Theodos et al. (2014) found no differences in financial satisfaction between men and women. Gender differences in income, financial knowledge and literacy scores, asset levels, financial behaviors, and financial attitudes contribute to differences in financial satisfaction (Škreblin Kirbiš et al., 2017).

Gerrans et al. (2013) investigated factors associated with financial satisfaction across gender and found that financial knowledge was an important factor predicting high levels of financial satisfaction for men, whereas financial knowledge was not statistically significant in determining financial satisfaction for women (Gerrans et al., 2013). This means that when financial knowledge was high, financial satisfaction increased for men, but this was not true for women. For women, financial satisfaction increased as their income increased, suggesting that income was strongly associated with satisfaction level for women as compared to men (Gerrans et al., 2013).

Marital Status

Marital status is an important factor affecting financial satisfaction. Previous studies indicated a positive association between being married and financial satisfaction (Aboagye & Jung, 2018; Fan & Babiarz, 2019; Hales, 2021). This positive association may be due to the additional resources available to two individuals, compared to a single individual, and additional resources are likely to be positively associated with financial

satisfaction. Whereas single individuals must navigate financial situations with potentially fewer resources than married individuals.

Aboagye & Jung (2018) found that those who were married were more likely to report being financially satisfied, compared to those who were not married. Similarly, Fan and Babiarz (2019) indicated that married individuals reported higher levels of financial satisfaction as compared to single unmarried individuals. However, as compared to married individuals, widowed individuals were more financially satisfied, whereas separated or divorced women were the least financially satisfied group (Fan & Babiarz, 2019). Hales (2021) also reported a positive association, suggesting that married individuals had higher levels of financial satisfaction as compared to unmarried individuals.

There were significant differences in financial behavior, financial stress, and financial satisfaction across marital status. Gutter and Copur (2011) found that unmarried, single college students had higher financial well-being compared to married college students. Among unmarried individuals, those who were separated from their spouse were more likely to report that they felt burdened by debt than those who were divorced or widowed (Keese, 2012). It was also revealed that never married, single individuals reported higher levels of financial stress and financial stressors than unmarried individuals (e.g., divorced, separated, widowed), while both never married single and married individuals had higher levels of negative financial behaviors compared to unmarried individuals (Lopez Alvarado, 2021). Further, increases in overall marital satisfaction were positively associated with increases in financial satisfaction (Archuleta et al., 2011).

Race/Ethnicity

Race, ethnicity, and culture are important factors that are associated with financial behaviors (Hawkins & Zuiker, 2019). Racial and cultural differences and backgrounds place differing levels of significance on various financial factors. This difference in perspective may influence decisions pertaining to taking on debt and other factors associated with financial satisfaction. Previous studies reported that Black individuals held 62% more debt than White individuals, were more likely to have debt, in general, and were more likely to report insolvency (Addo et al., 2016; Xiao & Yao, 2020). In another study, it was noted that Black individuals reported higher levels of financial pressure, while Hispanic individuals reported having debt pressure levels twice as high as compared to White individuals (Xiao & Yao, 2020).

Student loan debt varied across race/ethnicity. It was reported that Black student loan borrowers held 33% more student loan debt as compared to White student loan borrowers (Addo et al., 2016). A previous study also noted that Black and Hispanic students were more likely to be concerned about their student loan debts and express regret over taking out student loans compared to White students (Tran et al., 2018). This same study also reported that as student loan debt increased, debt stress significantly increased among Asian American students (Tran et al., 2018). Further, there were significant differences in financial satisfaction across race/ethnicity, suggesting that Black and Hispanic student loan borrowers were more likely to report low levels of financial satisfaction as compared to their White counterparts (Hales, 2021).

Education

Previous studies revealed a positive association between education level and financial satisfaction (Aboagye & Jung, 2018; Gutter & Copur, 2011; Joo & Grable, 2004), suggesting that those with higher levels of formal education reported higher levels of financial satisfaction. Houle (2014) examined the association between education and types of debt and suggested that while those with high levels of education, such as having a college degree, were more likely to take on wealth building debt (e.g., mortgages and student loans), fewer educated individuals were more likely take on more unsecured debt (e.g., credit card debt). Because debts tied to assets are usually larger than those for unsecured loans, those with higher education were also taking on more overall debt than those with no college education (Houle, 2014).

Employment Status

Previous studies have documented that employed individuals were more likely to report high levels of financial well-being as compared to those who were unemployed (Fan & Babiarz, 2019; Hales, 2021; Owusu, 2021). However, individuals in retirement years were more likely to be satisfied with their financial situation (Aboagye & Jung, 2018). It was also noted that unemployment status was correlated with higher levels of financial stress; thus, unemployed individuals could have lower levels of financial satisfaction as compared to employed individuals (Fan & Babiarz, 2019; Keese, 2012; Owusu, 2021).

Household Income

Income level has long been considered a key variable in determining financial satisfaction. Previous studies suggest that as income levels increase, so does financial satisfaction (Aboagye & Jung, 2018; Joo & Grable, 2004). It was also found that those with lower income levels reported lower levels of financial well-being (Gutter & Copur, 2011; Hales, 2021). Borrowing behaviors were different among different income levels, suggesting that those with higher income were more likely to take on more asset building debt as compared to those with lower income, who were more likely to take on more unsecured debts, such as credit card debt (Houle, 2014). Income is also negatively associated with debt levels (Kim et al., 2017). Additionally, one study noted that as household income increased, financial strain decreased (Bieker & Yuh, 2015).

Debt to income ratios were higher for lower income households as lower income households carry more debt in comparison to their income compared to households with higher income levels (Walks, 2018). Those with higher incomes were less likely to be delinquent on their debt payments and families in the highest income levels are least likely to experience debt burden (Kim et al., 2017; Xaio & Yao, 2020).

Those reporting higher income levels were more likely to report higher levels of financial satisfaction, as compared to those in lower income levels (Hales, 2021). Walks (2018) found that an increase in income reduced debt levels, suggesting an increased financial satisfaction level. It is also interesting to note that those with lower income were more likely to have debts that they are considered “bad debt” such as credit card debt, implying that holding “bad debt” can decrease individuals’ financial satisfaction (Charron-Chenier & Seamster, 2018).

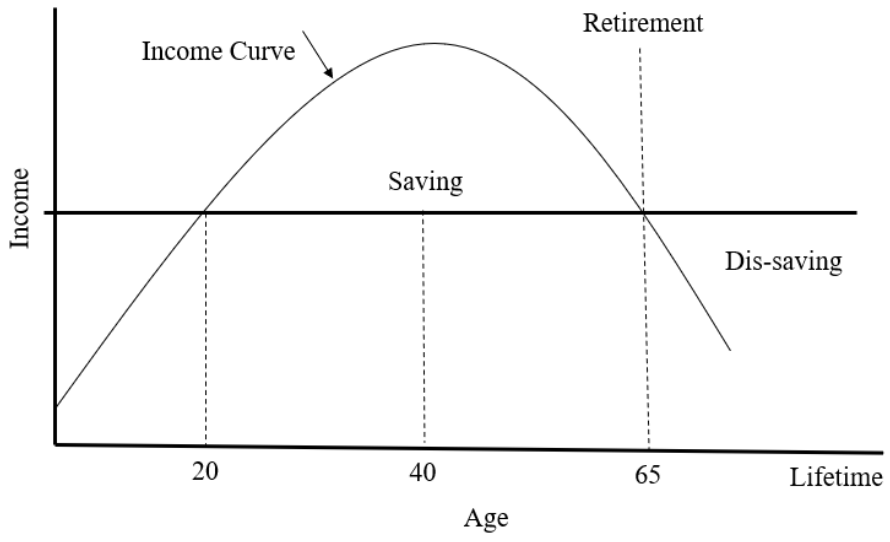
Theoretical Framework

Life Cycle Theory of Savings

As discussed in the literature review, the type of debt held may vary based on age and where one falls along the life cycle. The life cycle theory of savings was developed in the 1950s by Franco Modigliani and Richard Brumberg. This theory suggests that while individuals are young, their income and savings are low; however, while borrowing against their future income, individuals smooth their consumption level across age (Ando & Modigliani, 1963). Figure 1 illustrates the life cycle of saving model and shows income curving across age (Pettinger, 2019). This figure explains that while income is low, individuals smooth their consumption level by borrowing against their future income (Kenton, 2020; Xiao & Yao, 2020).

Figure 1.

Life Cycle Theory of Savings



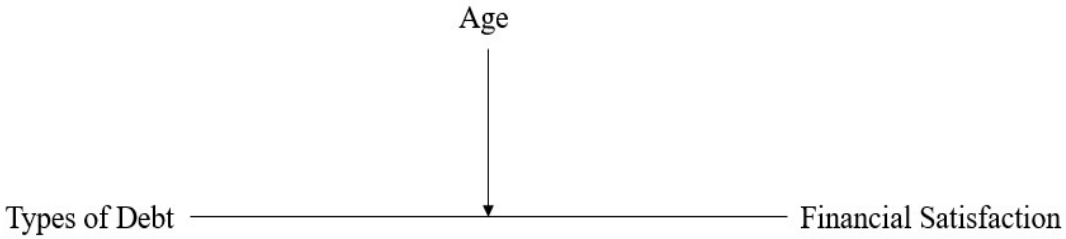
According to the theory, income gradually increases over time as individuals age allowing them to save. Income potential reaches its peak for those individuals in middle age prior to their retirement. Once individuals reach retirement years, they spend down their savings as they live off their retirement assets. The income curve in figure 1 can explain individuals' borrowing behavior across ages, suggesting that younger individuals accumulate higher levels of debt as compared to older age individuals (e.g., those in retirement years).

A report by Li and Goodman (2015) indicates that some debts curve along with the bell curve predicted by the life cycle of saving theory. However, the theory does not hold true for all debts. For example, debt balances for those with credit card debt did rise and peak between ages 43-47; however, the study suggested that individuals spend less (than predicted) in early age, spend more in middle age with less savings in middle age, which leads them to have less savings for retirement age (Li & Goodman, 2015).

Using credit to finance one's lifestyle in the present may decrease financial satisfaction in the future as it hinges on one's future ability to repay a debt. Payne et al. (2019) found that those who practiced poor credit card behavior had lower levels of financial satisfaction. Xiao and Yao (2020) also reported that as age increases, debt burden and insolvency levels decreased, suggesting that older individuals held lower levels of debt than younger individuals. In this study, age is considered a variable that may moderate the association between types of debt and financial satisfaction as the ability to pay a loan and the perception of whether a debt is a "good debt" or a "bad debt" may change across the life span. Figure 2 illustrates this point.

Figure 2.

Types of Debt and Financial Satisfaction across Age



This study specifically focuses on how credit utilization and financial satisfaction varied across age by creating subsamples based on age by generational cohort. Previous research has shown that historical experiences and societal values, attitudes, and beliefs may change over time and affect individuals differently (Pew Research Center, 2015). Based on this idea, the age at the time the survey was conducted was split into three groups to better apply the life cycle theory of savings. Accordingly, the MZ Generation (Gen Z and Millennials), which made up the young age group (ages 18-40), fall along the rising side of the income curve. Gen X, which is made up of the middle age group (ages 41-56), falls close to the peak of the income curve where earnings and savings are thought to be at their highest. The Boomer/Silent Generation (Baby Boomers and Silent Generations), which made up the older age group (ages 57+), fall along the declining side of the income curve.

Joo and Grable's Determinants of Financial Satisfaction

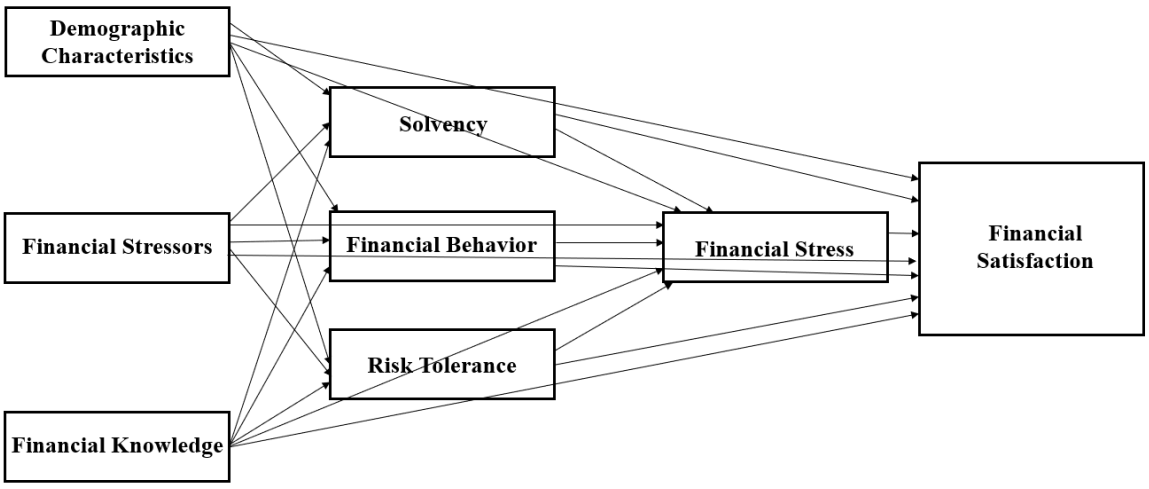
Joo and Grable (2004) proposed factors associated with financial satisfaction. Their model examined associations between demographic characteristics, financial stressors, financial knowledge, solvency, financial behavior, risk tolerance, financial

stress, and financial satisfaction (Joo & Grable, 2004). Figure 3 presents their conceptual framework. When developing their conceptual framework, Joo and Grable (2004) defined financial satisfaction using the accepted definition by Zimmerman (1995).

Zimmerman (1995) defined financial satisfaction as one's satisfaction with their current financial situation. Joo and Grable (2004) found that formal education, financial knowledge, financial risk tolerance, financial solvency, financial behavior, and financial stress were significant determinants of financial satisfaction. They reported that being financially solvent and having positive financial behavior were positively associated with increases in financial satisfaction, while increases in levels of financial risk tolerance and financial stress level were negatively associated with increases in financial satisfaction (Joo & Grable, 2004).

Figure 3.

Joo and Grable's (2004) Determinants of Financial Satisfaction



This current study sought to understand the factors associated with financial satisfaction with a particular focus on how financial satisfaction may vary across age groups. Specifically, using a modified version of Joo and Grable's 2004 model, this study examined how holding certain types of debt is associated with financial satisfaction across age groups. In this study, the number of debt types held, and the holding of debt types are considered financial behaviors. This study explored age, financial literacy, financial stressors, and financial anxiety and their associations with financial borrowing behaviors of holding debt. This study also explored how types of debt, age, and other demographics characteristics are associated with financial satisfaction. The modified model in figure 4 guided this study to answer the research questions.

Figure 4.

Conceptual Framework of the Study

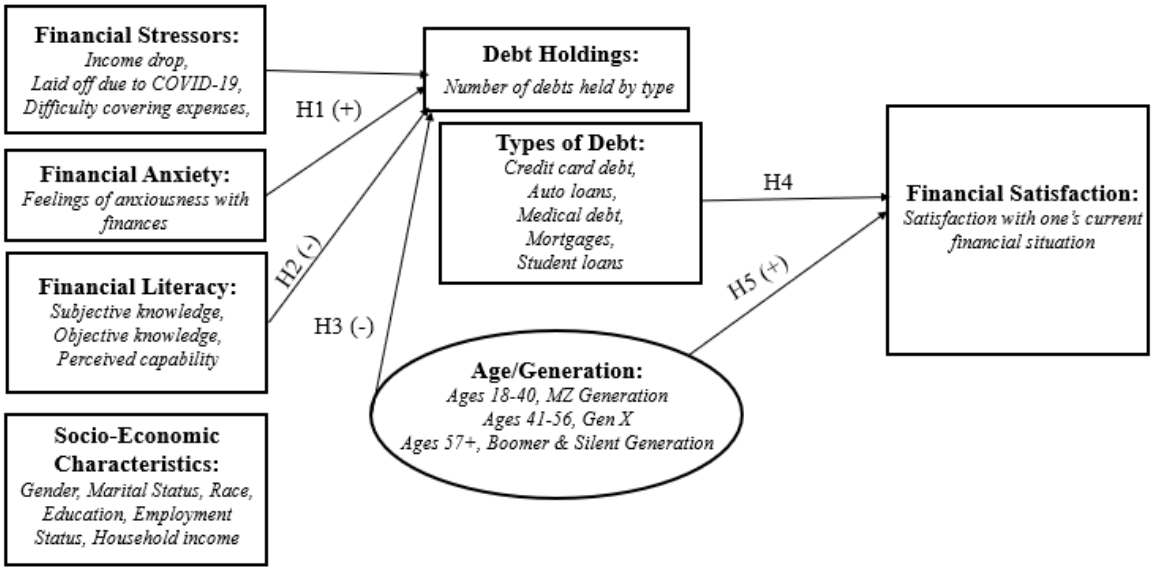


Figure 4 presents this study's conceptualization of the factors associated with the number of debt holdings and financial satisfaction across different age groups. Joo and Grable found a negative direct effect between financial stress and financial satisfaction. In this study, a financial stress variable was not available in the data set this study employed. Financial anxiety was used instead of financial stress to measure its association with the number of debt holdings. Financial stressors included in the model included drops in income, being laid off because of Covid-19, and difficulty in paying regular expenses. Types of debt included in this study are credit card debt, auto loan debt, medical debt, mortgage debt, and student loan debt.

Study Hypotheses

Based on the literature review and financial satisfaction model (Figure 4), this study presented the following hypotheses:

Hypothesis 1: Financial stressors and financial anxiety will be positively associated with the number of debt holdings.

Hypothesis 2: Financial literacy will be negatively associated with the number of debt holdings.

Hypothesis 3: As compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have more debt holdings.

Hypothesis 4: Credit card debt, automobile debt, and medical debt will be negatively associated with financial satisfaction, while mortgage debt and student loan debt will be positively associated with financial satisfaction.

Hypothesis 5: As compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have lower levels of financial satisfaction.

CHAPTER III

METHODS

Data and Sample

Data

This study utilized data from the 2021 National Financial Capability Study (NFCS) State-by-State Survey which is funded by the Financial Industry Regulatory Authority (FINRA). The mission of FINRA is to "empower underserved Americans with the knowledge, skills, and tools to make sound financial decisions throughout life" (FINRA, n.d.). The goal of the NFCS is to gauge fundamental components of financial capability including financial behaviors, financial attitudes, financial knowledge, and differences in socioeconomic factors (GFLEC, n.d.). Global Financial Literacy Excellence Center (GFLEC) has also been involved with the NFCS since the beginning, assisting in the creation of survey instruments.

The NFCS is conducted every three years to measure changes in the financial capability of Americans (FINRA, 2022). Data for the first wave of the NFCS was collected in 2009 and five waves of the study have been conducted so far. The NFCS draws from a sample of over 25,000 respondents across all 50 states and Washington D.C. Data collection is done through online surveys. Questions are designed to survey four key financial capability components: the ability to make ends meet, financial planning for the future, the ability to manage financial products, and objective financial knowledge.

Data from the 2021 NFCS was collected from June 2021 to October 2021. The NFCS gathered approximately 500 respondents per state plus the District of Columbia. The study also oversamples two states, gathering 1250 respondents from Oregon and California. The 2021 National Financial Capability Study (NFCS) surveyed 27,118 adults ages 18 and above who have validated and updated demographic characteristics across the United States. The 2021 wave of the NFCS included additional questions to address changes in financial capability due to the global pandemic. The sample was weighted using data from the American Community Survey to be representative of the national population in terms of age, gender, ethnicity, education, and census division. The National Financial Capability Study (NFCS) State-by-State Survey was conducted across a large, diverse sample to provide a comprehensive analysis of the financial capability of the national population as a whole.

Sample

This study examined what factors (e.g., financial stressors, financial anxiety, financial literacy, and socio-demographic characteristics) are associated with the number of debt holdings during the Covid-19 pandemic and how these associations are different across age groups. Using the data from the 2021 NFCS, the study sample was determined to accomplish the main objectives of this study. Specifically, while focusing on the research questions and hypotheses, this study included respondents in the study sample who clearly answered the questions on key constructs of the study (e.g., financial stressors, financial anxiety, financial literacy, types of debt, and financial satisfaction). Thus, those respondents who reported “don’t know” and prefer not to say” on these

variables were excluded from the study sample. After cleaning the data, the analytical sample of this study was 14,822 individuals ages 18 and above.

This study examined the differences in the number of debt holdings by different age groups and explored what factors are associated with different debt holdings across ages during the pandemic. Age was grouped based on generation at the time the survey was taken (June - October 2021) and those included were born from 1925-2003. Using the framework of the life cycle of savings hypothesis, respondents' age was classified into three groups: 1) young age group; 2) middle age group; and 3) older age group.

In this study, the young age group was made up of 18–40-year-olds who were born from 1981 to 2003. This age group fell among the Millennial and some Generation Z generations. In this study, individuals in the young age group are referred to as the MZ Generation. Those born from 1965-1980 comprised the middle age group and are referred to as Gen-Xers. The middle age group was 41–56-years old at the time the survey was conducted. Last, the older age group consisted of individuals ages 57 and older. The older age group was born before 1964 and was made up of both the Boomer and Silent Generation. After cleaning the data, the sample size of this study was 14,822. Among these respondents, 4,829 (32.6%) were among the young age group, 3,942 (26.6%) were among the middle age group, and 6,051 (40.8%) were among the older age group.

Variable Measures

Using Joo and Grable's (2004) conceptual framework, financial stressors and financial anxiety variables were used in statistical analyses to understand its associations with the number of debt holdings and financial satisfaction. The role of financial literacy

in predicting the number of debt holdings was examined. Secondly, this study examined the association between the types of debt and financial satisfaction. Based on a traditional life-cycle theory of savings (Ando & Modigliani, 1963), this study considered age an important predictor of the number of debt holdings. Further, socio-demographic characteristics such as gender, race/ethnicity, marital status, education, employment status, and household income were included in the analytical models.

Employing the data from the 2021 National Financial Capability study (NFCS), the two main dependent variables of this study were the levels of debt and financial satisfaction during the Covid-19 pandemic. Appendix A provides detailed information on key independent and dependent variables that were included in the analyses. Specifically, how the study's key variables appear in the 2021 NFCS codebook can be found in Appendix A.

Dependent Variables

Table 1 shows the measurements of all independent and dependent variables included in regression analyses. This study had two dependent variables. The first dependent variable was the number of debt holdings which was used to test Hypotheses 1, 2, and 3. The number of debt holdings was measured by the sum of holding any of the five different debt types (e.g., holding credit card balances, automobile loans, unpaid medical bills, mortgages, and student loans debt) when data was collected in 2021. First, credit card debt was created by an individual reporting the question "In the past 12 months, which of the following describes your experience with credit cards? I always paid my credit cards in full (F2_2)" with responses 1 = not paying with credit card balances in full and 0 = always paying in full.

Table 1.

Measurements of Variables

Variables	Measurements
Types of Debt	
Credit card debt:	
(No balances)[1]	1 if R reported not holding balances, 0 if otherwise
Have credit card balances	1 if R reported currently holding credit card balances, 0 if otherwise
Automobile debt:	
(No loan balances)	1 if R reported not holding an auto loan, 0 if otherwise
Have auto loan balances	1 if R reported currently holding an auto loan, 0 if otherwise
Medical debt:	
(No medical bills)	1 if R reported not holding medical bills, 0 if otherwise
Have unpaid medical bills	1 if R reported currently holding unpaid medical bills, 0 if otherwise
Mortgage debt:	
(No mortgages)	1 if R reported not holding mortgages, 0 if otherwise
Have mortgages	1 if R reported currently holding mortgages, 0 if otherwise
Student loan debt:	
(No loan balances)	1 if R reported not holding student loans, 0 if otherwise
Have loan balances	1 if R reported currently holding student loans, 0 if otherwise
Financial Stressors:	
Large drop in income:	
(No income drops)	1 if R did not have income drop, 0 if otherwise
Had income drops	1 if R had a large income drop, 0 if otherwise
Laid off due to Covid:	
(No has been laid off)	1 if R did not report being laid off, 0 if otherwise
Has been laid off	1 if R did report being laid off due to Covid, 0 if otherwise
Difficult to pay bills:	
(No difficulty)	1 if R reported not at all difficult paying bills, 0 if otherwise
Had difficulty paying	1 if R reported very or somewhat difficult paying bills, 0 if otherwise
Financial Anxiety:	
Feeling of anxiousness	Continuous, 1-7, feeling anxious with financial situation, 1 = strongly disagree 7 = strongly agree
Financial Literacy:	
Subjective knowledge	Continuous, 1-7, how would you assess your overall financial knowledge, 1= very low, 7= very high
Objective knowledge	Continuous, 1-7, sum of 6 financial literacy score, 1= zero correct answers, 7= all correct answers
Perceived capability	Continuous, 1-7, I am good at dealing with financial matters, 1= very low, 7= very high

Age/Generation:	
Age 18-40, MZ	1 if R's age is 18-40, MZ generation, 0 if otherwise
Age 41-56, Gen X	1 if R's age is 38-56, Generation Xers, 0 if otherwise
(Age 57+, Boomer/Silent)	1 if R's age is 57+, Baby boomer/Silent generations, 0 if otherwise
Socio-Demographic Characteristics	
Gender:	
Female	1 if R is female, 0 if otherwise
(Male)	1 if R is male, 0 if otherwise
Race/Ethnicity:	
Black	1 if R is Black, 0 if otherwise
Hispanic	1 if R is Hispanic, 0 if otherwise
Asian/Other	1 if R is Asian/Other, 0 if otherwise
(White)	1 if R is White, 0 if otherwise
Marital Status:	
Married	1 if R is married, 0 if otherwise
Single	1 if R is never-married single, 0 if otherwise
(Unmarried)	1 if R is divorced, separated, widowed, 0 if otherwise
Formal Education:	
High school grad. or less	1 if R has high school diploma or less, 0 if otherwise
Some college	1 if R has some college, 0 if otherwise
College graduate	1 if R has college graduate, 0 if otherwise
(Post college)	1 if R has advanced degree, 0 if otherwise
Employment Status:	
Employed	1 if R is working full-/part-time, self-employed, 0 if otherwise
(Unemployed)	1 if R is unemployed, full-time student, permanently sick/disabled, retired, 0 if otherwise
Household Income:	
$25,000 - $49,999	1 if HH income is $25,000-$49,999, 0 if otherwise
$50,000 - $74,999	1 if HH income is $50,000-$74,999, 0 if otherwise
$75,000-$99,999	1 if HH income is $75,000-$99,999, 0 if otherwise
$100,000 or more	1 if HH income is $100,000+, 0 if otherwise
(< $25,000)	1 if HH income is less than $25,000, 0 if otherwise
Dependent Variables:	
Number of Debt Holdings	Continuous, 0-5, sum of five debt questions – having credit card balance (0-1), having auto loan balance (0-1), having unpaid medical bills (0-1), having mortgages (0-1), having student loans (0-1), recoded 1-6 scale
Financial Satisfaction	Continuous, 1-10, Overall, thinking of your assets, debts, and savings, how satisfied are you with your current personal financial condition, 1= not at all satisfied, 10= very satisfied

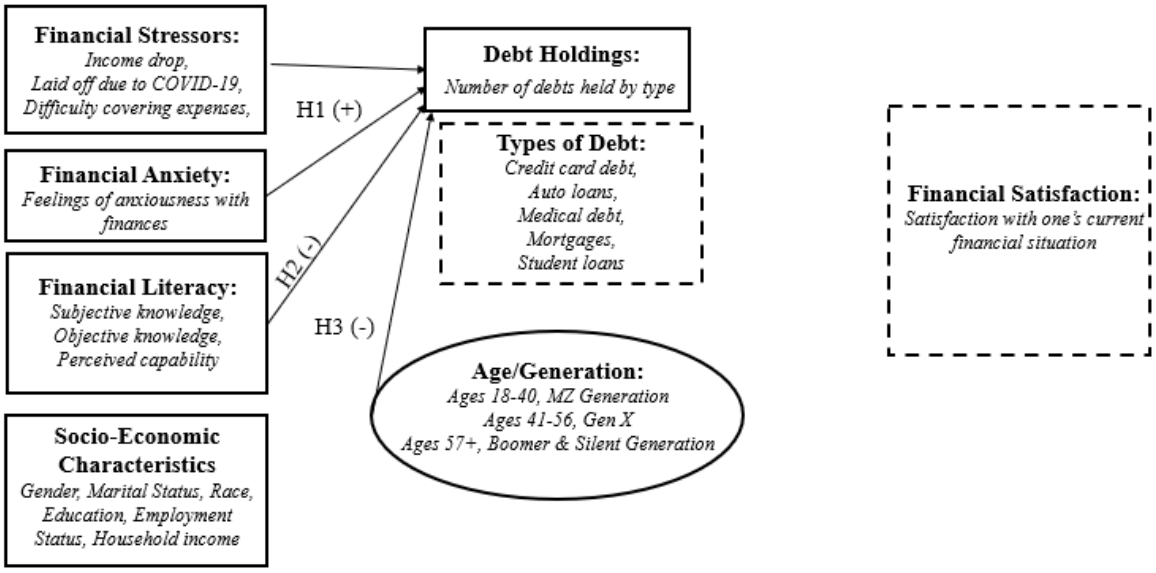
[1]( ) represents reference group in the regression analyses.

Second, automobile debt was created by a respondent reporting the question "Do you [Does your household] currently have an auto loan? (G1)" with responses 1 = holding an auto loan and 0 = not holding an auto loan. Third, medical debt was created by an individual reporting the question, "Do you currently have any unpaid bills from a health care or medical service provider (e.g., a hospital, a doctor's office, or a testing lab) that are past due? (G20)" with responses 1 = holding unpaid medical bills and 0 = not holding any medical bills. Fourth, mortgage debt was created by a respondent reporting the question, "Do you currently have any mortgages on your home? (E7)" with responses 1 = holding any mortgages and 0 = not holding any mortgages. The portion of those not holding a mortgage was made up of renters and those who owned their home free of mortgage debt. Lastly, student loan debt was created by an individual reporting the question "Do you currently have any student loans? (G30)" with responses 1 = holding a student loan and 0 = not holding a student loan.

The number of debt holdings is a dependent variable and was created by summing the occurrence of holding such debt (e.g., 1 = holding credit card balances, 1= holding an auto loan, 1 = holding unpaid medical bills, 1 = holding mortgages, and 1 = holding student loans), with a range of 0-5 (i.e., 0 = not holding any of these debts, 1 = holding one of the five, 2 = holding two of the five, 3 = holding three of the five, 4 = holding four of the five, and 5 = holding all five debt types). The number of debt holdings was recorded as 0 = 1, 1 = 2, 2 = 3, 3 = 4, 4 = 5, or 5 = 6, for a range of 1-6. Then, a range of 1-6 was included as a continuous variable for the *debt holdings model* in this study. Figure 5 visually represents the *debt holdings model*.

Figure 5.

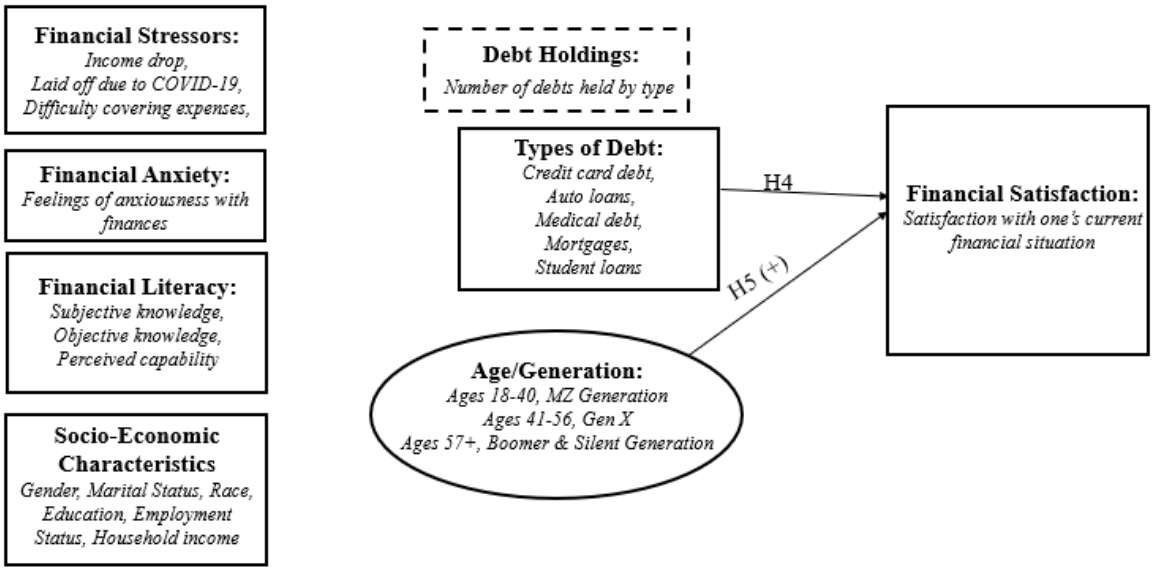
Debt Holdings Model



The second dependent variable of this study was financial satisfaction which was used to test the Hypotheses 4 and 5. Financial satisfaction was created by a respondent reporting to the question, "Overall, thinking of your assets, debts, and savings, how satisfied are you with your current personal financial condition? (J1)." The responses to this question ranged on a scale from 1 = not at all satisfied to 10 = extremely satisfied, and this continuous variable was used as a dependent variable for the *financial satisfaction model*. Figure 6 visually represents the *financial satisfaction model*.

Figure 6.

Financial Satisfaction Model



Independent Variables

The *debt holdings model* included financial stressors, financial anxiety, financial literacy, and age as key independent variables, while the *financial satisfaction model* included types of debt as a key independent variable. To measure financial stressors, experiences of a large drop in income, being laid off due to Covid, and having difficulty paying on-going bills were used. The income drop variable was created by a respondent reporting the question, "In the past 12 months have you [has your household] experienced a large drop in income which you did not expect? (J10)" with responses 1 = yes to having such an experience and 0 = no such experience. The laid off variable was created by a respondent reporting to the question, "As a result of the pandemic, were you laid off or furloughed at any time in 2020 or 2021? (J52)" with responses 1 = yes to being laid off due to Covid and 0 = no such experience. Lastly, the difficulty paying bills variable was created by a respondent reporting the question, "In a typical month, how difficult is it for

you to cover your expenses and pay all your bills? (J4)" with responses 1 = very difficult or somewhat difficult and 0 = not at all difficult.

The financial anxiety variable was created by a respondent reporting to the question, "How strongly do you agree or disagree with the following statements? - Thinking about my personal finances can make me feel anxious. (J33_40)." This question was measured on a 7 point-Likert scale where 1 = strongly disagree, 4 = neither agree nor disagree, 7 = strongly agree. Using financial stressors and financial anxiety as independent variables, this study tested **Hypothesis 1: Financial stressors and financial anxiety will be positively associated with the number of debt holdings.**

In this study, financial literacy was measured by subjective financial knowledge, objective financial knowledge, and perceived financial capability in the 2021 NFCS. As for subjective financial knowledge, this study used the question, "On a scale from 1 to 7, where 1 means very low and 7 means very high, how would you assess your overall financial knowledge? (M4)." As for the objective financial knowledge, this study employed six questions that measure interest (M6), inflation (M7), bonds (M8), mortgage (M9), stocks (M10), and compound interest (M31) of respondents. The response for these questions were coded 1 = respondents had zero correct answers to 7 = respondents answered all six questions correctly. More detailed information related to these six questions is available in the Appendix. Lastly, as for perceived financial capability, this study used the question, "How strongly do you agree or disagree with the following statements? – I am good at dealing with day-to-day financial matters, such as checking accounts, credit and debit cards, and tracking expenses (M1_1)." Responses to this question are on a continuous scale from 1 = strongly disagree to 7 = strongly agree. Using

these three variables to measure the financial literacy of respondents, this study examined **Hypothesis 2: Financial literacy will be negatively associated with the number of debt holdings.**

This study focused on comparing the differences in the number of debt types held across age groups during Covid. As explained in the study sample section, respondents' age is classified into three age groups: young age group (ages 18-40, MZ generation), mid-age group (ages 41-55, Gen-X), and old age group (ages 57+, baby boomers and silent generation). While using three dummy categorical variables for age, this study tested **Hypothesis 3: As compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have more debt holdings.**

In the *financial satisfaction model*, types of debt and age were key independent variables in this study. In this model, types of debt were included as dummy categorical variables to examine how each debt type is associated with increasing or decreasing financial satisfaction. Table 1 shows the measurements of the types of debt included in the *financial satisfaction model.*

Based on the literature review, credit card debt, automobile debt, and unpaid medical bills were considered "bad debt," while mortgage debt and student loan debt were considered "good debt" in this study. Using five categorical variables for types of debt, this study tested **Hypothesis 4: Credit card debt, automobile debt, and medical debt will be negatively associated with financial satisfaction, while mortgage debt and student loan debt will be positively associated with financial satisfaction.**

Three dummy categorical variables for age/generation (e.g., ages 18-40, MZ generation; ages 41-56, Gen-X; and ages 57+, baby boomer/silent generation) were included in the *financial satisfaction model*. While using those ages 57+ as a reference group, this study examined **Hypothesis 5: As compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have lower levels of financial satisfaction.**

Table 1 also shows the measurements of these socio-demographic variables included in both *debt holdings* and *financial satisfaction models*. In this study, the socio-demographic variables gender, race/ethnicity, marital status, education, employment status, and household income were included in both *debt holdings* and *financial satisfaction models*. These socio-demographic variables were included in regression models as the following: gender [females, (males, reference group)]; race/ethnicity [Black, Hispanic/Latinx, Asian/other, and White (reference group)]; marital status [married, never married single, divorced/separated/widowed single (reference group)], formal education [less than high school/high school graduate, some college, college graduate, post-college (reference group)]; employment status [working, not working (reference group)]); household income [less than $25,000 (reference group), $25,000 - $49,999, $50,000 - $74,999, $75,000 - $99,999, more than $100,000]. Table 1 shows the measurements of these socio-demographic variables included in the *debt holdings model* and the *financial satisfaction models.*

Statistical Analysis

To obtain sample characteristics on all key independent and dependent variables included in this study, frequencies, percentages, means, and medians were obtained. To see the socio-demographic differences in the three age groups (ages 18-40, MZ generation; ages 41-56, Gen-X; ages 57+, boomer/silent generation), chi-squared tests were conducted. As descriptive statistics, Analysis of Variance (ANOVA) were used to compare the differences in the mean levels of financial literacy, the number of debt holdings, and financial satisfaction across three age groups (i.e., age 18-40, age 41-56, and age 57+). As for categorical variables such as financial stressors and types of debt, chi-squared tests were conducted to compare the differences in the proportions of financial stressors and holding types of debt across the three age groups.

As multivariate analyses, Ordinary Least Squares (OLS) regression was employed to examine the associations between financial stressors, financial anxiety, financial literacy, and the number of debt holdings. Through this analysis, Hypotheses 1, 2, and 3 were tested. Through this analytical technique, the effects of financial stressors, financial anxiety, and socio-demographic characteristics on the level of debt across the three age groups were also examined, while analyzing the OLS regression models separately for each of the three age groups. Additionally, OLS regression models were employed to explore factors associated with debt holding for each age subgroup.

The OLS regression analyses were performed to examine the associations between the types of debt (e.g., credit card debt, automobile debt, medical debt, mortgage debt, and student loan debt), age, other controlling factors (e.g., financial stressors, financial anxiety, financial literacy), and financial satisfaction. Through this analysis,

Hypotheses 4 and 5 were tested. Additionally, the effects of types of debt on financial satisfaction across three age groups were examined, while analyzing the OLS regression models separately for each age subgroup.

To adjust the current statistics to be more representative of the entire population, the weight variable (wgt-n2) from the 2021 NFCS data was used in the regression analyses. To determine if there are any multicollinearity issues in the regression models, Variance Inflation Factor (VIF) for each independent variable was calculated and found that no multicollinearity issues were detected. All analyses were completed in SAS 9.4 (SAS Institute, 2013).

CHAPTER IV

RESULTS

Descriptive Results

Sample Characteristics

Table 2 shows the socio-demographic characteristics of the study sample (N=14,822). It reveals that 32.6% of the sample belonged to the young age group, while those in the middle and older age groups made up 26.6% and 40.8% of the study sample, respectively. Males made up more than half the sample at 53.4% and females comprised 46.6% of the sample. As for the race/ethnicity, the racial makeup of the study sample was White (76.8%), Black (7.9%), Hispanic (7.3%), and Asian/Other (7.8%) individuals. In terms of educational attainment, 17.9% were high school graduates or less, 35.6% had some college education, 31.2% had completed their college education, and 15.3% had post college education.

In the study sample, over half (57.9%) of the individuals were married, 26% were single/never married individuals, and 16.1% were unmarried (separated, divorced, widowed) individuals. A large portion of the study sample (60.2%) reported they were employed part or full time, while 39.8% of the study sample reported were unemployed. Unemployment status included those who were permanently sick/disabled or retired. Within the study sample, 28.2% made $100,000 or more annually, 16.4% reported earning between $75,000-$99,999, 20.6% reported earning between $50,000-$74,999, and 22.6% of the sample reported earning between $25,000-$49,999. Those who reported earning less than $25,000 a year made up 12.2% of the sample.

Table 2.

Sample Characteristics (N=14,822)

Variables	Mean (Median)
	Frequency (%)
Socio-Demographic Characteristics:	
Age:	
Age 18-40, Millennials/Gen Z	4,829 (32.6%)
Age 41-56, Gen X	3,942 (26.6%)
Age 57+, Boomer/Silent Gen	6,051 (40.8%)
Gender:	
Female	6,911 (46.6%)
Male	7,911 (53.4%)
Race/Ethnicity:	
Black	1,172 (7.9%)
Hispanic	1,116 (7.5%)
Asian/Other	1,158 (7.8%)
White	11,376 (76.8%)
Marital Status:	
Married	8,585 (57.9%)
Single never married	3,848 (26.0%)
Unmarried	2,389 (16.1%)
Formal Education:	
High school graduate or less	2,655 (17.9%)
Some college	5,275 (35.6%)
College graduate	4,629 (31.2%)
Post college	2,263 (15.3%)
Employment Status:	
Employed	8,920 (60.2%)
Unemployed	5,902 (39.8%)
Household Income:	
Less than $25,000	1,804 (12.2%)
$25,000 - $49,999	3,354 (22.6%)
$50,000 - $74,999	3,050 (20.6%)
$75,000 - $99,999	2,426 (16.4%)
$100,000 or more	4,188 (28.2%)
Dependent Variables:	
Number of Debt Holdings (1-6)	2.5 (2.0)
Financial Satisfaction (1-10)	6.5 (7.0)

Types of Debt, Financial Stressors, Financial Anxiety, and Financial Literacy

Table 3 shows descriptive statistics of types of debts, financial stressors, financial anxiety, and financial literacy of the study sample (N=14,822). There were five debt types included in this study, consisting of credit card debt, automobile debt, medical debt, mortgage debt, and student loan debt. Table 3 revealed that 42.5% of the study sample had credit card balances, 35% held an auto loan balance, 18.6% held medical debt, and 16.7% reported holding student loan balances. While 70.2% of the study sample were homeowners, only 54.1% of the sample held a mortgage. Among those homeowners, 45.9% did not hold a mortgage.

In this study, three financial stressor variables were included to measure financial stressors experienced during the Covid-19 pandemic. About 23% of the study sample reported experiencing a large drop in income, 20.2% reported being laid off due to Covid-19, and 35.6% reported having difficulty paying bills. Financial anxiety was measured on a scale of 1-7 with individuals reporting their level of financial anxiousness. The average level of financial anxiety for the study sample was 4.4, with a median of 5.0. In this study, financial literacy was measured with three variables, including subjective financial knowledge, objective financial knowledge, and perceived financial capability. The mean levels of subjective financial knowledge, objective financial knowledge, and perceived financial capability were 5.4, 4.7. and 6.0, respectively, on a scale of 1-7.

Table 3.

Descriptive Statistics: Types of Debt, Financial Stressors, Financial Anxiety, and Financial Literacy (N=14,822)

Variables	Mean (Median)
	Frequency (%)
Types of Debt:	
Credit card debt:	
No balances	8,526 (57.5%)
Have credit card balances	6,296 (42.5%)
Automobile debt:	
No balances	9,629 (65.0%)
Have auto loan balances	5,193 (35.0%)
Medical debt:	
No bills	12,070 (81.4%)
Have unpaid medical bills	2,752 (18.6%)
Mortgage debt[1]:	
No balances	4,771 (45.9%)
Have mortgage balances	5,633 (54.1%)
Student loan debt:	
No balances	12,342 (83.3%)
Have student loan balances	2,480 (16.7%)
Financial Stressors:	
Large drop in income:	
No income drops	11,414 (77.0%)
Had income drops	3,408 (23.0%)
Laid off due to Covid:	
No has been laid off	11,823 (79.8%)
Had been laid off	2,999 (20.2%)
Difficult paying bills:	
No difficulty	5,543 (64.4%)
Had difficult paying	5,279 (35.6%)
Financial Anxiety:	
Feelings of anxiousness about finances (1-7)	4.4(5.0)
Financial Literacy:	
Subjective financial knowledge (1-7)	5.4(5.0)
Objective financial knowledge (1-7)	4.7(5.0)
Perceived financial capability (1-7)	6.0(6.0)

[1] *Note.* Among total sample (N= 14,822), 70.2% (n=10,404) of them were homeowners. The sample included 4418 renters.

Socio-Demographic Characteristics across Age Groups

Table 4 shows descriptive results of the socio-demographic characteristics across three age groups. There were more males than females for all three age groups. However, compared to the younger and middle age groups, a relatively higher percentage of females were found in the older age group (47.3%). There was a higher percentage of Whites individuals in the older age group (84.7%) than in the middle or young age groups. The highest proportion of Black and Hispanic individuals were found among the young age group (12.1% and 11.2%, respectively). Compared to the young and older age groups, the proportion of Asian/Other individuals were higher in the middle age group. In terms of race/ethnicity, the young age group was more diverse (68.3% White, 12.1% Black, 11.2% Hispanic, and 8.4% Asian/Other) than the middle or older age groups.

As for marital status, 62% of the middle age group, 64.6% of the older age group and 46.2% of the young age group were married. Among the young age group, the predominant marital status was single/never married (49.4%). The percentage of unmarried individuals (divorced, separated, widowed) was highest for the older age group at 25.1%. As for formal education, each age group showed that most individuals had some college education (approximately 35%). Completing college education made up 31.1% of the sample among the young age group, 33.7% of the middle age group, and 29.7% of the older age group. Among the young age group, 22.3% had an education level of high school or less. A higher proportion of individuals with a post college education were found in the older age group.

Table 4.

Socio-Demographic Characteristics across Age Groups (N=14,822)

Variables	Young Age (*n*=4,829)	Middle Age (*n*=3,942)	Older Age (*n*=6,051)	Test Statistics
Gender:				
Male	54.1%	53.4%	52.7%	$\chi^2 = 2.109$
Female	45.9%	46.6%	47.3%	
Race/Ethnicity:				
Black	12.1%	7.6%	4.8%	$\chi^2 = 493.959^{***}$
Hispanic	11.2%	8.6%	3.9%	
Asian/Other	8.4%	8.8%	6.6%	
White	68.3%	75.0%	84.7%	
Marital Status:				
Married	46.2%	62.0%	64.6%	$\chi^2 = 2508.373^{***}$
Single never married	49.4%	21.4%	10.28%	
Unmarried	4.4%	16.6%	25.12%	
Formal Education:				
High school or less	22.3%	15.9%	15.8%	$\chi^2 = 139.362^{***}$
Some college	32.7%	37.0%	37.0%	
College graduate	31.1%	33.7%	29.7%	
Post college	13.9%	13.4%	17.5%	
Employment Status:				
Employed	81.3%	78.0%	31.7%	$\chi^2 = 3467.510^{***}$
Unemployed	18.7%	22.0%	68.3%	
Household Income:				
< $25,000	15.9%	9.8%	10.7%	$\chi^2 = 257.403^{***}$
$25,000 - $49,999	25.4%	17.8%	23.6%	
$50,000 - $74,999	19.4%	20.2%	21.8%	
$75,000-$99,999	15.0%	17.0%	17.0%	
$100,000 or more	24.3%	35.2%	26.9%	

$^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$

As expected, a higher proportion of employed individuals were found in the young (81.3%) and middle (78%) age groups, whereas only 31.7% were employed among those in the older age group. As for the expected, income did follow the life cycle theory. A higher proportion of those making less than $50,000 were found among the young age group (41.3%). Also, the proportion of those earning less than $50,000

annually for the old age group was 34.3%. On the other hand, a higher proportion of those making $100,000 or more were found among the middle age group (35.2%).

Financial Stressors, Financial Anxiety, Financial Literacy, and Number of Debt Holdings across Age

Table 5 presents the descriptive results that compared financial stressors, financial anxiety, financial literacy, and the number of debt holdings across age. There were significant differences in experiencing financial stressors during Covid across three age groups. As compared to those in the middle and older age groups, those in the young age group reported the most income drops (35.2%), layoffs due to the Covid-19 pandemic (31.8%), and difficulty paying bills (49.8%). A higher proportion of the middle age group experienced larger drops in income (25%), layoffs due to Covid-19 (20.9%), and more difficulty paying bills (39%) than the older age group. Among the three age groups, the older age group had lower percentages of reported large income drops (12.0%), layoffs due to Covid-19 (10.5%) and difficulty paying bills (22.0%).

Table 5 shows significant differences in the mean levels of financial anxiety among the three age groups. It reveals that the highest mean level of financial anxiety was reported among the young age group (M = 5.1), followed by the middle age group (M = 4.9) and the older age group (M = 3.6) on a scale of 1-7. As for financial literacy, there were significant mean differences across the three age groups. While the mean levels of financial literacy such as subjective knowledge, objective knowledge, and perceived financial capability were the lowest for those in the young age group, these levels were the highest for those in the older age group.

Table 5.

Descriptive Results: Financial Stressors, Financial Anxiety, Financial Literacy, and Number of Debt Holdings across Age (N=14,822)

Variables	Young Age (*n*=4,829)	Middle Age (*n*=3,942)	Older Age (*n*=6,051)	Test Statistics
Financial Stressors:				
Large drop in income:				
No income drops	64.8%	75.0%	88.0%	$\chi^2 = 832.387^{***}$
Had income drops	35.2%	25.0%	12.0%	
Laid off due to Covid:				
No has been laid off	68.2%	79.1%	89.5%	$\chi^2 = 756.734^{***}$
Had been laid off	31.8%	20.9%	10.5%	
Difficult paying bills:				
No difficulty	50.2%	61.0%	78.0%	$\chi^2 = 930.259^{***}$
Had difficult paying	49.8%	39.0%	22.0%	
Financial Anxiety:				
Feeling of anxiousness (1-7)	5.1	4.6	3.6	$F = 953.57^{***}$
Financial Literacy:				
Subjective knowledge (1-7)	5.2	5.3	5.6	$F = 109.15^{***}$
Objective knowledge (1-7)	4.1	4.7	5.2	$F = 812.19^{***}$
Perceived financial capability (1-7)	5.6	5.9	6.3	$F = 451.23^{***}$
Number of Debt Holdings (1-6):	2.9	2.8	2.0	$F = 839.39^{***}$
1 - Holding no debt	17.4%	17.3%	41.2%	$\chi^2 = 1658.300^{***}$
2 - Holding 1 debt	25.8%	27.3%	28.4%	
3 - Holding any 2 debts	24.5%	26.7%	20.0%	
4 - Holding any 3 debts	17.8%	19.9%	8.6%	
5 - Holding any 4 debts	9.8%	6.8%	1.7%	
6 - Holding all 5 debts	4.7%	2.0%	0.1%	

$^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$

Table 5 presents descriptive statistics on how holding types of debt varies across age. There were significant differences in types of debt held across all three age groups. However, the mean levels of debt holdings on a scale of 1-6 were similar between the young and middle age groups, at 2.9 and 2.8, respectively. The descriptive results also

show that 41.2% of the older age group held no debt, while only about 17% of both younger and middle age groups held no debt. Regardless of age groups, a little over 26% of the study sample reported they held one debt. However, a little more than 15% of those in the young age group, 8.8% of those in the middle age group, and 1.8% of those in the older age group reported they held four or five types of debt.

Types of Debt and Financial Satisfaction across Age

Table 6 presents the descriptive results that show the differences in the holding of types of debt and financial satisfaction across the three age groups. The χ^2 results indicate that there were statistically significant differences in the types of debt held across three age groups. Specifically, the middle age group indicated the highest proportion (51.2%) of holding credit card debt, followed by the young age group (48.5%) and older age group (32.0%). Both the young (41.8%) and middle (40.5%) age groups held similar proportions of automobile debt. Fewer people in the older age group reported holding an automobile debt (26.1%). For medical debt, the young age group held the highest proportion (29.7%), followed by the middle age group (21.4%). However, the older age group was least likely to hold medical debt (7.8%); this could be due to the availability of Medicare for this age group.

Table 6 shows that homeowners in the young and middle age groups were more likely to report holding a mortgage, 68.7% and 68.2%, respectively, whereas only 39.2% in the older age group reported holding a mortgage. The proportion of student loan debt holdings decreased across age with 35.4% of the young age group, 15.4% of the middle age group, and 2.7% of the older age group reporting holding student loan balances.

Table 6.

Descriptive Results: Types of Debt and Financial Satisfaction across Age (N = 14,822)

Variables	Young Age (*n*=4,829)	Middle Age (*n*=3,942)	Older Age (*n*=6,051)	Test Statistics
Types of Debt				
Credit card debt:				
No balances	51.5%	48.8%	68.0%	$\chi^2 = 466.536^{***}$
Have credit card balances	48.5%	51.2%	32.0%	
Automobile debt:				
No balances	58.2%	59.5%	73.9%	$\chi^2 = 360.534^{***}$
Have auto loan balances	41.8%	40.5%	26.1%	
Medical debt:				
No bills	70.3%	78.6%	92.2%	$\chi^2 = 876.610^{***}$
Have unpaid medical bills	29.7%	21.4%	7.8%	
Mortgage debt:				
No balances	31.3%	31.8%	60.8%	$\chi^2 = 895.365^{***}$
Have mortgage balances	68.7%	68.2%	39.2%	
Student loan debt:				
No balances	64.6%	84.6%	97.3%	$\chi^2 = 2073.146^{***}$
Have student loan balances	35.4%	15.4%	2.7%	
Financial Satisfaction	6.2	5.9	7.1	$F = 284.78^{***}$

Note. $^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$. *For mortgage debt, those with no mortgage debt include renters and those who own a home without a mortgage.*

Table 6 shows there were significant differences in mean levels of financial satisfaction across the three age groups. It is interesting to note that on a scale of 1-10, the mean level of financial satisfaction was highest among the older age group ($M = 7.1$). followed by the young age group ($M = 6.2$), with the middle age group reporting the lowest level of financial satisfaction ($M = 5.9$).

Multivariate Analysis

Determinants of Number of Debt Holdings

Table 7 presents the OLS results that show significant variables associated with the number of debt holdings. In this study, the number of debt holdings was measured by summing the number of debts held according to type, including credit card debt, auto loan debt, medical debt, mortgage debt, and student loan debt. In this OLS regression model, financial stressors, financial anxiety, and financial literacy were included as key variables to test Hypotheses 1, 2, and 3. Other socio-demographic variables such as gender, race/ethnicity, marital status, education, employment status, and household income were included in the OLS regression model as controlling factors. Table 7 shows an Adj-R^2 = 0.26 and F = 230.76, p<0.0001, indicating that 26% of the variance was explained by the variables included in this regression model and the model fits well.

This study hypothesizes financial literacy will be negatively associated with the number of debt holdings (H2). In this study, three financial variables (i.e., subjective financial knowledge, objective financial knowledge, and perceived financial capability) were included in the regression model. Table 7 shows that both coefficients associated with objective financial knowledge and perceived financial capability were statistically significant and negative (β=*-0.055, p<0.0001;* β=*-0.041, p<0.0001,* respectively), suggesting that as the levels of objective financial knowledge and perceived financial capability increased, the number of debt holdings decreased. However, subjective financial knowledge was not statistically significant. Since not all financial literacy variables were statistically significant, Hypothesis 2 was partially supported.

Table 7.

OLS Results: Determinants of Number of Debt Holdings (Total Sample, N=14,822)

Variables	β	SE	P-value	b
Financial Stressors: (H1-a)				
Large drop in income (no drop)	0.232	0.026	<0.0001	0.077
Laid off due to Covid (not laid off)	0.240	0.026	<0.0001	0.076
Difficulty to pay bills (no difficulty)	0.411	0.024	<0.0001	0.153
Financial Anxiety: (H1-b)				
Feeling of anxiousness	0.115	0.006	<0.0001	0.175
Financial Literacy: (H2)				
Subjective financial knowledge	0.009	0.009	0.3131	0.008
Objective financial knowledge	-0.055	0.007	<0.0001	-0.064
Perceived financial capability	-0.041	0.008	<0.0001	-0.042
Age/Generation: (H3)				
Age 18-40, Millennials/Genz	0.464	0.028	<0.0001	0.169
Age 41-56, Gen Xers	0.379	0.026	<0.0001	0.129
(Age 57+, Boomer/Silent Gen)				
Socio-Demographic Characteristics:				
Gender: (Male)				
Female	0.065	0.019	0.0007	0.025
Race/Ethnicity: (White)				
Black	0.235	0.033	<0.0001	0.054
Hispanic	0.090	0.027	0.0008	0.025
Asian/Other	-0.346	0.032	<0.0001	-0.079
Marital Status: (Unmarried)				
Married	0.080	0.028	0.0038	0.031
Single never married	-0.378	0.032	<0.0001	-0.131
Formal Education: (Post college)				
High school graduate or less	-0.020	0.035	0.5597	-0.006
Some college	0.187	0.031	<0.0001	0.070
College graduate	0.029	0.031	0.3426	0.010
Employment Status: (Unemployed)				
Employed	0.197	0.022	<0.0001	0.075
Household Income: (< $25,000)				
$25,000 - $49,999	0.137	0.032	<0.0001	0.045
$50,000 - $74,999	0.312	0.035	<0.0001	0.098
$75,000 - $99,999	0.465	0.038	<0.0001	0.132
$100,000 or more	0.426	0.038	<0.0001	0.147
Intercept	1.493	0.086	<.0001	0
F	230.76		<.0001	
Adj-R^2	0.26			

Note. Weighted results. ( ) represents reference group included in the OLS regression analysis.

Further, this study hypothesizes that as compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have more debt holdings (H3). Table 7 shows significant differences in holding numbers of debt across three age groups. The OLS results showed that the coefficient associated with ages 18-40 was statistically significant and positive, suggesting that as compared to those age 57 and older, those ages 18-40 reported holding more types of debt ($\beta=0.464, p<0.0001$). Similarly, the coefficient associated with age 41-56 was statistically significant and positive, meaning that those age 41-56 held more debt types than those ages 57 and older ($\beta=0.379, p<0.0001$). These significant findings support Hypothesis 3.

As for socio-demographic characteristics, OLS results indicated that gender, race/ethnicity, marital status, education, employment status, and household income were all statistically significant in holding numbers of debt. Interestingly, the OLS results revealed that, all else being equal, females held more types of debt ($\beta=0.065$ $p=0.0007$) than males. As compared to White individuals, Black and Hispanic individuals reported holding more debt types ($\beta=0.235, p<0.0001$ and $\beta=0.090, p=0.0008,$ respectively), but Asian/Other individuals reported holding fewer debt types ($\beta=-0.346, p<0.0001$). Compared to those who were unmarried (i.e., divorced, separated, and widowed), married individuals reported holding more debt types ($\beta=0.080, p<0.0038$), whereas single, never married individuals reported holding fewer debt types ($\beta=-0.378, p<0.0001$).

As for the association between formal education attainment and the number of debt holdings, the OLS results show that, all else being equal, those with some college reported holding more types of debt ($\beta=0.187, p< 0.0001$), than those with a post college

education. No significant difference was found for college graduates and individuals who had a high school education or less, compared to individuals with a post college education. As for employment status, the coefficient associated with working was statistically significant and positive ($\beta=0.197, p<0.0001$), showing that employed individuals held more debt types than unemployed individuals. All coefficients associated with household income level were statistically significant and positive. Specifically, compared to those earning less than $25,000 annually, those earning annually $25,000-$49,000, $50,000-$74,999, 475,000- $99,999, and $100,000+ reported holding more types of debt.

Determinants of Number of Debt Holdings among the Young Age Group

While this study did not propose any hypotheses related to factors associated with the number of debt types held among the age sub-groups, OLS regression analyses were performed for the three age groups to provide broader insights and additional information on the difference in the determinants of the number of debt holdings held for three age groups. Table 7-1 presents the OLS results that show significant variables associated with the number of debt holdings for those in the young age group, also known as the MZ generation. The sample size of the young group was 4,829. Like the regression model for the total sample (N = 14,822), the regression model for the young age group included financial stressors, financial anxiety, financial literacy, and socio-demographic characteristics as the independent variables. The OLS regression results indicate an Adj-R^2 = 0.23 and F = 68.64, $p<0.0001$, indicating that 23% of the variance was explained by the variables included in the regression model and the model fits well.

Table 7-1.

OLS Results: Determinants of Number of Debt Holdings (Young Age Sample, n = 4,829)

Variables	β	SE	P-value	b
Financial Stressors:				
Large drop in income (no drop)	0.441	0.044	<.0001	0.152
Laid off due to Covid (not laid off)	0.438	0.043	<.0001	0.147
Difficulty to pay bills (no difficulty)	0.294	0.042	<.0001	0.105
Financial Anxiety:				
Feeling of anxiousness	0.122	0.011	<.0001	0.154
Financial Literacy:				
Subjective financial knowledge	0.051	0.017	0.002	0.046
Objective financial knowledge	-0.020	0.013	0.131	-0.020
Perceived financial capability	-0.033	0.014	0.020	-0.034
Socio-Demographic Characteristics:				
Gender: (Male)				
Female	0.209	0.038	<.0001	0.074
Race/Ethnicity: (White)				
Black	0.143	0.055	0.0095	0.036
Hispanic	0.013	0.046	0.7771	0.004
Asian/Other	-0.296	0.063	<.0001	0.074
Marital Status: (Unmarried)				
Married	0.141	0.092	0.1279	0.050
Single never married	-0.322	0.090	0.0004	-0.115
Formal Education: (Post college)				
High school graduate or less	-0.114	0.070	0.1021	-0.036
Some college	0.204	0.064	0.0015	0.069
College graduate	0.008	0.062	0.8973	0.003
Employment Status: (Unemployed)				
Employed	0.268	0.047	<.0001	0.077
Household Income: (< $25,000)				
$25,000 - $49,999	0.161	0.056	0.0042	0.050
$50,000 - $74,999	0.377	0.062	<.0001	0.106
$75,000 - $99,999	0.522	0.069	<.0001	0.133
$100,000 or more	0.417	0.070	<.0001	0.124
Intercept	1.277	0.171	<.0001	0
F	68.64		<0.0001	
Adj-R^2	0.23			

Note. Weighted results. ( ) represents reference group included in the OLS regression analysis

Among the MZ Generation (Millennials and Gen Z), having a large income drop (*β=0.441, p<0.0001),* being laid off due to Covid (*β=0.438, p<0.0001*), and experiencing a difficulty paying bills (*β=0.294, p<0.0001*) were statistically significant and positive. These findings suggest that compared to those MZ individuals who did not experience these financial stressors, those who did experience these financial stressors reported holding more debt types. Similarly, the coefficient associated with financial anxiety was statistically significant and positive (*β=0.122, p<.0001*). This means that among the MZ generation, as the level of financial anxiety increased, the number of debt holdings increased.

For those in the young age group, the coefficients associated with financial literacy variables were statistically significant; however, the directions were opposite. For example, while the coefficient associated with subjective financial knowledge was statistically significant and positive (*β=0.051, p=0.002*), the coefficient associated with perceived financial capability was statistically significant and negative (*β=-0.033, p=0.020*) for holding numbers of debt types among the young age group. These results suggest that an increase in the level of perceived financial capability increased the number of debt holdings, while an increase in the level of perceived financial capability decreased the number of debt holdings among those in the young age group.

Table 7-1 shows that compared to MZ White individuals, MZ Black individuals held more types of debt (*β=0.143, p=0.0095*), while MZ Asian/Other individuals held fewer types of debt (*β=-0.296, p<0.0001*). The OLS results also show that MZ females held more debt types than their male counterparts (*β= 0.209, p<0.0001*). The OLS results reveal that the coefficient associated with MZ single/never married were statistically

significant and negative (*β= -0.322, p=0.0004*), suggesting that those who were never married held fewer debt types than those in the MZ generation who were separated, divorced, or widowed.

The OLS regression results show that the coefficient associated with some college education was statistically significant and positive (*β=0.204, p=0.0015*), suggesting that those in the MZ generations with some college education held more debt types than those with a post college degree. As for household income, the coefficients associated with $25,000 - $49,999, $50,000 - $74,999, $75,000 - $99,999, $100,000 or more were statistically significant and positive (*β= 0.161, p=0.0042, β= 0.377, p<0.0001, β= 0.522, p<0.0001, β=0.417, p<0.0001,* respectively). These findings suggest that MZ individuals in the higher income groups held more types of debt than those in the lowest income level (i.e., those earning $25,000 or less annually).

Determinants of Number of Debt Holdings among the Middle Age Group

Table 7-2 presents the OLS results that show significant variables associated with the number of debt holdings for those in the middle age group (Gen X). The sample size of the middle age population was 3,942. The OLS regression model for the middle age group included financial stressors, financial anxiety, financial literacy, and socio-demographic characteristics. Table 7-2 shows an Adj-R^2 = 0.195 and F = 46.49, p<0.0001, indicating that 19.5% of the variance in the regression model is explained by the variables included in this model and the model fits well.

Table 7-2.

OLS Results: Determinants of Number of Debt Holdings (Middle Age Sample, n = 3,942)

Variables	β	SE	P-value	b
Financial Stressors:				
Large drop in income (no drop)	2.219	0.048	<0.0001	0.078
Laid off due to Covid (not laid off)	0.155	0.048	<0.0012	0.052
Difficulty to pay bills (no difficulty)	0.318	0.045	<0.0001	0.125
Financial Anxiety:				
Feeling of anxiousness	0.121	0.011	<0.0001	0.184
Financial Literacy:				
Subjective financial knowledge	-0.009	0.017	0.5940	-0.009
Objective financial knowledge	-0.042	0.0139	0.0027	-0.0477
Perceived financial capability	-0.063	0.015	<0.0001	-0.068
Socio-Demographic Characteristics:				
Gender: (Male)				
Female	0.085	0.038	0.0241	0.034
Race/Ethnicity: (White)				
Black	0.236	0.065	0.0003	0.055
Hispanic	0.094	0.049	0.0566	0.028
Asian/Other	-0.544	0.060	<0.0001	-0.135
Marital Status: (Unmarried)				
Married	0.162	0.053	0.0021	0.064
Single never married	-0.380	0.059	<0.0001	-0.129
Formal Education: (Post college)				
High school graduate or less	-0.038	0.071	0.5962	-0.012
Some college	0.125	0.061	0.0415	0.049
College graduate	-0.058	0.061	0.3396	-0.021
Employment Status: (Unemployed)				
Employed	0.106	0.047	0.0240	0.036
Household Income: (< $25,000)				
$25,000 - $49,999	0.130	0.070	0.0642	0.041
$50,000 - $74,999	0.405	0.072	<0.0001	0.132
$75,000 - $99,999	0.612	0.079	<0.0001	0.183
$100,000 or more	0.606	0.079	<0.0001	0.231
Intercept	2.046	0.168	<0.0001	0
F	46.49		<0.0001	
Adj-R^2	0.20			

Note. Weighted results. ( ) represents reference group included in the OLS regression analysis

For Generation Xers (ages 41-56), OLS results show that, similar to those in the MZ generations, the coefficients associated with a large drop in income (*β=0.441, p<0.0001*), being laid off due to Covid-19 (*β=0.438, p<0.0001*), and having a difficulty paying bills (*β=0.294, p<0.0001*) were all statistically significant and positive. The findings suggest that Gen-Xers who experienced these financial events reported holding more types of debt, than Gen-Xers who did not. Further, the coefficient associated with financial anxiety was statistically significant and positive (*β=0.122, p<0.0001*), suggesting that as the level of financial anxiety increased, Gen Xers held more debt types.

The coefficient associated with objective financial knowledge was statistically significant and negative (*β=-0.042, p=0.0027*), meaning that as the level of objective financial knowledge increased, the number of debt holdings decreased among Gen-Xers. Similarly, the coefficient associated with perceived financial capability was statistically significant and negative (*β=-0.063, p<0.0001*), indicating that as the level of perceived financial capability increased; the number of debt holdings decreased.

As for the socio-demographic variables, Table 7-2 shows that gender, race/ethnicity, marital status, education, employment status, and income were significant predictors of holding more types of debt. As compared to male Gen-Xers, female Gen-Xers were more likely to report holding more types of debt (*β=0.085, p=0.0241)*. Black Gen-Xers, compared to Whites in the same cohort, reported holding more debt types (*β=0.236, p<0.0003*), while Asian/others reported holding fewer types of debt (*β=-0.544, p<0.0001)*.

Gen Xers who were married reported holding more debt types (*β=0.162, p=0.0021)*, while those who were never married reported holding fewer debt types (*β=-*

0.380, p<0.0001), as compared to those who were unmarried. Gen-Xers with some college education reported holding more types of debt than those with post college education (*β=0.125, p<0.0415*). Interestingly, those who were employed reported holding more debt types (*β=0.106, p<0.024*) than those who were unemployed. As compared to those earning less than $25,000 annually, those earning $50,000-$74,999, $75,000-$99,999, and $100,000+ all reported holding more types of debt (*β=0.405, p<0.0001*; *β=0.612, p<0.0001; and β=0.606, p<0.0001,* respectively).

Determinants of Number of Debt Holdings among the Older Age Group

Table 7-3 presents the OLS results that show significant variables associated with the number of debt holdings among those in the older age group (i.e., Boomer/Silent Generations). The sample size of this age group is 6,051. Financial stressors, financial anxiety, financial literacy, and socio-demographic characteristics were included in the OLS regression model for the older age group. Table 7-3 shows an Adj-R^2 = 0.197 and F = 71.76, p<0.0001, indicating that 19.7% of was explained by the variables included in the regression model and the model fits well.

Similar to the results of the other age groups, the coefficient associated with a difficulty paying bills was statistically significant and positive (*β=0.598, p<0.0001*). This means, as compared to those who had no difficulty paying bills, those who did have such financial stressors reported holding more types of debt. However, unlike those of other age groups, no other stressor variables were significant.

Table 7-3.

OLS Results: Determinants of Number of Debt Holdings (Older Age Sample, n = 6,051)

Variables	β	SE	P-value	b
Financial Stressors:				
Large drop in income (no drop)	-0.055	0.043	0.1981	-0.017
Laid off due to Covid (not laid off)	0.016	0.044	0.7176	0.005
Difficulty to pay bills (no difficulty)	0.598	0.036	<0.0001	0.236
Financial Anxiety:				
Feeling of anxiousness	0.088	0.008	<0.0001	0.158
Financial Literacy:				
Subjective financial knowledge	-0.033	0.014	0.0150	-0.032
Objective financial knowledge	-0.083	0.011	<0.0001	-0.104
Perceived financial capability	-0.057	0.013	<0.0001	-0.060
Socio-Demographic Characteristics:				
Gender: (Male)				
Female	-0.066	0.026	0.0122	-0.031
Race/Ethnicity: (White)				
Black	0.357	0.052	<0.0001	0.080
Hispanic	0.197	0.044	<0.0001	0.053
Asian/Other	-0.250	0.045	<0.0001	-0.066
Marital Status: (Unmarried)				
Married	0.010	0.032	0.7542	0.005
Single never married	-0.197	0.045	<0.0001	-0.057
Formal Education: (Post college)				
High school graduate or less	0.121	0.046	0.0090	0.044
Some college	0.222	0.039	<0.0001	0.102
College graduate	0.102	0.040	0.0106	0.042
Employment Status: (Unemployed)				
Employed	0.208	0.028	<0.0001	0.091
Household Income: (< $25,000)				
$25,000 - $49,999	1.226	0.047	0.0084	0.049
$50,000 - $74,999	0.261	0.050	<0.0001	0.102
$75,000 - $99,999	0.370	0.055	<0.0001	0.129
$100,000 or more	0.337	0.054	<0.0001	0.141
Intercept	2.137	0.126	<0.0001	0
F	71.76		<0.0001	
Adj-R^2	0.20			

Note. Weighted results. ( ) represents reference group included in the OLS regression analysis

The coefficient associated with financial anxiety was statistically significant and positive (*β=0.088, p<0.0001*), suggesting that as financial anxiety level increased, the number of debt holdings increased for those in the Boomer/Silent generation. Table 7-3 shows that all three financial literacy variables (i.e., subjective financial knowledge, objective financial knowledge, and perceived financial capability) were statistically significant and negative in their associations with the number of debt holdings among those in the older age group (*β=-0.033, p=0.015; β=-0.083, p<0.0001; β=-0.057, p<0.0001,* respectively). These findings suggest those in the Boomer/Silent generations with high financial literacy held fewer debt types. These findings are different than those of other age groups.

Unlike those of other age groups (i.e., young and middle age groups), females in the Boomer/Silent Generation group held fewer debt types (*β=-0.066, p<0.0122*) than males in the same cohort. As compared to White individuals among the older age group, Black and Hispanic individuals of the same cohort held more debt types (*β=0.357, p<0.0001; β=0.197, p<0.0001,* respectively) while Asian/other older individuals held fewer debt types (*β=-0.25, p<0.0001*). As compared to older unmarried individuals, those in the Boomer/Silent generation who reported being single/never married held fewer types of debt (*β=-0.197, p<0.001*).

The OLS results showed that older individuals had an education level of high school graduate or less (*β=0.121, p=0.009*), those with some college education (*β=0.222, p<0.0001*), and those with a college education (*β=0.102, p<0.0106*) all reported holding more debt types, than those of the same cohort with a post college education. Among the older age group, those working full- or part-time held more debt types (*β=0.208,*

p<0.0001) compared to those who were unemployed, full-time students, permanently sick or disabled, or retirees. As compared to those earning less than $25,000 annually, those in the older age group earning $25,000-$49,999, $50,000-$74,999, $75,000-$99,999, and $100,000+ all reported holding more debt types (*β=1.226, p=0.0084*; *β=0.261, p<0.0001*; *β=0.370, p<0.0001; and β=0.337, p<0.0001,* respectively).

Determinants of Financial Satisfaction

Table 8 presents the OLS results for the total sample (N=14,822). In this OLS regression model, types of debt and age were included as key variables to test Hypotheses 4 and 5. This study hypothesizes that credit card debt, automobile debt, and medical debt will be negatively associated with financial satisfaction, while mortgage debt and student loan debt will be positively associated with financial satisfaction (H4). Additionally, other socio-demographic variables such as gender, race/ethnicity, marital status, education, employment status, and household income were included as controlling factors in the *financial satisfaction* models. Table 8 shows an Adj-R^2 = 0.43 and F = 399.61, *p*<0.0001, indicating that 43% of the variance is explained by the variables included in this OLS regression model and the model is a good fit.

The OLS results indicated that all debt types were statistically significant in their association with financial satisfaction, while the direction of the effect varied by debt type. For credit card debt, the coefficient associated with holding credit card debt was statistically significant and negative (*β=-0.700, p<0.0001)*, suggesting that those holding credit card debt reported lower levels of financial satisfaction than those with no credit card debt. The coefficient associated with automobile debt was also statistically significant and negative (*β=-0.074, p=0.0486)*, meaning that those with an auto loan debt

reported lower levels of financial satisfaction than those without automobile debt. Similarly, the coefficient associated with medical debt was statistically significant and negative (*β=-0.108, p=0.0236)*, suggesting that those who held unpaid medical bill reported lower levels of financial satisfaction than those without medical debt.

Interestingly, the coefficient associated with mortgage debt was statistically significant, but positive (*β=0.195, p<0.0001)*, indicating that compared to those without a mortgage debt, those holding a mortgage reported higher levels of financial satisfaction. Also, the coefficient associated with student loan debt was statistically significant and positive (*β=0.186, p=0.0002),* showing that those with student loan debt reported higher levels of financial satisfaction than those with no student loan debt. Since the effects of credit card debt, automobile debt, and medical debt on financial satisfaction were negative, whereas the effects of mortgage debt and student loan debt were positive, Hypothesis 4 was supported.

This study hypothesizes that compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have lower levels of financial satisfaction (H5). As for the association between age and financial satisfaction, both the coefficients associated with age 18-40 and age 41-56 were statistically significant; however, the direction was opposite. Table 8 shows that compared to those 57 and older, those in the 18-40 age group reported higher levels of financial satisfaction (*β=0.145, p=0.005)*, whereas those age 41-56 reported lower levels of financial satisfaction (*β=-0.499, p<0.0001).* These findings suggest that those in the middle age group were less financially satisfied than those in the older age group but those in the younger age group were more financially satisfied. Since this study

hypothesized that both the young and middle age groups were less satisfied with their current financial situations, Hypothesis 5 is partially supported.

In this study, financial stressors, financial anxiety, financial literacy, and socio-demographic variables were included as controlling factors in the *financial satisfaction* regression models. Table 8 shows that, all else being equal, all the controlling factors mentioned were statistically significant in predicting financial satisfaction. Specifically, the three coefficients associated with financial stressors were statistically significant, but the direction of the effect varied. As expected, those who experienced a drop in income (β*=-0.283, p<0.0001)* and a difficulty paying bills (β*=-1.186, p<0.0001)* reported lower levels of financial satisfaction than those who did not experience these two financial stressors. Against expectations, those who reported being laid off due to Covid-19 reported higher levels of financial satisfaction (β*=0.321, p<0.0001)* than those who were not laid off. These findings may be due to other factors like more time spent with family and a reduction in exposure to Covid-19. The OLS results indicated that as the level of financial anxiety level increased, financial satisfaction levels decreased (β*=-0.248, p<0.0001)*.

There were significant associations between financial literacy and financial satisfaction. The coefficients associated with subjective financial knowledge and perceived financial capability were statistically significant and positive (β*=0.597, p<0.0001;* β*=0.121, p<0.0001,* respectively). However, the coefficient association with objective financial knowledge was significant and negative (β*=-0.237, p<.0001)*. These findings suggest that financial confidence and ability to implement financial knowledge may play a more significant role in influencing financial satisfaction; however, as factual

levels of financial knowledge increased, financial satisfaction level decreased. These findings suggest that knowing the "right" financial steps to take (objective financial knowledge) may not increase financial satisfaction unless one has the financial confidence (subjective financial knowledge) and ability to implement financial knowledge (financial capability).

As for socio-demographic characteristics, gender, marital status, education, and household income were statistically significant in predicting financial satisfaction. Specifically, there were gender differences in reports of financial satisfaction level, suggesting that females reported lower levels of financial satisfaction (*β=-0.207, p<0.0001)*, compared to males. Compared to those who were unmarried, those who were married and single/never married reported higher levels of financial satisfaction (*β=0.462, p<0.0001; β=0.129, p=0.0224,* respectively).

As for education, compared to those with a post college education level, those with high school or less, some college, and college graduate education levels all reported lower levels of financial satisfaction (*β=-0.21, p=0.0009; β=0.-0.44, p<0.0001; β=0.228, p<0.0001,* respectively). However, all income levels were statistically significant in predicting financial satisfaction. Specifically, the coefficients associated with earning $25,000-$49,999, $50,000-$74,999, $75,000-$99,999, and $100,000+ (*β=0.134, p=0.0203*; *β=0.434, p<0.0001*; *β=0.638, p<0.0001; and β=0.943, p<0.0001,* respectively) all reported an increase in financial satisfaction level, compared to those earning less than $25,000 annually.

Table 8.

OLS Results: Determinants of Financial Satisfaction (Total Sample, N=14,822)

Variables	β	SE	P-value	b
Types of Debt: (H4)				
Credit card debt (no credit card debt)	-0.700	0.037	<0.0001	-0.133
Automobile debt (no auto loans)	-0.074	0.037	0.0486	-0.013
Medical debt (no medical debt)	-0.108	0.048	0.0236	-0.016
Mortgage debt (no mortgages)	0.195	0.037	<0.0001	0.036
Student loan debt (no student loans)	0.186	0.050	0.0002	0.026
Age/Generation: (H5) (Age 57+, Boomer/Silent Gen)				
Age 18-40, Millennials/Genz	0.145	0.051	0.005	0.026
Age 41-56, Gen Xers	-0.499	0.047	<0.0001	-0.084
Controlling Variables:				
Financial Stressors:				
Large drop in income (no drop)	-0.283	0.046	<0.0001	-0.047
Laid off due to Covid (not laid off)	0.321	0.046	<0.0001	0.050
Difficulty to pay bills (no difficulty)	-1.186	0.043	<0.0001	-0.219
Financial Anxiety:				
Feeling of anxiousness	-0.248	0.010	<0.0001	-0.187
Financial Literacy:				
Subjective knowledge	0.597	0.016	<0.0001	0.262
Objective knowledge	-0.237	0.013	<0.0001	-0.134
Perceived financial capability	0.121	0.014	<0.0001	0.062
Socio-Demographic Characteristics:				
Gender: (Male)				
Female	-0.207	0.034	<0.0001	-0.084
Race/Ethnicity: (White)				
Black	0.062	0.058	0.2918	0.007
Hispanic	-0.021	0.047	0.6606	-0.003
Asian/Other	0.006	0.057	0.9173	0.001
Marital Status: (Unmarried)				
Married	0.462	0.050	<0.0001	0.090
Single never married	0.129	0.057	0.0224	0.022
Formal Education: (Post college)				
High school graduate or less	-0.210	0.063	0.0009	-0.033
Some college	-0.440	0.055	<0.0001	-0.082
College graduate	-0.228	0.055	<0.0001	-0.039
Employment Status: (Unemployed)				
Employed	-0.042	0.040	0.2853	-0.008
Household Income: (< $25,000)				
$25,000 - $49,999	0.134	0.058	0.0203	0.022
$50,000 - $74,999	0.434	0.062	<0.0001	0.067
$75,000 - $99,999	0.638	0.069	<0.0001	0.089

$100,000 or more	0.943	0.069	<0.0001	0.161
Intercept	5.124	0.153	<0.0001	0
F	399.61		<0.0001	
Adj-R^2	0.430			

Note. Weighted results. ( ) represents reference group included in the OLS regression analysis.

Determinants of Financial Satisfaction among the Young Age Group

Table 8-1 presents the OLS results that show significant variables associated with the financial satisfaction level for the young age group or MZ generation. (n=4,829). The OLS regression results showed an Adj-R^2 = 0.365 and F = 107.60, p<0.0001, indicating that 36.5% of the variance was explained by the variables included in this regression model and the model fits well.

This study also looked at types of debt held and their association with financial satisfaction across three age subgroups. The OLS regression model was run for the young age group (ages 18-40). The coefficient associated with holding credit card debt was statistically significant and negative (β=*-0.462, p<0.0001*), suggesting that as compared to not holding credit card debt, those holding credit card debt reported lower levels of financial satisfaction (β=*-0.462, p<0.0001*). Meanwhile, the coefficients associated with holding a mortgage and student loan debt were statistically significant and positive (β=*0.567, p<0.0001; β=0.192, p=0.0065*, respectively), implying that those in the young age group who held mortgage and student loan debts had higher levels of financial satisfaction than those who did not.

For those in the young age group, the coefficients associated with a drop in income (β=*-0.381, p<0.0001)* and difficulty paying bills (β=*-0.78, p<0.0001)* were statistically significant and negative, suggesting that those with a large drop in income

and difficulty paying bills had lower levels of financial satisfaction than those who did not. However, the coefficient associated with being laid off due to Covid-19 was significant and positive (*β=0.354, p<0.0001*), suggesting that those who experienced a layoff due to Covid-19 reported higher levels of financial satisfaction than those who were not laid off. It was found that financial anxiety was statistically significant and negative, revealing that as financial anxiety increased, the levels of financial satisfaction decreased for those in the young age group (*β=-0.097, p<0.0001*).

Financial literacy variables were found to vary in their association with financial satisfaction for those in the young age group. The coefficients associated with subjective financial knowledge (*β=0.682, p<0.0001*) and perceived financial capability (*β=0.153, p<0.0001*) were statistically significant and positive. These findings suggest that subjective financial knowledge and perceived financial capability increased financial satisfaction for those in the young age group. However, the coefficient associated with objective financial knowledge was significant, but negative (*β=-0.347, p<0.0001*), suggesting that objective knowledge decreased the levels of financial satisfaction among individuals in the young age group.

Females among the young age group reported lower levels of financial satisfaction as compared to males in the same age group (*β=-0.543, p<0.0001).* Black and Asian/Others among the young age group, compared to White individuals in the young age group, reported higher levels of financial satisfaction (*β=0.457, p<0.0001)* and *(β=0.292, p=0.008*2), respectively. Compared to unmarried individuals between ages 18-40, married and single/never married individuals reported higher levels of financial satisfaction (*β=1.135, p<0.0001)* and (*β=0.827, p<0.0001*), respectively.

Table 8-1.

OLS Results: Determinants of Financial Satisfaction (Young Age Sample, n = 4,829)

Variables	β	SE	P-value	b
Types of Debt:				
Credit card debt (no credit card debt)	-0.462	0.068	<0.0001	-0.085
Automobile debt (no auto loans)	0.0394	0.071	0.5773	0.007
Medical debt (no medical debt)	-0.120	0.079	0.1280	-0.020
Mortgage debt (no mortgages)	0.567	0.073	<0.0001	0.100
Student loan debt (no student loans)	0.192	0.071	0.0065	0.034
Controlling Variables:				
Financial Stressors:				
Large drop in income (no drop)	-0.381	0.078	<0.0001	-0.068
Laid off due to Covid (not laid off)	0.354	0.077	<0.0001	0.062
Difficulty to pay bills (no difficulty)	-0.780	0.074	<0.0001	-0.144
Financial Anxiety:				
Feeling of anxiousness	-0.097	0.020	<0.0001	-0.064
Financial Literacy:				
Subjective knowledge	0.682	0.029	<0.0001	0.318
Objective knowledge	-0.347	0.023	<0.0001	-0.190
Perceived financial capability	0.153	0.025	<0.0001	0.081
Socio-Demographic Characteristics:				
Gender: (Male)				
Female	-0.543	0.067	<0.0001	-0.099
Race/Ethnicity: (White)				
Black	0.457	0.097	<0.0001	0.059
Hispanic	0.076	0.081	0.3499	0.011
Asian/Other	0.292	0.110	0.0082	0.032
Marital Status: (Unmarried)				
Married	1.135	0.163	<0.0001	0.208
Single never married	0.827	0.159	<0.0001	0.153
Formal Education: (Post college)				
High school graduate or less	-0.078	0.124	0.5309	-0.013
Some college	-0.510	0.113	<0.0001	-0.090
College graduate	-0.095	0.110	0.3865	-0.016
Employment Status: (Unemployed)				
Employed	0.301	0.083	0.0003	0.044
Household Income: (< $25,000)				
$25,000 - $49,999	-0.233	0.099	0.0182	-0.038
$50,000 - $74,999	-0.060	0.110	0.5898	-0.009
$75,000 - $99,999	0.076	0.122	0.5328	0.010
$100,000 or more	0.501	0.122	<0.0001	0.077

Intercept	3.282	0.301	<0.0001	0
F	107.60		<0.0001	
Adj-R^2	0.365			

Note. Weighted results. ( ) represents reference group included in the OLS regression analysis.

As for formal education, compared to those with post college education, those with some college education (*β=-0.51, p<0.0001*) in the young age group had lower levels of financial satisfaction. Those employed individuals ages 18-40 reported higher levels of financial satisfaction (*β=0.301, p=0.0003),* compared to those who were unemployed. In addition, significant differences in household income levels were found between MZ individuals earning less than $25,000, $25,000-$49,999, and $100,000 or more. Specifically, MZ adults earning annual income levels of $25,000-$49,999 reported lower levels of financial satisfaction (*β=-0.233, p<0.0001*), while those earning $100,000 or more reported higher levels of financial satisfaction (*β=0.501, p<0.0001)*, compared to those earning less than $25,000 yearly.

Determinants of Financial Satisfaction among the Middle Age Group

Table 8-2 presents the OLS results that show significant variables associated with the financial satisfaction level for those in the middle age group or Generation X (n=3,942). The OLS regression results showed an Adj-R^2 = 0.44 and F = 119.97, p<.0001, indicating that 44% of the variance was explained by the variables included in the regression model and the model fits well.

Table 8-2.

OLS Results: Determinants of Financial Satisfaction (Middle Age Sample, n = 3,942)

Variables	β	SE	P-value	b
Types of Debt:				
Credit card debt (no credit card debt)	-0.672	0.072	<0.0001	-0.126
Automobile debt (no auto loans)	-0.192	0.071	0.0066	-0.035
Medical debt (no medical debt)	-0.241	0.086	0.0052	-0.038
Mortgage debt (no mortgages)	0.213	0.072	0.0029	0.040
Student loan debt (no student loans)	-0.082	0.098	0.4016	-0.011
Controlling Variables:				
Financial Stressors:				
Large drop in income (no drop)	-0.243	0.087	0.0050	-0.040
Laid off due to Covid (not laid off)	0.126	0.086	0.1424	0.020
Difficulty to pay bills (no difficulty)	-1.330	0.081	<0.0001	-0.245
Financial Anxiety:				
Feeling of anxiousness	-0.227	0.020	<0.0001	-0.161
Financial Literacy:				
Subjective knowledge	0.574	0.031	<0.0001	0.250
Objective knowledge	-0.307	0.025	<0.0001	-0.164
Perceived financial capability	0.069	0.028	0.0119	0.035
Socio-Demographic Characteristics:				
Gender: (Male)				
Female	-0.220	0.068	0.0011	-0.041
Race/Ethnicity: (White)				
Black	-0.123	0.118	0.3008	-0.013
Hispanic	-0.086	0.088	0.3303	-0.012
Asian/Other	-0.037	0.108	0.7353	-0.004
Marital Status: (Unmarried)				
Married	0.627	0.095	<0.0001	0.115
Single never married	0.241	0.105	0.0222	0.038
Formal Education: (Post college)				
High school graduate or less	-0.608	0.131	<0.0001	-0.088
Some college	-0.646	0.111	<0.0001	-0.119
College graduate	-0.471	0.109	<0.0001	-0.081
Employment Status: (Unemployed)				
Employed	0.228	0.084	0.0066	0.036
Household Income: (< $25,000)				
$25,000 - $49,999	0.076	0.126	0.5434	0.011
$50,000 - $74,999	0.329	0.131	0.0121	0.050
$75,000 - $99,999	0.532	0.144	0.0002	0.074
$100,000 or more	0.842	0.145	<0.0001	0.150

Intercept	5.481	0.304	<0.0001	0
F	119.97		<0.0001	
Adj-R^2	0.44			

Note. Weighted results. ( ) represents reference group included in the OLS regression analysis.

For those ages 41-56, the coefficients associated with credit card debt, automobile debt, and medical debt were all statistically significant and negative (*β=-0.672, p<0.0001*; *β=-0.192, p=0.0066; β=-0.241, p=0.0052,* respectively), suggesting that those who reported holding credit card, automobile, and medical debts, compared to those who do not hold these debts, reported lower levels of financial satisfaction. However, the coefficient associated with holding mortgage debt was statistically significant and positive (*β=0.213, p=0.0029*), meaning that those Gen-Xers holding a mortgage reported higher levels of financial satisfaction than those without a mortgage.

The OLS results show that the coefficients associated with having a large drop in income and experiencing a difficulty paying bills were both statistically significant and negative (*β=-0.243, p=0.005 and β=-1.33, p<0.0001,* respectively), implying that, compared to those who did not experience a drop in income or a difficulty paying bills, those who did reported lower levels of financial satisfaction. Similarly, the coefficient associated with financial anxiety was statistically significant and negative (*β=-0.227, p<0.0001),* meaning that as financial anxiety level increased, the level of financial satisfaction for Gen-Xers decreased.

Table 8-2 shows that the coefficients associated with subjective financial knowledge and perceived financial capability were both significant and positive (*β=0.574, p<0.0001* and *β=0.069, p=0.0119*, respectively), suggesting that higher levels of subjective knowledge and perceived financial capability increased financial

satisfaction. However, the coefficient associated with objective financial knowledge was statistically significant and negative (*β=-0.307, p<0.0001*), implying that as levels of objective knowledge increased, financial satisfaction decreased. The findings of financial literacy for Gen-Xers are the same as those found for the MZ generation.

Table 8-2 shows that gender, marital status, education level, employment status, and household income were all statistically significant determinants of financial satisfaction among the middle age group. It also revealed that all else being equal, females reported lower levels of financial satisfaction, compared to men in the same age group (*β=-0.22, p=0.0011*). Compared to unmarried individuals, married and single/never married individuals in the middle age group reported higher levels of financial satisfaction (*β=0.627, p<0.0001* and *β=0.241, p=0.0222*, respectively).

As for formal education, those middle-aged individuals with education levels of high school graduate or less, some college, or college graduate all reported lower levels of financial satisfaction than those with post college education (*β=-0.608, p<0.0001*; *β=-0.646, p<0.0001;* and *β=-0.471, p<0.0001*, respectively). Gen-Xers who were working reported higher levels of financial satisfaction than those who were not working (*β=0.228, p=0.0066*). Compared to those who were earning less than $25,000, those in the middle age group who earned $50,000-$74,999, $75,000-$99,999, and $100,000 or more (*β=0.329, p=0.0121*; *β=0.532, p=0.0002*; *and β=0.842, p<0.0001,* respectively) all reported higher levels of financial satisfaction.

Determinants of Financial Satisfaction among the Older Age Group

Table 8-3 presents the OLS results that show significant variables associated with the financial satisfaction level for those in the older age group or Boomer/Silent

generation (n=6,051). The OLS regression results showed an Adj-R^2 = 0.55 and F = 287.96, p<0.0001, indicating that 55% of the variance was explained by the variables included in this regression model and the model fits well.

Table 8-3.

OLS Results: Determinants of Financial Satisfaction (Older Age Sample, n = 6,051)

Variables	β	SE	P-value	b
Types of Debt:				
Credit card debt (no credit card debt)	-0.682	0.052	<0.0001	-0.134
Automobile debt (no auto loans)	-0.157	0.050	0.0017	-0.029
Medical debt (no medical debt)	-0.397	0.080	<0.0001	-0.047
Mortgage debt (no mortgages)	-0.030	0.047	0.5206	-0.006
Student loan debt (no student loans)	-0.142	0.135	0.2949	-0.009
Controlling Variables:				
Financial Stressors:				
Large drop in income (no drop)	-0.321	0.072	<0.0001	-0.044
Laid off due to Covid (not laid off)	-0.097	0.074	0.1913	-0.012
Difficulty to pay bills (no difficulty)	-1.483	0.063	<0.0001	-0.260
Financial Anxiety:				
Feeling of anxiousness	-0.357	0.013	<0.0001	-0.283
Financial Literacy:				
Subjective knowledge	0.381	0.023	<0.0001	0.162
Objective knowledge	-0.049	0.018	0.0067	-0.027
Perceived financial capability	0.061	0.021	0.0038	0.028
Socio-Demographic Characteristics:				
Gender: (Male)				
Female	0.145	0.044	0.0010	0.030
Race/Ethnicity: (White)				
Black	-0.418	0.088	<0.0001	-0.043
Hispanic	0.117	0.074	0.1102	0.014
Asian/Other	-0.102	0.075	0.1757	-0.012
Marital Status: (Unmarried)				
Married	0.154	0.054	0.0047	0.031
Single never married	-0.124	0.076	0.1045	-0.016

Formal Education: (Post college)				
High school graduate or less	-0.074	0.079	0.3468	-0.012
Some college	-0.175	0.066	0.0083	-0.036
College graduate	-0.148	0.067	0.0275	-0.027
Employment Status: (Unemployed)				
Employed	-0.186	0.048	<0.0001	-0.036
Household Income: (< $25,000)				
$25,000 - $49,999	0.443	0.079	<0.0001	0.079
$50,000 - $74,999	0.787	0.085	<0.0001	0.136
$75,000 - $99,999	1.039	0.094	<0.0001	0.160
$100,000 or more	1.239	0.093	<0.0001	0.230
Intercept	6.047	0.215	<0.0001	0
F	287.96		<0.0001	
Adj-R^2	0.55			

Note. Weighted results. ( ) represents reference group included in the OLS regression analysis.

The OLS results for those in the older age group showed that the coefficient associated with holding credit card debt (*β=-0.682, p<0.0001*) was statistically significant and negative. The findings suggest that those in the Boomer/Silent generations holding credit card debt reported lower levels of financial satisfaction, compared to those who did not hold credit card debt. The coefficient associated with holding an automobile debt (*β=-0.157, p=0.0017*) was statistically significant and negative, suggesting that compared to those in the older age group who did not have automobile debt, those who did reported lower levels of financial satisfaction. Moreover, having medical debt (*β=-0.397, p<0.0001*) was also statistically significant and negative, meaning that compared to those in the older age group who did not have medical debt, those who did hold medical debt reported lower levels of financial satisfaction. Interestingly, the coefficients associated with mortgage debt and student loan debt were not statistically significant in their association with financial satisfaction among those in the older age group.

Table 8-3 shows that among financial stressors, the coefficients associated with a drop in income (β=*-0.321, p<0.0001*) and a difficulty paying bills (β=*-1.483, p<0.0001*) were both statistically significant and negative, suggesting that those who reported experiencing these stressors, compared to those who did not, reported lower levels of financial satisfaction. The findings are different for those in the other age groups. For those ages 57 and older, the coefficient associated with financial anxiety was statistically significant and negative (β=*-0.357, p<0.0001*), suggesting that as financial anxiety levels increased financial satisfaction decreased for those in the Boomer/Silent generations.

Similar to results in the other age groups, all coefficients associated with financial literacy were statistically significant in predicting financial satisfaction for those in the old age group. The coefficient associated with subjective financial knowledge was significant and positive (β=*0.381, p<0.0001*), meaning that as subjective financial knowledge levels increased, so did financial satisfaction. However, the coefficient associated with objective financial knowledge was significant and negative (β=*-0.049, p=.0067*), suggesting that for those 57 and older, as the levels of objective financial knowledge increased financial satisfaction level decreased. Lastly, the coefficient associated with perceived financial capability was significant and positive (β=*0.061, p=0.0038*), meaning that as the levels of perceived financial capability increased for those in the older age group, so did financial satisfaction levels.

Table 8-3 shows that, all else being equal, all the socio-demographic characteristics (i.e., gender, race/ethnicity, marital status, formal education, employment status, and household income) were statistically significant in predicting financial satisfaction for those in the older age group. In contrast to other age groups, women in the

older age group reported higher level of financial satisfaction than older age men (*β=0.145, p=0.001*). Boomer/Silent generation Black individuals reported lower levels of financial satisfaction compared to White individuals in the same age group (*β=-0.418, p<0.0001*). Interestingly, while MZ Black individuals are more financially satisfied compared White individuals in their age group, older age Black individuals are less financially satisfied compared to White individuals in the older age group.

Married individuals in the old age group reported being more financially satisfied than unmarried individuals (divorced/separated/widowed individuals) in the old age group (*β=0.154, p=0.0047*). Compared to older individuals with post college education, those with some college (*β=-0.175, p=0.0083*) and college graduates (*β=-0.148, p=0.0275*) reported lower levels of financial satisfaction. Unlike those in the young age groups, those in the older age group who were employed reported lower levels of financial satisfaction than those who reported they were unemployed (*β=-0.186, p<0.0001*). Among those 57 and older, all income levels earning more than $25,000 a year reported higher levels of financial satisfaction compared to those earning less than $25,000 a year.

Summary

Results of Five Hypotheses

This study proposed five hypotheses based on the adapted version of Joo and Grable's determinants of financial satisfaction framework. Table 9 reports a summary of the findings of the hypotheses in this study. All financial stressor variables and financial anxiety were positive and significantly associated with the number of debts held by type;

thus, Hypothesis 1 was supported. Objective financial knowledge and perceived financial capability were negatively associated with the number of debts held by type. However, subjective financial knowledge was not significant; thus Hypothesis 2 was partially supported. Those in the young and middle age groups were statistically significant and positive in the number of debts held by type, compared to those in the older age group; thus, Hypothesis 3 was supported.

Table 9.

Summary Results of Hypothesis

H1: Financial stressors and financial anxiety will be positively associated with the number of debt holdings.	*Supported*
H2: Financial literacy will be negatively associated with the number of debt holdings.	*Partially Supported*
H3: As compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have more debt holdings.	*Supported*
H4: Credit card debt, automobile debt, and medical debt will be negatively associated with financial satisfaction, while mortgage debt and student loan debt will be positively associated with financial satisfaction.	*Supported*
H5: As compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have lower levels of financial satisfaction.	*Partially Supported*

Holding credit card debt, automobile debt, and medical debt were found to be statistically significant and negatively associated with levels of financial satisfaction, while mortgages and student loans were statistically significant and positively associated with an increase in financial satisfaction level; thus, Hypothesis 4 was supported.

Compared to those in the older age group, those among the young age group reported higher levels of financial satisfaction, while those in the middle age group reported lower levels of financial satisfaction; thus, Hypothesis 5 is partially supported.

Results of Debt Holdings across Age

Although no hypotheses were proposed requiring subgroup analysis, one of the main objectives in this study was to examine how financial stressors, financial anxiety, financial literacy, and socio-demographic factors were associated with holding more types of debt across age. Table 10 presents a summary of those associations across three age groups. The results indicate all three financial stressors were positively associated with the number of debt holdings for those in the young and middle age groups. It shows that only difficulty paying bills was statistically significant in increasing the number of debt holdings for those in the older age group. However, financial anxiety significantly increased the number of debt holdings for all three groups. Similarly, consistent findings across age were found regarding the associations between perceived financial capability and the number of debt holdings. Thus, it can be said that regardless of age, when individuals had higher levels of financial capability, the level of debt holdings significantly decreased.

As for the differences in the associations between socio-demographic characteristics and the number of debt holdings across age, Table 10 shows that gender, race/ethnicity, education, and household income were significant predictors of the number of debt holdings for all three age groups. Specifically, women (compared to men), Black individuals (compared to White individuals), those with college education (compared to those with post-college degree), and those with annual household incomes

greater than $50,000 (compared to those with making less than $25,000) reported higher levels of debt holdings.

Table 10.

Summary Table: Determinants of Number of Debt Holdings

	Young Age Sample	Middle Age Sample	Older Age Sample
Financial Stressors:			
Large drop in income (no drop)	+	+	
Laid off due to Covid (not laid off)	+	+	
Difficulty to pay bills (no difficulty)	+	+	+
Financial Anxiety:			
Feeling of anxiousness	+	+	+
Financial Literacy:			
Subjective financial knowledge	+		-
Objective financial knowledge		-	-
Perceived financial capability	-	-	-
Socio-Demographic Characteristics:			
Gender: (Male)			
Female	+	+	-
Race/Ethnicity: (White)			
Black	+	+	+
Hispanic			+
Asian/Other	-	-	-
Marital Status: (Unmarried)			
Married		+	
Single never married	-	-	-
Formal Education: (Post college)			
High school graduate or less			+
Some college	+	+	+
College graduate			+
Employment Status: (Unemployed)			
Employed	+	+	+
Household Income: (< $25,000)			
$25,000 - $49,999			+
$50,000 - $74,999	+	+	+
$75,000 - $99,999	+	+	+
$100,000 or more	+	+	+

Results of Financial Satisfaction across Age

To understand how types of debt held are associated with financial satisfaction and how these associations varied across age, additional OLS regression analyses for the three age sub-groups were performed. Table 11 presents a summary of those associations for young, middle, and older age samples. It shows that effects of credit card debt were statistically significant and negative for all groups, suggesting that regardless of their age, as they hold credit card debt, they were not satisfied with their current financial conditions.

While both automobile debt and medical debt significantly decreased the level of financial satisfaction for those in middle or older age groups, this association was not found among those in the young age group. In addition, while holding mortgage debt was not associated with financial satisfaction among those in the older age groups, mortgage debt significantly increased the level of financial satisfaction among those in young and middle age groups. Interestingly, holding student loan debt significantly increased the level of financial satisfaction only for those in the young group, there were no significant associations among those in the middle or older age groups.

As for the factors associated with financial satisfaction across age, financial stressors, financial anxiety, financial literacy were statistically significant in predicting level of financial satisfaction for all three age groups. Specifically, Table 11 shows that regardless of their age, when individuals experienced a large income drop and having difficulty paying ongoing bills significantly decreased the level of financial satisfaction during Covid. Similarly, regardless of age, financial anxiety decreased the level of financial satisfaction for those in young, middle, and older age groups.

Table 11.

Summary Table: Determinants of Financial Satisfaction

	Young Age Sample	Middle Age Sample	Older Age Sample
Types of Debt:			
Credit card debt (no credit card debt)	-	-	-
Automobile debt (no auto loans)		-	-
Medical debt (no medical debt)		-	-
Mortgage debt (no mortgages)	+	+	
Student loan debt (no student loans)	+		
Controlling Variables:			
Financial Stressors:			
Large drop in income (no drop)	-	-	-
Laid off due to Covid (not laid off)	+		
Difficulty to pay bills (no difficulty)	-	-	-
Financial Anxiety:			
Feeling of anxiousness	-	-	-
Financial Literacy:			
Subjective knowledge	+	+	+
Objective knowledge	-	-	-
Perceived financial capability	+	+	+
Socio-Demographic Characteristics:			
Gender: (Male)			
Female	-	-	+
Race/Ethnicity: (White)			
Black	+		-
Hispanic			
Asian/Other	+		
Marital Status: (Unmarried)			
Married	+	+	+
Single never married	+	+	
Formal Education: (Post college)			
High school graduate or less		-	
Some college	-	-	-
College graduate		-	-
Employment Status: (Unemployed)			
Employed	+	+	-
Household Income: (< $25,000)			
$25,000 - $49,999	-		+
$50,000 - $74,999		+	+
$75,000 - $99,999		+	+
$100,000 or more	+	+	+

As expected, all three financial literacy variables were statistically significant in predicting financial satisfaction levels for all three groups. However, in terms of the directions of the effects, while subjective financial knowledge and perceived financial capability significantly increased the levels of financial satisfaction, objective financial knowledge significantly decreased the levels of financial satisfaction. These findings were consistent for all three groups.

While both automobile debt and medical debt significantly decreased the level of financial satisfaction for those in middle or older age groups, this association was not found among those in the young age group. In addition, while holding mortgage debt was not associated with financial satisfaction among those in the older age groups, mortgage debt significantly increased the level of financial satisfaction among those in young and middle age groups. Interestingly, holding student loan debt significantly increased the level of financial satisfaction only for those in the young group, there were no significant associations among those in the middle or older age groups.

As for the factors associated with financial satisfaction across age, financial stressors, financial anxiety, financial literacy were statistically significant in predicting level of financial satisfaction for all three age groups. Specifically, Table 11 shows that regardless of their age, when individuals experienced a large income drop and having difficulty paying ongoing bills significantly decreased the level of financial satisfaction during Covid. Similarly, regardless of age, financial anxiety decreased the level of financial satisfaction for those in young, middle, and older age groups. As expected, all three financial literacy variables were statistically significant in predicting financial satisfaction levels for all three groups. However, in terms of the directions of the effects,

while subjective financial knowledge and perceived financial capability significantly increased the levels of financial satisfaction, objective financial knowledge significantly decreased the levels of financial satisfaction for all three groups.

As for the socio-demographic characteristics associated with financial satisfaction, gender, marital status, formal education, employment status, and household income were significant predictors of financial satisfaction for all three groups. It is interesting to note that while women in the young and middle age groups reported lower levels of financial satisfaction than their men counterparts, women in the older age group reported higher levels of financial satisfaction than men. It is also noted that while Black individuals in young age group reported higher level of financial satisfaction, Black individuals in the older age group reported lower levels of financial satisfaction, compared to White individuals of the same age group. Married individuals reported higher levels of financial satisfaction as compared to unmarried divorced/separated/widowed individuals, suggesting that being married could be a significant predictor of financial satisfaction regardless of their life cycle stage. Similarly, those with some college education consistently reported lower levels of financial satisfaction across age, suggesting that having only some college education could be an important predictor of lower levels of financial satisfaction regardless of age.

CHAPTER V

DISCUSSION, IMPLICATIONS, AND CONCLUSION

Discussion

This study first sought to examine how financial stressors, financial anxiety, and financial literacy are associated with the number of types of debt held. Then, how holding certain debt types is associated with financial satisfaction level and how these associations are different across age groups were examined. Additionally, this study included socio-demographic characteristics in the analyses to see their relationships with the number of debt holdings and financial satisfaction.

Financial Stressors and Financial Anxiety

Hypothesis 1. This study proposed Hypothesis 1 **- Financial stressors and financial anxiety will be positively associated with the number of debt holdings.** Three different financial stressor variables (e.g., a large income drop, being laid off due to Covid-19, and having difficulty paying bills), as well as financial anxiety were examined. The OLS results revealed that those who experienced a large drop in income, were laid off due to Covid-19, and those who had trouble paying bills held more debts by type, compared to those who did not have these experiences. Thus, the results support Hypothesis 1. In literature, Archuleta et al. (2013) found that total debt was an important factor in determining financial anxiety with higher levels of debt increasing financial anxiety level. However, little research has been conducted looking at the influence of financial stressors and financial anxiety on the type of debt held. Instead, previous

research has focused on debts' effect on financial stress and financial anxiety (Archuleta et al., 2013; Drentea, 2000; Hunter & Heath, 2017).

Financial Literacy

Hypothesis 2. This study proposed Hypothesis 2 - **Financial literacy will be negatively associated with the number of debt holdings.** Financial literacy was measured by three variables (e.g., subjective financial knowledge, objective financial knowledge, and perceived financial capability). This study found that while both objective financial knowledge and perceived financial capability were negatively associated with the number of debts held by type, subjective financial knowledge was not statistically significant. Thus, Hypothesis 2 was partially supported.

These findings suggest an association between an increase in factual financial knowledge and an increase in confidence in one's ability to manage financial matters with a decrease in debt holdings by type. Previous studies have found similar results that an increase in perceived financial capability was associated with a decrease in the number of debts held by type (Allgood & Walstad, 2013; Atlas et al., 2019). While a previous study has shown that objective financial knowledge did not decrease debt burden (Xiao & Yao, 2020), this study found that objective knowledge was associated with a decrease in the number of debts held. Additionally, subjective financial knowledge, or one's feelings on how well they manage their finances, was not significant in its association with the number of debts held. Similar results were found for both borrowers and student loan borrowers (Hales, 2021).

Age and Debt Holdings

Hypothesis 3. This study proposed Hypothesis 3 - **As compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have more debt holdings.** The findings suggested that compared to the Baby Boomer and Silent Generations, MZ generations and Gen-X held more types of debt. Thus, Hypothesis 3 was supported. These findings are consistent with the life cycle theory of savings, suggesting that those in younger generations borrow more to smooth consumption, compared to those in the older generations (Ando & Modigliani, 1963; Xiao & Yao, 2020). The findings of this study are also consistent with the findings in previous studies, suggesting that debt held varied by age and stage of life cycle, with younger age groups holding higher levels of debt than their older age counterparts (Drentea, 2000; Hanson, 2023b; Houle, 2014; Lee et al, 2019; Li & Goodman, 2015; Plagnol, 2011; Xiao, 2020).

Types of Debt and Financial Satisfaction

Hypothesis 4. This study proposed Hypothesis 4 - **Credit card debt, automobile debt, and medical debt will be negatively associated with financial satisfaction, while mortgage debt and student loan debt will be positively associated with financial satisfaction.** Specifically, the results showed that holding credit card debt, automobile debt, and medical debt were negatively associated with levels of financial satisfaction, whereas mortgages and student loans were positively associated with the levels of financial satisfaction. Thus, Hypothesis 4 was supported.

The findings imply that debt perception can play an important role in predicting financial satisfaction. Previous studies found that debt is negatively associated with

financial satisfaction. However, perception of whether a debt is considered a bad debt, or a good debt may change financial satisfaction level. In this study, “bad” debts were considered those with high interest rates, those connected to depreciation values, and those that did not offer a return on investment. “Good” debts were those that helped one accomplish their financial goals and offered long-term benefits to a borrower.

Previous findings vary in their association with type of debt and financial satisfaction. Specifically, durable goods, like mortgages, were associated with higher levels of life satisfaction while credit card debt and medical debt were associated with a decrease in financial satisfaction (Bialowolski & Weziak-Bialowolska, 2021; Drentea, 2000; Kluender et al., 2021). Contrary to the findings of this study, previous studies found that those with student loan debts and mortgages were less likely to be satisfied with their financial condition and that obtaining a new auto loan increased satisfaction level (Aboagye & Jung, 2018; Bialowolski & Weziak-Bialowolska, 2020).

Age and Financial Satisfaction

Hypothesis 5. This study proposed Hypothesis 5- **As compared to older adults (ages 57+), those adults in the young age group (ages 18-40) and those adults in the middle age group (ages 41-56) will have lower levels of financial satisfaction.** The OLS results showed that compared to those in the older age group, those in the middle age group reported lower levels of financial satisfaction than the older age group, whereas those in the young age group reported higher levels of financial satisfaction. These findings suggest that the MZ generations reported higher levels of financial satisfaction than the older age group. However, Gen X had lower levels of financial satisfaction compared to the older age group. Thus, Hypothesis 5 was partially supported.

These findings are inconsistent with Plagnol's (2011) findings in which financial satisfaction steadily increased with age. However, the findings of this study may be consistent with previous research that speculates that changes in financial satisfaction due to age is influenced by shifts in financial values, with those in the young age group concerned with present financial concerns and working to achieve their desired lifestyle, those in the middle age group concerned with meeting current needs and obtaining financial security, and those in the older age group concerned with maintaining their current financial independence (Riitsalu et al., 2023).

Financial Stressors, Financial Literacy, and Debt Holdings across Age

Results showed that among the financial stressor variables, only experiencing difficulty paying bills was a significant predictor of debt holdings for all age groups. These findings may be explained by the life cycle hypothesis of savings. As those in the older age group are entering or are already in retirement, the drops in income and being laid off due to Covid had a relatively lower effect on their debt accumulation. However, experiencing difficulty paying bills may be a larger concern affecting all age groups. These findings are consistent with past research that found that a reduction in hours due to Covid-19, unexpected job losses, increases in monthly bills, and other stressors common to the pandemic increased financial stress felt during the pandemic (Kelley et al., 2023). In the future, financial counselors and policymakers should consider how to best alleviate the burden and educate all age groups on the importance of saving for retirement and living within one's means. Financial anxiety was found to be positively associated with holding more debt types for all age groups. This is consistent with past

research that found that increases in debt levels contribute to financial anxiety (Archuleta et al., 2013).

Financial literacy variables were found to vary in their association with the number of debt holdings across age. Subjective financial knowledge was related to higher levels of debt holdings for those at the young age group. However, objective financial knowledge was not significant in predicting the level of debt holdings for those in the young age group. It may be of interest to note that past research found that subjective knowledge increases when objective knowledge increases and objective knowledge increases with age (Atlas et al., 2019; Henager & Cude, 2016). Furthermore, past research found that when subjective knowledge exceeds objective knowledge, participants may engage in more financially risky behaviors (Atlas et al., 2019; Seay et al., 2017). It may be supposed that those at the young age group have had fewer opportunities for financial education and less experience with financial tools, compared to those of the middle and older age groups. Considering the findings of past research, those at the young age group may be at risk of experiencing financial overconfidence.

Types of Debt and Financial Satisfaction across Age Groups

Holding credit card debt was found to decrease financial satisfaction for all age groups. These findings are consistent with previous studies that found that those without credit card debt had higher levels of financial satisfaction than those with credit card debt (Gutter & Copur, 2011; Hunter & Heath, 2017). Furthermore, previous research found that those who hold credit card debt engaged in financially risky behavior, compared to those without credit card debt (Hunter & Heath, 2017; Paul et al., 2017). Hunter and Heath (2017) pointed out that those with credit card debt were less able to handle times of

economic shock. Based on previous studies, those included in this study who held credit card debt may be at a greater risk of lower financial satisfaction levels due to economic hardships during the COVID-19 pandemic. With more Americans holding credit card debt than any other type of debt, it is important to find ways to reduce the negative impact that credit card debt has on financial satisfaction.

A decrease in financial satisfaction was found for only those in the middle and older age groups who held auto loan debt. The findings of this study add to the literature on how holding auto loans affect financial satisfaction, as there is not much data to be found on this topic. However, the findings of this study are inconsistent with a previous study that found financial satisfaction increased when one obtains an auto loan (Bialowolski & Weziak-Bialowolska, 2020). When considering past research, it may be supposed that while obtaining a loan tied to a needed good increases financial satisfaction in the short term, holding auto loan debt may decrease financial satisfaction in the long term. This may depend on the continued affordability and reliability of the product itself. With typical auto loans extending 5 years or more, the depreciation of the asset means future maintenance payments may be needed. Additionally, the monthly payment increases an individual's debt to income ratio, potentially cutting off access to other loan products, such as the ability to obtain a mortgage.

The findings of this study also revealed that those in the middle and older age groups holding medical debt reported lower levels of financial satisfaction but was not relevant for those in the young age group. This may be due to the relationship between age and health as well as the life cycle stage the young age group is in. Past research reports that those ages 35-64 were more likely to report holding medical debt compared

to other debt types (KFF, 2022). Additionally, previous research found that medical debt decreases financial satisfaction, especially for those without medical insurance and those with children in the household (Batty et al., 2022; Bennett et al., 2021; Consumer Financial Protection Bureau, 2022).

Mortgage debt was found to increase levels of financial satisfaction for those in the young and middle age groups, but not for the older age group. This finding could be due to drops in reports of those holding mortgages after the age of 47 (Plagnol, 2011). These findings are consistent with past research that found holding a mortgage increases financial satisfaction (Bialowolski & Weziak-Bialowolska, 2020; Hales, 2021; Joo & Grable, 2004). Additionally, even though it was not considered statistically relevant, Table 8.3 shows that holding mortgage debt was associated with a decrease in financial satisfaction. Bian et al. (2024) found that homeowners with high loan to value ratios were, in general, more likely to delay retirement. The constraint of high mortgage debt may lead older adults to put off retirement as well as leave little wealth to be drawn on for those in the older age group as they enter a stage of dissaving.

Holding student loan debt was positive in its association with financial satisfaction for those in the young age group only, but not for those in the middle or older age groups. However, previous studies found that, in general, holding student loan debt decreased financial satisfaction (Greenberg & Mogilner, 2021; Robb et al., 2008). Additionally, mediating factors could play a role in financial satisfaction as a previous study revealed that those happy with their intellectual life at school and those who found employment in their field of study were more likely to practice positive financial behaviors (Paul et al., 2017).

Perception of worth may play an increased role for those with student loans. Those who were able to find employment in their field of study may view student loans as a good investment in their human capital, while those who were not able may regret their decision to take out student loans. Additionally, student loans may be more acceptable among those in the younger age cohort as the intention to pay off these loans assumes that those in the middle and older age groups would no longer hold student loan debt. Further, those in the young age group may not have entered repayment on those loans while those in the middle and older age groups with student loan payments must use current resources to pay for past financial decisions.

As for the life-cycle theory of saving and debt holdings, those at the young age group were the most likely to report holding any debt type. However, those in the middle age group were very similar in holding automobile and mortgage debts as those at the young age group. Based on the findings that, when compared to the older age group, the young age group had higher levels of financial satisfaction while the middle age group had lower levels of financial satisfaction, it can be assumed that the young age group had the highest levels of financial satisfaction. However, it may be interesting to note that even though those in the young age group had the highest levels of financial satisfaction, they were more likely to hold all types of debt. The role of debt perception (whether a debt is a “good” debt or “bad” debt) plays in financial satisfaction should be further explored because societal expectation can play a large role in financial satisfaction levels and how these expectations and perceptions of debt holdings change across age.

Financial Stressors, Financial Anxiety, Financial Literacy, and Financial Satisfaction across Age Groups

As for financial stressors and financial satisfaction across age, for those in all three age groups, having a large income drop and difficulty paying bills reported lower levels of financial satisfaction. Previous research found similar findings, suggesting that financial stressors decrease financial satisfaction level (Argabright et al., 2022; Kelley et al., 2023; Tsuchiya et al., 2020). However, among those in the young age group, those who reported being laid off due to Covid-19 reported higher levels of financial satisfaction. This was not a significant variable for those in the middle or older age groups. Findings related to being laid off due to Covid-19 were unexpected in relationship to financial satisfaction. However, this may be due to additional resources put into place during the pandemic in which federal unemployment compensation was increased by 100% (Gwyn, 2022).

As expected, increases in financial anxiety level were found to be associated with decreases in financial satisfaction for all age groups. These findings are consistent with previous literature that focused on the relationship between financial anxiety and financial satisfaction (Archuleta et al., 2013; Fan & Henager, 2021; Lee et al., 2023). The findings suggest that when financial anxiety level is high, financial satisfaction level is low, and when financial satisfaction level is low, financial anxiety level is high. Financial anxiety has been defined as a worry about one's finances and is psychologically deeper than financial stress (Lee et al., 2023; Tsuchiya et al., 2020). It can then be assumed that if one is worried about their finances, they are not satisfied with their financial situation.

Across all age groups, increases in one's subjective assessments of one's financial knowledge were associated with increases in financial satisfaction for all age groups. This finding is as expected. If one assesses their own financial situation to be positive, they are more likely to report increases in financial satisfaction. Increases in levels of perceived financial capability were also associated with increases in financial satisfaction across all three age groups. These findings are consistent with a previous study (Fan & Henager, 2021). In addition, objective financial knowledge was negatively associated with financial satisfaction level across all age groups. This finding suggests that as objective financial knowledge increased, financial satisfaction level decreased. When factual knowledge such as objective financial knowledge increases, if behaviors do not correspond with what one has learned is correct financial behavior, financial satisfaction level may suffer.

Limitations and Direction for Future Research

Employing data from the 2021 National Financial Capability Study (NFCS), this study suggests the important findings related to the number of debt holdings across age and how types of debt is associated with financial satisfaction across age. With the goal of enhancing financial capability of individuals in the U.S., the NFCS data are designed to understand current financial issues prevalent among U.S. households, while including the survey questions related to financial behaviors, financial attitudes, financial knowledge, financial stressors, financial stress, financial anxiety, financial satisfaction, and socio-demographic characteristics. Thus, the NFCS data is ideal in answering questions proposed in this study.

Despite the relevance of the NFCS data in answering the main research questions of the study, there are some limitations that should be acknowledged. First, data came from a secondary data source. To achieve the main objectives of the study, the key variables included in the current study (e.g., financial stressors, financial literacy, the number of debt holdings, and financial satisfaction) might not be perfect while using the data from the secondary source. Specifically, this study uses the debt holding variables by looking at the number of debt types an individual held. However, it did not consider the total amount of debt held or if an individual held more than one of the specific debt types, such as the number of credit cards held.

Second, this study employed cross-sectional data to measure the association between the number of debt holdings and financial satisfaction across age groups. The NFCS has conducted five waves since 2009 to capture change in financial capability of U.S. adults. However, the data of each wave includes cross-sectional data. This means that findings cannot establish cause and effect or analyze behavior across time. Specifically, while findings of this study showed that holding credit card debt was negatively associated with financial satisfaction for all age groups, the current study cannot assess how credit card utilization has changed over time. Future research that employs longitudinal data can provide further details on how debt changes over time.

Third, respondents who responded, “don’t know,” “prefer not to say,” or incomplete answers to key construct variables were not included in the study sample and were excluded from the analysis. The key variables were five debt variables, financial stressor variables, financial anxiety, financial literacy variables, socio-demographic characteristics, and financial satisfaction. While this was done to improve reliability of

results, the exclusion of respondents may skew results and possibly eliminate meaningful results.

Fourth, as one of the major dependent variables, the debt holding variable was created by summing the number of five types of debt and did not consider whether the respondent held more than one of these debts (i.e., having more than one credit card). Also, this study did look at the total balance, monthly debt payments, or debt to income ratio, which may be better measures in predicting financial satisfaction. For instance, those with a higher mortgage payment may experience more financial strain than someone with a lower payment. This same issue would affect each type of debt listed in the model. Furthermore, this study looked at five types of debt when considering financial satisfaction. However, other debt types, such as home equity lines of credit, payday loans, and signature loans, were not included in this study.

Fifth, financial satisfaction level was assessed based on one question in the NFCS study, "overall, thinking of your assets, debts and savings, how satisfied are you with your current personal financial condition?" While previous research has often measured financial satisfaction similarly, there may be a better, more complete way of addressing financial satisfaction or additional questions that can help define financial satisfaction in a more beneficial way.

Finally, this study employed data that was conducted during a global pandemic. While the uniqueness of the time the data collection may be a strength in understanding the effect of financial stressors such as being laid off due to Covid, experiencing large income drops, and difficulty in paying on-going bills on debt holdings and financial satisfaction at a specific point in time, uniqueness could restrict generalization. However,

while the financial stressor variables may be specific to the time of data collection, the other variables used are not.

Implications

As U.S. debt grows, it is crucial and timely to understand what factors contribute to debt holdings and how holding certain debt types may sway financial satisfaction level. This study examined factors associated with the number of debts held and financial satisfaction. This study further investigated what role age played in debt type accumulation and financial satisfaction across age (e.g., young, middle, and older age groups). One of the main goals of the study was to provide important insights that can be used by financial educators, financial counselors, and other financial professionals who work with clients to improve their financial circumstances. Further, while this study employ data that were collected during the Covid-19 pandemic, the findings may provide important insights for individuals, policy makers, and financial practitioners in understanding the associations between unique stressors, unexpected events in the U.S. due to Covid, debt holdings, and financial satisfaction.

Financial Educators

The findings of this study can be used to inform financial educators in developing financial education programs. This study informed that financial literacy played a critical role in decreasing debt holdings. However, objective knowledge, subjective knowledge, and perceived financial capability were found to be associated differently and with differing significance with the number of debt types held across age. Thus, the findings of this study may be used to inform new strategies in financial education. It was found that

objective financial knowledge and perceived financial capability were associated with decreased debt levels for all age groups. Financial educators may want to develop debt reduction programs that focus on increasing objective knowledge and perceived capability. Subjective financial knowledge was significant in its associated with an increase in the number of debt types held for those in the youngest age group but only significant for decreasing debt for those in the older age group. Financial educators may need to caution those in the earlier stages of life against financial overconfidence.

As for the findings on the associations between financial literacy and financial satisfaction, the results suggested that subjective financial knowledge and perceived financial capability increased financial satisfaction, while objective financial knowledge decreased financial satisfaction. Based on these findings, financial literacy programs should focus on education with an emphasis in increasing financial capability and strengthening financial self-confidence. For example, the findings of this study can aid in the creation of financial literacy programs targeted toward debt reduction based on improving financial satisfaction levels.

Using the findings of this study, financial educators can provide information on the role debt perception plays in financial satisfaction. Creators of financial literacy programs should be mindful to recognize the stage of life and its influence on the perception of what is considered a “good” debt and what is considered a “bad” debt. Additionally, financial educators should consider including education on how the perception of a debt may shift from positive to negative, or vice versa, when one’s stage of life changes. For example, mortgage debt was found to be significant and positive in its association with financial satisfaction for those in the young and middle age groups.

However, a negative association was found for those in the older age group (though not a significant one). This shift in association in financial satisfaction demonstrates the need to educate clients on how holding a debt obtained in earlier stages of the life cycle can influence one's financial satisfaction in later stages of the life cycle.

Additional education may consider targeting how debt perception changes at different life stages for specific vulnerable populations. Based on the findings of this study, these vulnerable groups could include the MZ generation (age 18-40), Gen-Xers (age 41-56), females, racial/ethnic minorities (Black and Hispanic populations), those who had some college education without a degree, employed individuals, and those who are making more than $25,000 annually. Financial educators can use the findings of this study to create programs to address concerns specific to different stages of life along with educating clients to prepare for future life stages.

Financial Counselors and Financial Practitioners

The findings of this study may aid financial counselors and financial practitioners who are working with clients. Traditionally, the accepted strategy for debt reduction practices focuses on reducing debt by paying off those with the lowest balance or the highest interest rate first, commonly referred to as debt snowball and debt avalanche methods (Kagan, 2024). However, based on the findings of this study, focusing on the elimination of debt based on its influence on financial satisfaction may be a better approach with quicker results on reducing financial stress and anxiety levels. For example, the findings of this study imply that debt reduction should be targeted towards credit card, auto loans, and medical debt to achieve improved financial satisfaction before any attempt to pay off mortgage and student loan debt. Counseling clients with this

approach may lead to stronger motivation to reduce debt and the achievement of short- and long-term financial goals.

Additionally, financial counselors can use this study to take an approach toward goal setting and debt reduction that considers current age and stage of life as well as preparation for future life stages for each client individually. For those in the young age group, credit card debt and medical debt were negative in their association with financial satisfaction; however, only credit card debt was significant and negative in its association with financial satisfaction. For those in the middle age group, credit card debt, auto loan debt, and medical debt were all significant and negative in its association with financial satisfaction and only mortgage debt was positive in its association with financial satisfaction. Finally, for those in the older age group, all debt types were negatively associated with financial satisfaction, but only credit card debt, auto loan debt, and medical debt were significant.

This study only focused on whether or not the respondent held a debt type. This study did not consider the balance of debt due or holding multiple debts of the same type (such as two auto loans). Financial counselors should consider how holding more debt in a specific area could impact financial satisfaction and how total balance of debt due could lead to a buildup of financial stress and reduce financial satisfaction. Instead, financial counselors should consider resources available to each individual client and work toward increasing financial satisfaction so that they can achieve their financial goals. Further, financial counselors could focus on reducing debt by types that negatively impact financial satisfaction first such as paying off all credit card debts and then, moving to auto loan debt and medical debt.

According to the findings of this study, those holding mortgages and student loan debt reported higher levels of financial satisfaction. These findings imply a need for financial professionals to focus on helping clients successfully hold mortgage and student loan debt by increasing financial capability and financial self-confidence. Additionally, financial practitioners should consider how the impact of the holding debts negatively associated with financial satisfaction may be offset by the inclusion of other wealth building financial assets such as savings accounts, equity in a home (owning a home through a mortgage), and investment in human capital (student loan debt).

The findings of this study also show holding certain debt types influenced financial satisfaction differently at different ages across the life cycle. To maximize positive effects on financial satisfaction, these findings should be considered when financial counselors and professionals implement debt management programs. The findings of this study support the need to caution all age groups against the negative impacts of credit card debt on financial satisfaction. In addition, financial practitioners may want to consider counseling their clients on the impact holding different debt types may play in financial satisfaction in current and future life stages.

Policymakers

The findings of this study can inform policymakers on the associations between financial literacy, debt holdings, and financial satisfaction. The result of this study can aid policymakers in understanding the unique circumstances happening at the time of data collection, namely the Covid-19 global pandemic. Specifically, the findings of this study may offer insights into how certain financial stressors during the pandemic may be alleviated with governmental programs. For example, governmental policies and

programs that were enacted during this time, such as the expansion of unemployment income and programs offered to those experiencing a lay off due to Covid-19, may be part of the reason that this financial stressor did not negatively impact financial satisfaction levels.

Based on the findings of this study, policymakers should be informed about changes to the economic conditions of the nation and of its people. For example, policymakers could look at expanding programs that offer debt relief during times of economic hardship. Additionally, with individual debt burdens increasing, creating legislation and funding programs that focus on increasing financial literacy and decreasing debt burden may provide greater benefits that can reduce reliability on other governmental programs.

Further, this study found that increases in objective financial knowledge and perceived financial capability were associated with a decrease in the number of debt holdings. Policymakers should consider these findings to promote new programs and regulations on financial education. In 2023, 41 states had legislation pending on financial literacy (National Conference of State Legislatures, 2023). In 2024, it was found that 35 states require students to take a personal finance course before they can graduate high school, an addition of 12 states from 2022 (Council for Economic Education, 2024).

Higher education institutions often offer financial education as an elective. However, findings of this study suggest that young adults hold more debt types, compared to older adults. This means that early intervention and education are imperative in forming positive financial attitudes and behaviors towards debt. Policymakers could

use findings from this study to make a case for increasing and expanding financial education offered to those in elementary, middle, and high schools.

Additionally, findings of this study may aid in creating programs targeted to those at different stages in the life cycle. For example, the findings of this study indicated that medical debt was significant in its association with lower levels of financial satisfaction. However, medical debt was not a significant factor associated with financial satisfaction for those in the older age group. This is likely due to the availability of Medicare for many in the older age group. Expansions in programs that result in the reduction of medical debt for those in other age groups may help to increase financial satisfaction across all age groups. Lastly, it was found that credit card debt was significant in its association with lower levels of financial satisfaction for all age groups. Future regulation may be needed to restrain consumer debts that do not offer wealth building opportunities and to provide funding for programs that provide a path for vulnerable populations to gain access to wealth building assets.

Conclusion

Utilizing credit and debt can provide resources to improve financial situations since leveraging debt can increase buying power to purchase homes, gain education, and offer additional funds in emergencies. However, over indebtedness places financial strain on one's current financial resources and cuts into future income, savings, and consumption ability. This study sought to examine the role that financial stressors, financial anxiety, and financial literacy play on debt accumulation and how debt

accumulation by type varies across ages. This study further investigated the role types of debt play in one's financial satisfaction and how financial satisfaction differs across age.

The findings of this study supported most of the hypotheses proposed in the study. For example, financial stressors and financial anxiety were positively associated with the number of debt holdings. Similarly, while credit card debt, automobile debt, and medical debt were negatively associated with financial satisfaction, mortgage debt and student loan debt were positively associated with financial satisfaction. Further, the findings of this study (e.g., those adults in the young age group or those adults in the middle age group had higher levels of debt) are consistent with the assumption by the life cycle theory of savings.

Little is known about the impact certain debts have on financial satisfaction, while employing recent data. In this thesis, while employing data from the 2021 National Financial Capability Study (NFCS), the significant findings of this study can add to existing literature on holding debt and financial satisfaction. The findings can also provide important insights into debt and financial satisfaction for financial educators, financial counselors, financial practitioners, and policymakers. Specifically, the findings of this study can provide insight for these professionals regarding the factors influencing debt accumulation, types of debt affecting financial satisfaction, and how the associations between debt holdings and financial satisfaction vary across age. Additionally, the findings of this study may provide financial counselors and financial professionals with insight that borrowers may face when leveraging future income.

The findings of this study also illustrate how debt perceptions, such as the perceptions of "good" debt and "bad" debt, play an important role in the type of debt held

and their associations with financial satisfaction. As explained in the literature review, debts that offer a return on investment, like mortgages and student loans, were found to be positively associated with financial satisfaction. On the other hand, debts that offer little or no return, like credit card debt, auto loan debt, and medical debt, were found to be negatively associated with financial satisfaction. Further studies can be conducted on the association between perception of debt and credit utilization in the U.S.

The findings of this study further suggest that financial literacy plays an important role in debt management. Improving financial literacy and financial capability can increase self-confidence in debt management and financial decisions, can help reduce the number of debt holdings, and, eventually, can increase financial satisfaction. Thus, it is crucial for financial educators and professionals to continuously develop high quality financial education programs that can enhance individuals' financial literacy. Further, when financial counselors and financial practitioners are working with their clients with high amounts of debt, they should include the findings of the current study (e.g., how debt types are associated with financial satisfaction) in their curriculum, and guide and coach their clients with more effective debt management practices.

Lastly, the findings of this study can provide important insights for individuals, families, and the whole U.S. society. In the wake of the Covid-19 pandemic, changes in the financial landscape of the U.S. had impacts on individuals' and families' financial lives; therefore, the negative financial experiences during Covid should be included as an important lesson at the individual level as well as the societal level. Reflecting on the adverse financial experience could help individuals improve their financial situation. It is imperative for policymakers to support financial educators to create financial skill

development programs and tools that can aid in reducing the number of debt types held and increasing financial satisfaction for individuals and families in the U.S.

REFERENCES

Aboagye, J., & Jung, J. Y. (2018). Debt Holding, financial behavior, and financial satisfaction. *Journal of Financial Counseling and Planning*, *29*(2), 208–218. https://doi.org/10.1891/1052-3073.29.2.208

Achtziger, A., Hubert, M., Kenning, P., Raab, G., & Reisch, L. (2015). Debt out of control: The links between self-control, compulsive buying, and real debts. *Journal of Economic Psychology*, *49*, 141–149. https://doi.org/10.1016/j.joep.2015.04.003

Addo, F. R., Houle, J. N., & Simon, D. (2016). Young, black, and (still) in the red: Parental wealth, race, and Student Loan Debt. *Race and Social Problems*, *8*(1), 64–76. https://doi.org/10.1007/s12552-016-9162-0

Akin, J. (2023, April 15). *Good debt vs. bad debt: What's the Difference?* Experian. https://www.experian.com/blogs/ask-experian/good-debt-vs-bad-debt-whats-the-difference/

Alvarez, J. (2020, July 20). *Good debt vs. bad debt: Why what you've been told is probably wrong*. CNBC. https://www.cnbc.com/2020/07/20/good-debt-vs-bad-debt-why-what-youve-been-told-is-probably-wrong.html

Ando, A., & Modigliani, F. (1963). The "Life Cycle" Hypothesis of Saving: Aggregate Implications and Tests. *The American Economic Review*, *53*(1), 55–84. http://www.jstor.org/stable/1817129

Archuleta, K. L., Britt, S. L., Tonn, T. J., & Grable, J. E. (2011). Financial satisfaction and financial stressors in marital satisfaction. *Psychological Reports*, *108*(2), 563–576. https://doi.org/10.2466/07.21.pr0.108.2.563-576

Archuleta, K. L., Dale, A., & Spann, S. M. (2013). College students and financial distress: Exploring debt, financial satisfaction, and financial anxiety. *Journal of Financial Counseling and Planning*, *24*(2), 50–62.

Archuleta, K. L., Mielitz, K. S., Jayne, D., & Le, V. (2020). Financial goal setting, financial anxiety, and solution-focused financial therapy (SFFT): A quasi-experimental outcome study. *Contemporary Family Therapy. 42*(1), 68-76. 10.1007/s10591-019-09501-0

Argabright, S. T., Tran, K. T., Visoki, E., DiDomenico, G. E., Moore, T. M., & Barzilay, R. (2022). Covid-19-related financial strain and adolescent mental health. *The Lancet Regional Health - Americas*, *16*, 100391. https://doi.org/10.1016/j.lana.2022.100391

Atlas, S. A., Lu, J., Micu, P. D., & Porto, N. (2019). Financial knowledge, confidence, credit use, and financial satisfaction. *Journal of Financial Counseling and Planning*, *30*(2), 175–190. https://doi.org/10.1891/1052-3073.30.2.175

Bian, X., Lin, Z., & Zhu, F. (2024). Housing leverage, home value, and retirement. Real Estate Economics, 52(4), 1103–1139. https://doi.org/10.1111/1540-6229.12492

Batty, M., Gibbs, C., & Ippolito, B. (2022). Health Insurance, medical debt, and financial well-being. *Health Economics*, *31*(5), 689–728. https://doi.org/10.1002/hec.4472

Bennett, N., Eggleston, J., Mykyta, L., & Sullivan, B. (2021, April 7). *19% of U.S. households could not afford to pay for medical care right away*. United States Census Bureau. https://www.census.gov/library/stories/2021/04/who-had-medical-debt-in-united-states.html

Bialowolski, P., & Weziak-Bialowolska, D. (2021). Good credit, bad credit: The differential role of the sources of debt in life satisfaction. *Journal of Consumer Affairs*, *55*(3), 967–994. https://doi.org/10.1111/joca.12388

Bozick, R., & Estacion, A. (2014). Do student loans delay marriage? debt repayment and family formation in young adulthood. *Demographic Research*, *30*, 1865–1891. https://doi.org/10.4054/demres.2014.30.69

Braun Santos, D., Mendes-Da-Silva, W., Flores, E., & Norvilitis, J. M. (2015). Predictors of credit card use and perceived financial well-being in female college students: A Brazil-united states comparative study. *International Journal of Consumer Studies*, *40*(2), 133–142. https://doi.org/10.1111/ijcs.12234

Brüggen, E., Hogreve, J., Holmlund, M., Kabadayi, S., & Löfgren, M. (2017). Financial well-being: A conceptualization and research agenda. *Journal of Business Research*, *79*, 228–237. https://doi.org/10.1016/j.jbusres.2017.03.013

Capital One. (2023, March 21). *Good debt vs. bad debt: What's the difference?* Capital One. https://www.capitalone.com/learn-grow/money-management/good-debt-vs-bad-debt/

Center for Microeconomic Data. (2023a). Quarterly report on household debt and credit: 2022: Q4. Federal Reserve Bank of New York Research and Statistics Group. https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/HHDC_2022Q4

Center for Microeconomic Data. (2023b). Quarterly report on household debt and credit: 2023: Q 3. Federal Reserve Bank of New York Research and Statistics Group.

https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/HHDC_2023Q3

Çera, G., Khan, K. A., Belas, J., & Ribeiro, H. N. (2020). The role of financial capability and culture in financial satisfaction. *Economic Papers: A Journal of Applied Economics and Policy*, *39*(4), 389–406. https://doi.org/10.1111/1759-3441.12299

CFPB Office for Older Americans. (2021, November 15). *Data spotlight: Medical debt among older adults before the pandemic*. Consumer Financial Protection Bureau. https://www.consumerfinance.gov/data-research/research-reports/data-spotlight-medical-debt-among-older-adults-before-pandemic/full-report/

Charron-Chénier, R., & Seamster, L. (2018). (Good) Debt is an asset. *Contexts*, *17*(1), 88–90. https://doi.org/10.1177/1536504218767126

Chase. (2020, December 18). *Good debt vs bad debt: Know the difference*. https://www.chase.com/personal/mortgage/education/financing-a-home/good-vs-bad-debt

Consumer Financial Protection Bureau. (2022). *Medical debt burden in the United States*. https://files.consumerfinance.gov/f/documents/cfpb_medical-debt-burden-in-the-united-states_report_2022-03.pdf

Coste, T., Henchoz, C., & Wernli, B. (2020). Debt and subjective well-being: Does the type of debt matter? *Swiss Journal of Sociology*, *46*(3), 445–465. https://doi.org/10.2478/sjs-2020-0022

Council for Economic Education. (2024, February 26). *Financial education requirements soar in America's high schools.* https://www.councilforeconed.org/financial-education-requirements-soar-in-americas-high-

schools/#:~:text=The%202024%20Survey%20found%20that,up%20by%2012%20since%202022.

Cubides, E., & O'Brien, S. (2023, May 5). *2023 findings from the Diary of Consumer Payment Choice*. The Federal Reserve Financial Serivces. https://www.frbsf.org/cash/publications/fed-notes/2023/may/2023-findings-from-the-diary-of-consumer-payment-choice/

Delgadillo, L. M. (2014). Financial clarity: education, literacy, capability, counseling, planning, and coaching. *Family and Consumer Sciences Research Journal*, *43*(1), 18–28. https://doi.org/10.1111/fcsr.12078

DeMatteo, M. (2023, May 23). *The average American has $90,460 in debt-here's how much debt Americans have at every age*. CNBC. https://www.cnbc.com/select/average-american-debt-by-age/

Depietro, A., & Lapera, G. (2023, June 22). *Average American debt by age and generation in 2022: A Credit Karma Study*. Intuit Credit Karma. https://www.creditkarma.com/insights/i/average-debt-by-age

Dettling, L., & Lambie-Hanson, L. (2021, March 4). *Why is the default rate so low? How economic conditions and public policies have shaped mortgage and auto delinquencies during the COVID-19 pandemic*. The Board of Governors of the Federal Reserve System. https://www.federalreserve.gov/econres/notes/feds-notes/why-is-the-default-rate-so-low-20210304.html

Dew, J. (2011). The association between consumer debt and the likelihood of divorce. *Journal of Family and Economic Issues*, *32*(4), 554–565. https://doi.org/10.1007/s10834-011-9274-z

Dickler, J. (2021, January 29). *Another consequence of Covid: A world without cash*. CNBC. https://www.cnbc.com/2021/01/29/consumers-abandon-cash-altogether-because-of-covid.html

Drentea, P. (2000). Age, debt, and anxiety. *Journal of Health and Social Behavior*, *41*(4), 437. https://doi.org/10.2307/2676296

Equifax. (n.d.). *Understanding credit: Good debt vs. bad debt*. https://www.equifax.com/personal/education/credit/report/understanding-credit-good-debt-vs-bad-debt/

Fan, L., & Babiarz, P. (2019). The determinants of subjective financial satisfaction and the moderating roles of gender and marital status. *Family and Consumer Sciences Research Journal*, *47*(3), 237–259. https://doi.org/10.1111/fcsr.12297

Fan, L., & Henager, R. (2021). A structural determinants framework for financial well-being. *Journal of Family and Economic Issues*, *43*(2), 415–428. https://doi.org/10.1007/s10834-021-09798-w

Fay, B. (2023a, April 3). *Good debt vs. bad debt - types of good and bad debts*. Debt.org. https://www.debt.org/advice/good-vs-bad/

Fay, B. (2023b, April 3). *Key Figures Behind America's Consumer Debt*. Debt.org. https://www.debt.org/faqs/americans-in-debt/

Fay, B. (2023c, July 21). *Demographics of Debt*. Debt.org. https://www.debt.org/faqs/americans-in-debt/demographics/

Federal Reserve Bank of New York. (2023, August). *Household debt and credit report*. Household Debt and Credit Report. https://www.newyorkfed.org/microeconomics/hhdc

Fidelity Smart Money. (2023, October 9). *Good debt vs bad debt: How to tell the difference*. Fidelity. https://www.fidelity.com/learning-center/smart-money/good-debt-vs-bad-debt

Financial Industry Regulatory Authority (FINRA). (2022) *2021 National Financial Capability Study.* [Data set].

Financial Industry Regulatory Authority (FINRA). (n.d.) *About Us: Mission.* Retrieved November 28, 2023, https://finrafoundation.org/about-us

Friedline, T., Chen, Z., & Morrow, S. (2020). Families' Financial Stress & Well-being: The importance of the economy and Economic Environments. *Journal of Family and Economic Issues*, *42*(S1), 34–51. https://doi.org/10.1007/s10834-020-09694-9

Fulford, S., & Schuh, S. D. (2017). Credit card utilization and consumption over the life cycle and business cycle. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3124451

Fulford, S., & Schuh, S. D. (2018, February 19). *Credit card utilization and consumption over the life cycle and business cycle*. by Scott Fulford, Scott D. Schuh: SSRN. http://dx.doi.org/10.2139/ssrn.3124451

Gerrans, P., Speelman, C., & Campitelli, G. (2013). The relationship between Personal Financial Wellness and financial wellbeing: A structural equation modelling approach. *Journal of Family and Economic Issues*, *35*(2), 145–160. https://doi.org/10.1007/s10834-013-9358-z

Global Financial Literacy Excellence Center (GFLEC). (n.d.) *National Financial Capability Study.* Retrieved November 28, 2023 from https://gflec.org/initiatives/national-financial-capability-study/

Grable, J. E. (2016). Financial risk tolerance. *Handbook of Consumer Finance Research*, 19–31. https://doi.org/10.1007/978-3-319-28887-1_2

Greenberg, A. E., & Mogilner, C. (2021). Consumer debt and satisfaction in life. *Journal of Experimental Psychology: Applied*, *27*(1), 57–68. https://doi.org/10.1037/xap0000276

Gutter, M., & Copur, Z. (2011). Financial behaviors and financial well-being of college students: Evidence from a national survey. *Journal of Family and Economic Issues*, *32*(4), 699–714. https://doi.org/10.1007/s10834-011-9255-2

Gwyn, N. (2022, March 24). *Historic unemployment programs provided vital support to workers and the economy during pandemic, offer roadmap for future reform*. Center on Budget and Policy Priorities. https://www.cbpp.org/research/economy/historic-unemployment-programs-provided-vital-support-to-workers-and-the-economy#:~:text=Federal%20Pandemic%20Unemployment%20Compensation%20(FPUC,2020%20to%20September%203%2C%202021.

Hansen, T., Slagsvold, B., & Moum, T. (2008). Financial satisfaction in old age: A satisfaction paradox or a result of accumulated wealth? *Social Indicators Research*, *89*(2), 323–347. https://doi.org/10.1007/s11205-007-9234-z

Hanson, M. (2023a, May 30). *Average student loan payment.* Education Data Initiative. https://educationdata.org/average-student-loan-payment

Hanson, M. (2023b, August 3). *Average student loan debt by age*. Education Data Initiative. https://educationdata.org/student-loan-debt-by-age

Hanson, M. (2023c, August 20). *Student loan debt statistics.* Education Data Initiative. https://educationdata.org/student-loan-debt-statistics

Hawkins, B. P., & Zuiker, V. S. (2019). Financial counselors' experiences working with clients of color: Lessons of cultural awareness. *Journal of Financial Counseling and Planning*, *30*(1), 6–17. https://doi.org/10.1891/1052-3073.30.1.6

Houle, J. (2014). A generation indebted: Young adult debt across three cohorts. *Social Problems*, *61*(3), 448–465. https://doi.org/10.1525/sp.2014.12110

Hsieh, C. M. (2003). Income, age, and financial satisfaction. *The International Journal of Aging and Human Development*, *56*(2), 89–112. https://doi.org/10.2190/kfyf-pmeh-klqf-el6k

Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, *44*(2), 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x

Hwang, H., & Park, H. I. (2022b). The relationships of financial literacy with both financial behavior and financial well-being: Meta-analyses based on the Selective Literature Review. *Journal of Consumer Affairs*, *57*(1), 222–244. https://doi.org/10.1111/joca.12497

Joo, S., & Grable, J. E. (2004). An exploratory framework of the determinants of financial satisfaction. *Journal of Family and Economic Issues*, *25*(1), 25–50. https://doi.org/10.1023/b:jeei.0000016722.37994.9f

Kagan, J. (2024, July 2). *Debt snowball method: How it works to pay off debt.* Investopedia. Retrieved July 8, 2024, from https://www.investopedia.com/terms/s/snowball.asp

Keese, M. (2012). Who feels constrained by high debt burdens? subjective vs. objective measures of household debt. *Journal of Economic Psychology*, *33*(1), 125–141. https://doi.org/10.1016/j.joep.2011.08.002

Kelley, H. H., Lee, Y., LeBaron-Black, A., Dollahite, D. C., James, S., Marks, L. D., & Hall, T. (2023). Change in financial stress and relational wellbeing during COVID-19: Exacerbating and alleviating influences. *Journal of Family and Economic Issues*, *44*, 34–52. https://doi.org/10.1007/s10834-022-09822-7

KFF. (2022, March 10). *1 in 10 adults owe medical debt, with millions owing more than $10,000*: *Black adults, those in poor health, and people living with disabilities are most likely to carry significant medical debt [Press release]*. https://www.kff.org/health-costs/press-release/1-in-10-adults-owe-medical-debt-with-millions-owing-more-than-10000/#:~:text=People%20ages%2035%2D49%20

Kim, K. T., Wilmarth, M. J., & Henager, R. (2017). Poverty levels and debt indicators among low-income households before and after the Great Recession. *Journal of Financial Counseling and Planning*, *28*(2), 196–212. https://doi.org/10.1891/1052-3073.28.2.196

Kluender, R., Mahoney, N., Wong, F., & Yin, W. (2021). Medical debt in the US, 2009-2020. *JAMA*, *326*(3), 250–256. https://doi.org/10.1001/jama.2021.8694

Knueven, L. (2023, September 29). *Average American debt: Household debt statistics*. Business Insider. https://www.businessinsider.com/personal-finance/average-american-debt

Lee, Y. G., & Dustin, L. (2021). Explaining financial satisfaction in marriage: The role of financial stress, financial knowledge, and financial behavior. *Marriage & Family Review*, *57*(5), 397-421.

Lee, J. M., Lee, Y. G., & Kim, S. (2019). Loan type and debt delinquency among millennial and non-millennial households. *Family and Consumer Sciences Research Journal*, *47*(4), 342–358. https://doi.org/10.1111/fcsr.12315

Lee, J. M., Rabbani, A., Heo, W. (2023) Examining financial anxiety focusing on Interactions between financial knowledge and financial self-efficacy. *Journal of Financial Therapy, 14*(1) 2. https://doi.org/10.4148/1944-9771.1279

Lee, Y. G., Kelley, H. H., & Lee, J. M. (2023). Untying financial stress and financial anxiety: implications for research and financial practitioners. *Journal of Financial Therapy*, *14*(1). https://doi.org/10.4148/1944-9771.1293

Letkiewicz, J. C., & Heckman, S. J. (2017). Homeownership among young Americans: A look at student loan debt and behavioral factors. *Journal of Consumer Affairs*, *52*(1), 88–114. https://doi.org/10.1111/joca.12143

Li, J., Jiao, C., Nicholas, S., Wang, J., Chen, G., & Chang, J. (2020). Impact of medical debt on the financial welfare of middle- and low-income families across China. *International Journal of Environmental Research and Public Health*, *17*(12), 4597. https://doi.org/10.3390/ijerph17124597

Li, W., & Goodman, L. (2015, November 16). *Americans' debt styles by age and over time*. Urban Institute. https://www.urban.org/research/publication/americans-debt-styles-age-and-over-time

Loftsgordon, A. (2023, August 31). *Credit protections under the Coronavirus Cares Act*. Nolo. https://www.nolo.com/legal-encyclopedia/credit-protections-under-the-coronavirus-cares-act.html#:~:text=Under%20the%20CARES%20Act%2C%20athe%20time%20of%20the%20agreement

Moore, R. (2018, August 9). *Employee debt linked to lower work productivity*. PLANSPONSOR. https://www.plansponsor.com/employee-debt-linked-lower-work-productivity/

National Conference of State Legislatures. (2023, May 2). *Financial literacy 2023 legislation*. https://www.ncsl.org/financial-services/financial-literacy-2023-legislation

Statista Research Department. (2023, August 29). *Monthly inflation rate U.S. 2023*. Statista. Retrieved September 8, 2023, from https://www.statista.com/statistics/273418/unadjusted-monthly-inflation-rate-in-theus/#:~:text=More%20information%20on%20U.S.%20inflation, has%20weakened%20in%20recent%20years.

Opperman, M. (2023, March 22). *Examples of good debt vs. bad debt*. Credit.org. https://credit.org/blog/good-debt-vs-bad-debt/

Owusu, G. M. (2021). Predictors of financial satisfaction and its impact on psychological wellbeing of individuals. *Journal of Humanities and Applied Social Sciences*, *5*(1), 59–76. https://doi.org/10.1108/jhass-05-2021-0101

Paul, M., Nolan, J., & Smith-Hunter, A. (2017). Financially at Risk: A look at College Students' Credit Card Usage. *Journal of Higher Education Theory and Practice*, *17*(5), 110–128.

Payne, P., Kalenkoski, C. M., & Browning, C. (2019). Risk tolerance and the financial satisfaction of Credit Card Users. *Journal of Financial Counseling and Planning*, *30*(1), 110–120. https://doi.org/10.1891/1052-3073.30.1.110

Pettinger, T. (2019, December 16). *Life-cycle hypothesis*. Economics Help. https://www.economicshelp.org/blog/27080/concepts/life-cycle-hypothesis/

Pew Research Center. (2015, September 3). *The whys and hows of generations research*. Pew Research Center - U.S. Politics & Policy. https://www.pewresearch.org/politics/2015/09/03/the-whys-and-hows-of-generations-research/#:~:text=Understanding%20what%20drives%20generational%20differences,public%20attitudes%20are%20being%20shaped.

Piao, Y., Li, M., Sun, H., & Yang, Y. (2023). Income inequality, household debt, and consumption growth in the United States. *Sustainability*, *15*(5), 3910. https://doi.org/10.3390/su15053910

Pino, I. (2022, October 28). *Good debt vs. bad debt*. Bankrate. https://www.bankrate.com/personal-finance/debt/good-debt-vs-bad-debt/

Plagnol, A. C. (2011). Financial satisfaction over the life course: The influence of assets and liabilities. *Journal of Economic Psychology*, *32*(1), 45–64. https://doi.org/10.1016/j.joep.2010.10.006

Pokora, B. (2023, October 31). *Credit card statistics and trends 2023*. Forbes. Retrieved November 8, 2023 from https://www.forbes.com/advisor/credit-cards/credit-card-statistics/#sources_section

Pyles, S. (2023, February 21). *Good debt vs. bad debt: Examples and solutions*. NerdWallet. https://www.nerdwallet.com/article/finance/good-debt-vs-bad-debt

Rae, M., Claxton, G., Amin, K., Wager, E., Ortaliza, J., & Cox, C. (2022, March 23). *The burden of medical debt in the United States*. Peterson-KFF Health System Tracker. https://www.healthsystemtracker.org/brief/the-burden-of-medical-debt-in-the-united-states/#Share%20of%20adults%20who%20have%20more%20than%20$250%20in%20medical%20debt,%20by%20demographic,%202019

Ramsey Solutions. (2024, March 11). *Which states require financial literacy for high school students?* https://www.ramseysolutions.com/financial-literacy/states-require-financial-literacy-in-high-school

Robb, C. A. (2007). College students and credit card use: The effect of personal financial knowledge on debt behavior (Publication No. 3349058). [Doctoral dissertation, University of Missouri-Columbia]. ProQuest Dissertations and Theses Global.

Robb, C. A, & Sharpe, D. L. (2009). Effect of personal financial knowledge on college students' credit card behavior. *Journal of Financial Counseling and Planning*, *20*(1), 25–43.

Rodrigues, M., Silva, R., & Franco, M. (2023). Covid-19: Financial stress and well-being in families. *Journal of Family Issues*, *44*(5), 1254–1275. https://doi.org/10.1177/0192513x211057009

Rosenburg, D. (2023, Nov 7). *Good debt vs. bad debt: It's all about targeting your goals*. Britannica Money. Retrieved November 8, 2023 from https://www.britannica.com/money/good-debt-vs-bad-debt

Rothstein, R. (2023, November 3). *Housing market predictions for 2023: When will home prices be affordable again?* Forbes. https://www.forbes.com/advisor/mortgages/real-estate/housing-market-predictions/

SAS Institute (2013). *SAS 9.4*. SAS Institute Inc.

Selenko, E., & Batinic, B. (2011). Beyond debt. A moderator analysis of the relationship between perceived financial strain and Mental Health. *Social Science & Medicine*, *73*(12), 1725–1732. https://doi.org/10.1016/j.socscimed.2011.09.022

Škreblin Kirbiš, I., Vehovec, M., & Galić, Z. (2017). Relationship between financial satisfaction and Financial Literacy: Exploring Gender Differences. *Drustvena Istrazivanja*, *26*(2), 165–185. https://doi.org/10.5559/di.26.2.02

Smith, L. (2023, June 29). *Debt management guide*. Investopedia. Retrieved July 14, 2023 from https://www.investopedia.com/articles/pf/12/good-debt-bad-debt.asp

Stuart, C. (2023, October 23). *Mortgage delinquency rates rise in September 2023, breaking prolonged stability*. National Mortgage Professional. https://national mortgageprofessional.com/news/mortgage-delinquency-rates-rise-september-2023-breaking-prolonged-stability#:~:text=data%20indicates%20an%20 upward%20trend,year%2Dover%2Dyear%20increase.

Sussman, A. B., & Shafir, E. (2011). On assets and debt in the psychology of perceived wealth. *Psychological Science*, *23*(1), 101–108. https://doi.org/10.1177/ 0956797611421484

Tansel, Y., & DeVaney, S. A. (2005). Household debt over the life cycle. *Financial Services Review*, *14*, 285–304.

Theodos, B., Kalish, E., McKernan, S.-Ma., & Ratcliffe, C. (2014). Do financial knowledge, behavior, and well-being differ by gender. *Urban Institute*, 1–8.

Trading Economics. (2023). *United States Debt Balance Auto Loans.* Retrieved October 20, 2023, from https://tradingeconomics.com/united-states/debt-balance-auto-loans

Tran, A. G., Mintert, J. S., Llamas, J. D., & Lam, C. K. (2018). At what costs? student loan debt, debt stress, and racially/ethnically diverse college students' perceived health. *Cultural Diversity and Ethnic Minority Psychology*, *24*(4), 459–469. https://doi.org/10.1037/cdp0000207

Tsuchiya, K., Leung, C. W., Jones, A. D., & Caldwell, C. H. (2020). Multiple financial stressors and serious psychological distress among adults in the USA. *International Journal of Public Health*, *65*(3), 335–344. https://doi.org/10.1007/s00038-020-01354-x

Walks, A. (2018). Driving the poor into debt? Automobile loans, transport disadvantage, and automobile dependence. *Transport Policy*, *65*, 137–149. https://doi.org/10.1016/j.tranpol.2017.01.001

Xiao, J. J. (2016). Consumer financial capability and wellbeing. In J. J. Xiao (Ed.), *Handbook of Consumer Finance Research* (2nd ed., pp 3–17). Springer. https://doi.org/10.1007/978-3-319-28887-1_1

Xiao, J. J., & Kim, K. T. (2021). The able worry more? Debt delinquency, financial capability, and financial stress. *Journal of Family and Economic Issues*, *43*(1), 138–152. https://doi.org/10.1007/s10834-021-09767-3

Xiao, J. J., & Yao, R. (2020). Debt types and burdens by family structures. *International Journal of Bank Marketing*, *38*(4), 867–888. https://doi.org/10.1108/ijbm-07-2019-0262

APPENDIX

Appendix A.

Key Variables of Conceptual Framework in Survey Questions from 2021 NFCS

Key Independent Variables		
IV 1 Types of debt		
F2_2	Credit card debt In the past 12 months, which of the following describes your experience with credit cards? I always paid my credit cards in full	1 Yes **2 No** 98 Don't know 99 Prefer not to say
G1	Auto loan debt Do you [Does your household] currently have an auto loan?	**1 Yes** 2 No 98 Don't know 99 Prefer not to say
G20	Medical debt Do you currently have any unpaid bills from a health care or medical service provider (e.g., a hospital, a doctor's office, or a testing lab) that are past due?	**1 Yes** 2 No 98 Don't know 99 Prefer not to say
E7	Mortgage debt Do you currently have any mortgages on your home?	**1 Yes** 2 No 98 Don't know 99 Prefer not to say
G30_1	Student loan debt Do you currently have any personal student loans? (only look at those who have a student loan for themselves, exclude those who have a student loan for other family members)	1 Yourself
IV2 Financial Stressors		
J10	A large income drop In the past 12 months, have you [has your household] experienced a large drop in income which you did not expect?	**1 Yes** 2 No 98 Don't know 99 Prefer not to say

J52	Laid off due to COVID As a result of the pandemic, were you laid off or furloughed at any time in 2020 or 2021?	**1 Yes** 2 No/Not applicable 98 Don't know 99 Prefer not to say
J4	Difficult paying on-going bills In a typical month, how difficult is it for you to cover your expenses and pay all your bills?	**1 Very difficult** **2 Somewhat difficult** 3 Not at all difficult 98 Don't know 99 Prefer not to say
IV3 Financial Anxiety		
J33_40	Financial anxiety (anxiety) How strongly do you agree or disagree with the following statements? Thinking about my personal finances can make me feel anxious.	1 - Strongly Disagree 2 3 4 - Neither agree nor disagree 5 6 7 - Strongly Agree 98 - Don't know 99 - Prefer not to say
IV4 Financial Knowledge/Literacy		
Financial literacy will be measured by 3 items (Subjective financial knowledge, objective financial knowledge, and perceived financial capability.		
Financial Knowledge		
Subjective financial knowledge 1-7		
M4	Subjective financial knowledge On a scale from 1 to 7, where 1 means very low and 7 means very high, how would you assess your overall financial knowledge?	1 1 - Very Low 2 2 3 3 4 4 5 5 6 6 7 7 - Very High 98 Don't know 99 Prefer not to say
Objective financial knowledge 0-6 the sum of correct numbers for financial literacy questions - M6, M7, M8, M9, M10, M31. The original financial literacy variables were recoded to binary variables in which 1= correct answer, 0 = otherwise and then the new variables were summed to form the score.		
M6	Interest question Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?	**1 More than $102** 2 Exactly $102 3 Less than $102 98 Don't know 99 Prefer not to say

M7	Inflation question Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?	1 More than today 2 Exactly the same **3 Less than today** 98 Don't know 99 Prefer not to say
M8	Bonds question If interest rates rise, what will typically happen to bond prices?	1 They will rise **2 They will fall** 3 They will stay the same 4 There is no relationship between bond prices and the interest 98 Don't know 99 Prefer not to say
M9	Mortgages question A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.	**1 True** 2 False 98 Don't know 99 Prefer not to say
M10	Stocks question Buying a single company's stock usually provides a safer return than a stock mutual fund.	1 True **2 False** 98 Don't know 99 Prefer not to say
M31	Compounding interest on a loan question Suppose you owe $1,000 on a loan and the interest rate you are charged is 20% per year compounded annually. If you didn't pay anything off, at this interest rate, how many years would it take for the amount you owe to double?	1 Less than 2 years **2 At least 2 years but less than 5 years** 3 At least 5 years but less than 10 years 4 At least 10 years 98 Don't know 99 Prefer not to say
Perceived Financial Capability		
M1_1	Day-to-day financial management How strongly do you agree or disagree with the following statements? - I am good at dealing with day-to-day financial matters, such as checking accounts, credit and debit cards, and tracking expense?	1 1 - Strongly Disagree 2 2 3 3 4 4 - Neither Agree nor Disagree 5 5 6 6 7 7 - Strongly Agree 98 Don't know 99 Prefer not to say

IV4 Socio-Demographic Variables: Age, Gender, Marital status, Race/Ethnicity, Education, Employment status, and Household income		
A3A	Age Young: Age 18-40 Gen Z/Millennials Mid: Age 41-56 Gen X Old: Age 57+ Boomers and silent generation	
A3	Gender	1 Male 2 Female
A6	Marital Status What is your marital status?	1 Married 2 Single 3 Separated 4 Divorced 5 Widowed/widower 99 Prefer not to say
A4A	Race/ethnicity Which of the following best describes your race or ethnicity?	1 White non-Hispanic 2 Black non-Hispanic 3 Hispanic (alone or in combination) 4 Asian/Pacific Islander non-Hispanic 5 Other non-Hispanic (American Indian, Other, 2+ ethnicities)
A5_2015	Education What was the highest level of education that you completed?	1 Did not complete high school 2 High school graduate - regular high school diploma 3 High school graduate - GED or alternative credential 4 Some college, no degree 5 Associate's degree 6 Bachelor's degree 7 Post graduate degree 99 Prefer not to say
A9	Employment status Which of the following best describes your [spouse's/partner's] current employment or work status?	1 Self-employed 2 Work full-time for an employer [or the military] 3 Work part-time for an employer [or the military] 4 Homemaker 5 Full-time student 6 Permanently sick, disabled, or unable to work 7 Unemployed or temporarily laid off 8 Retired 99 Prefer not to say

A8_2021	Household income What is your [household's] approximate annual income, including wages, tips, investment income, public assistance, income from retirement plans, etc.?	1 Less than $15,000 2 At least $15,000 but less than $25,000 3 At least $25,000 but less than $35,000 4 At least $35,000 but less than $50,000 5 At least $50,000 but less than $75,000 6 At least $75,000 but less than $100,000 7 At least $100,000 but less than $150,000 8 At least $150,000 but less than $200,000 9 At least $200,000 but less than $300,000 10 $300,000 or more 98 Don't know 99 Prefer not to say
Dependent Variables		
DV1 Number of Debt Holdings		
	Number of Debt Holdings = sum of (credit card debt, automobile debt, medical debt, mortgage debt, student loan debt), range from 0 to 5	0 – do not have any debt 1 – have one debt 2 – have two debts 3 – have three debts 4 – have four debts 5 – have five debts
DV2 Financial Satisfaction		
J1	Financial Satisfaction Overall, thinking of your assets, debts, and savings, how satisfied are you with your current personal financial condition?	1 - Not At All Satisfied 2 3 4 5 6 7 8 9 10 - Extremely Satisfied 98 Don't know 99 Prefer not to say