Comprehensive indicators of spending attributes of the middle class: Impact on credit card use and retirement savings

by

Derek Jay Sensenig

B.S., Park University, 2005
M.B.A., Webster University, 2008

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Personal Financial Planning
College of Health and Human Sciences

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Abstract

As more organizations forego defined benefit plans, retirement savings adequacy has been a growing concern for workers who want to maintain a balanced lifestyle through their working life and into their retirement years. This dissertation examines the relationship between consumer socialization attributes, credit card usage, and retirement savings using primary data gathered through Amazon Mechanical Turk by means of previously validated scales. The specific consumer socialization outcomes assessed include advertising effectiveness, impulsive buying tendencies, self-control, conspicuous consumption, and consideration of future consequences. The primary focus was to study the mediating effect of credit card usage in the relationship between consumer socialization outcomes and retirement savings.

Credit card usage was analyzed through two measures. The first measure consisted of a continuous variable of aggregate credit card balances; the second was a categorical variable with three components – (a) a null user, who is a respondent who does not own a credit card, (b) a convenience user, who is a respondent who does not maintain an ongoing monthly balance on his or her credit cards, and (c) a revolving user, who is a respondent who has maintained a revolving balance on his or her credit cards at least once in the last 12 months.

These two measures of credit card spending were important features of this study since an overarching objective was to comprehensively understand the impact of credit card spending for people in the middle-class. Credit card overspending was a key consideration for the study since credit card debt may supersede seemingly less-urgent priorities, like retirement savings. Overspending could occur with both convenience and revolving users because wealth and income are finite, and as such, the money used to maintain a zero-balance credit card could thwart the ability to save for retirement. The specification of middle-class respondents is also an

essential element of the study since they are uniquely positioned mathematically, based on income, to save for retirement, but they must strategically monitor all aspects of their spending to actualize the savings for retirement. This research considers how the consumer socialization agents of influence by mass media, peers, and parents (Moschis & Churchill, 1978) relate to and affect retirement savings and the mediating effect of credit card usage.

Structural equation modeling (SEM) was used to analyze the relationship between the attributes of the three latent variables (mass media socialization, subjective behavioral socialization, consumer socialization), dependent variable (retirement savings), and mediating variables (credit card usage and credit card balance). Bootstrapping was used to evaluate the mediating effects of credit card usage on the relationship between consumer socialization attributes and retirement savings.

Results from this study revealed that there was a statistically significant relationship between the consumer socialization latent variable and retirement savings, as well as consumer socialization and both credit card balances and credit card user type. However, the outcomes of the study demonstrated that neither credit card usage nor credit card balances was a mediating factor for retirement savings. Mediating variables were tested simultaneously and individually resulting in further support for a lack of mediating effect. Furthermore, this research revealed that, in general, participants can both save for retirement and manage credit card spending.

The outcomes of this study serve as a starting point for understanding the association between consumer socialization, credit card usage, and retirement savings. This current research provides an exploratory evaluation of the role consumer socialization plays in retirement savings and credit card usage. The findings should be of most interest to financial planners, financial therapists, client psychologists, and behavioral scientists.

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Dedication

This work is first dedicated to my Lord and Savior, Jesus Christ. He has sustained me and provided for me every step of the way! Second, to my princess, my best friend, supporter, confidant, and amazingly beautiful wife, Angela. I would not want to walk through this journey with any other. To my two amazing boys who knew when it was time to play and when it was time to let daddy work – Jordan MacArthur and Jaxon Cordell. You finally get your daddy back full-time!

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Chapter 1 - Introduction

Personal financial management for middle-class Americans in today's complex economy presents a cacophony of contrasting financial priorities that affect consumers' intertemporal optimization considerations (Jappelli & Pistaferri, 2017). Ramifications of financial decisions can have long-standing, negative implications if the relationship between the past, present, and future options are not sufficiently considered. The growing sophistication of advertising effectiveness, influence of behavioral attributes, intricacy of the financial system, and increased liability of one's retirement has enhanced the weightiness of these decisions and can be overwhelming (Howlett et al., 2008). Families are charged with sifting through obscure noise, anticipating future outcomes, forecasting the direct and indirect impact of each decision, and harmonizing all these factors with their overall financial satisfaction and well-being.

As companies move further from defined benefit plans and aggressively towards defined contribution plans, Americans now bear more of the burden of responsibility for saving adequately for retirement in a way that balances longevity risk and investment risk (Benartzi & Thaler, 2007). This shift compounds the complexity of determining how much to save in relation to current and future consumption considerations (Broadbent & Palumbo, 2006; Reyers et al., 2014). Furthermore, more than 70% of individuals are expected to need long term care, and as longevity increases, so too does the necessity to account for higher potential medical expenses and higher long-term care costs, thus increasing the need for retirement savings too (Moench & Stender, 2020). To further complicate present-day financial decisions, the "sandwich-generation," where adults are taking care of their own children while simultaneously caring for their parents, has more than doubled in the last 20-years (Pilkauskas et al., 2020). Add in the day-to-day financial and non-financial decisions and it is easy to understand why individuals and

couples may be overwhelmed with credit card consumption decisions that impact their retirement savings thus often defaulting to heuristics and biases (Kahneman, 2003) rather than engaging in a rational decision-making process.

Individuals must also consider the impact of their daily expenditure choices and preferences and the consequences these decisions have on the other aspects of their personal situation. Credit cards have become a convenient tool in conducting business for daily transactions. They serve as a method to quickly complete a transaction (Trinh et al., 2020), leverage payment security (Koenig-Lewis et al., 2015), and smooth consumption (Xiao & Yao, 2020); however, credit card use has also been shown to have negative impacts that run parallel to those benefits. The use of credit cards facilitates overspending and affects consumption by decoupling the feeling of spending money with actually completing a transaction (Chatterjee & Rose, 2011; Raghubir & Srivastava, 2008; Soman, 2003).

In addition to the negative effect on daily spending, credit card misuse also impacts financial planning for future needs. Income and wealth are finite, and as such, daily consumption behaviors have multifactorial consequences on savings outcomes (de Villiers & Roux, 2019). The focus, or lack thereof, on retirement saving is magnified by the intertemporal repercussions of borrowing and consumption behaviors and the ripple effects on overall financial well-being (Ericson & Laibson, 2018). For example, acquiring a mortgage has been shown to increase credit card debt by $1,500 in the short-term and $3,900 in the long-term (Fulford & Stavins, 2021). These small, intertwined decisions can play significant roles in long-term wealth accumulation and saving behaviors. High levels of wealth and retirement adequacy allow families to be in better control of the age at which they retire, the impact of retirement on their lifestyle, and the ability to help their children with the costs of schooling. Meanwhile, the compounded effect of

errant financial decisions can snowball and result in a lower level of retirement adequacy, a narrower set of spending options in retirement, and an inability to have flexibility to retire at the age desired. This resulting impact could lead to a lower degree of retirement satisfaction, less ability to help with children's tuition or college education, and the inability to maximize stochastic financial opportunities.

Statement of the Problem

Given the financial burden of anticipating retirement saving needs, Americans are not adequately addressing their retirement savings needs, and the increase in credit card debt warrants consideration of the relationship between the two. According to the Board of Governors of the Federal Reserve System, total revolving consumer debt rose from $56 million in January 1980 to more than $975 billion dollars in 2020 (Federal Reserve, 2021). This translates into an average household credit card debt of approximately $1,348 in 1980 and has risen to more than $8,089 in 2020 (Comoreanu, 2021; Indiviglio, 2010) Concurrently, the 1996 Retirement Confidence Survey found that only 56% of retirees had money they personally saved for retirement (Yakoboski & Schiffenbauer, 1997). Portions of the savings inadequacy issue may be attributable to a preference to not save for retirement or the fact that their current pensions may cover their full retirement need; however, the 2020 Retirement Confidence Survey showed that only 27% of workers reported being very confident they will retire comfortably, while 58% of workers and 42% of retirees acknowledged debt as a problem in their situation (EBRI, 2020b). The survey also found that 40% of people will need more than $1 million to retire (EBRI, 2020b); however, only 30% of workers had over $250,000 saved (EBRI, 2020c). Currently, only half of the baby-boomer generation is adequately funded for retirement; approximately 25% have

challenges with retirement funding, and the remaining 25% are at risk of being considered impoverished (Lown, 2008).

One of the problems with credit card debt is that it can give people the ability to purchase items that appear affordable and even mathematically rational in low interest rate environments, but this debt actually encumbers future financial nimbleness in a manner that is unpredictable, especially in retirement (Butrica & Karamcheva, 2018). Payment method and consumption behaviors play a significant role in determining capacity to accomplish financial goals. The ability to control one's spending directly correlates to the ability to accomplish retirement objectives (Cavanagh & Sharpe, 2002). By borrowing and consuming future dollars in the present, the consumer is virtually eliminating this money from the equation and mitigating the ability for said dollars to be invested for retirement or future growth.

To further understand the impact of the relationship between consumption and credit card spending on long-term financial objectives, there must be an intimate understanding of the micro-level impact of credit cards on spending. A phenomenon labeled "credit card premium" has arisen and is the differential between a comparative credit card transaction and a cash-based transaction (Feinberg, 1986). Credit cards have been shown to increase frequency of purchases and boost transaction size by as much as 113% (Feinberg, 1986; Prelec & Simester, 2001; Raghubir & Srivastava, 2008; Thomas et al., 2010; Wang & Wolman, 2016). Therefore, the behavioral effects of consumption must be addressed when examining spending and saving outcomes.

Purpose and Justification of the Study

Given the opposing trajectories of individual retirement saving contributions and credit card spending (Saez & Zucman, 2016), evaluating the relationship based on a holistic spectrum

of behaviors derived from a comprehensive set of socialization agents becomes even more important. Simultaneously, as companies continue to move toward defined contribution plans, the burden for personal retirement savings for the individual will continue to be magnified, and the consumer's ability to properly balance spending and saving will steadily increase in significance (Ghilarducci et al., 2019). Generally stated, the current body of research is based on a consumer focused theoretical model that limits the scope of independent variables to a few behavioral attributes. This could make the research susceptible to an indeterminable level of omitted variable bias.

To address this issue, the purpose of this study is to examine the dependent variables of credit card spending and retirement savings in relation to a comprehensive consumer socialization latent variable. This latent variable includes the attributes of advertising effectiveness, impulsive purchases, self-control, conspicuous consumption, and consideration of future consequences. These attributes are based on the consumer socialization model and the three socialization agents of mass media, parents, and peers (Moschis & Churchill, 1978). The working hypothesis is that the amalgamation of the attributes that frame consumption decisions in relation to retirement savings will be fully mediated by credit card spending almost solely by itself. In other words, the overarching question posed in this research is whether credit card spending fully accounts for how the attributes of the consumer socialization latent variables relate to retirement savings.

It is fully possible that a spectrum of variables that affect credit card use need to be unified to adequately address issues that arise from omitted variables. Furthermore, the existing body of research on credit card spending focuses heavily on attributes of the individual (i.e., behaviors, traits, characteristics) and disproportionately abstains from addressing the overt and

covert influences of mass media (i.e., television, social media, advertising). Therefore, a key contribution to the existing body of empirical work and the purpose of this study is to acknowledge the role that mass media plays in inducing consumption.

Background

The argument from proponents of credit cards is that cards can be used responsibly; however research on the influence of covert and overt advertising shows this concept is an unrealistic idealism rather than an achievable reality for the average consumer (Feinberg, 1986; Park & Burns, 2005; Roberts & Jones, 2001). In 2018, the top five credit card issuers invested approximately $1.086 billion on media advertising (Guttman, 2019). As such, they cannot be viewed as passive actors within the study. Credit card issuers have a dual motivation to increase consumption. Revenue is derived not only from the consumer through fees and interest payments, but also from merchant fees that equate to approximately 1% - 3% of the transaction size to process the sale (Chakravorti & To, 2007).

Furthermore, credit card issuers stimulate the full spectrum of attributes within the current study and are influential beyond a neutral medium as a tool to consummate a transaction. Loyalty rewards programs are the primary strategy employed to help customers rationalize purchases and influence self-control and CFC. Loyalty reward cards originated with American Airlines, which was the first to introduce a frequent flier program (Berman, 2006). Similar programs have now boomed into a $6 billion dollar industry, as companies have continued to understand the relationship between credit card purchases, rewards, and loyalty (Berman, 2006). The programs increase loyalty through (a) rewards, such as frequent flier miles and points, (b) switching costs, which are incentives that are lost if a consumer switches out of the program, (c) a sense of appreciation because the company is rewarding consumers for their loyalty, and (d) as

a sense of belonging to a group (Leenheer et al., 2007). Finally, these programs augment conspicuous consumption by offering premium cards (i.e., platinum level) to signal status, prestige, and income to peers, especially for consumers with low levels of self-esteem (Bursztyn et al., 2017).

Given the credit card issuers role in marketing, the prominence of advertising effectiveness, and strategies to incentivize impulse purchases, the mass media variable is an essential component of the theoretical model. The majority of prior literature analyzing consumers' behaviors as the independent variable and credit cards or retirement savings as the dependent variable are based on consumer-centric theoretical models such as the behavioral life cycle (Shefrin & Thaler, 1988) or theory of planned behavior (Ajzen, 1991). As such, these models do not recognize a transaction equilibrium that accounts for both internal and external influences of consumer choice. This is a critical oversight since Americans watch approximately five hours of television daily (Beal et al., 2018) and interact with peers on social media for more than three hours a day (Khan et al., 2014). Furthermore, since the stated objective of advertising is to induce consumption, the indirect relationship of mass media and credit card spending on retirement savings is a vital dynamic to consider (Okazaki et al., 2006).

The view of credit card spending and usage is also typically limited in existing work by analysis that considers separately the total credit card balance or whether the individual is a revolving or convenience user. This study will analyze credit card spending from both perspectives. A convenience user is a person who pays the monthly balance in full; a revolving user is a person who maintains a monthly balance; a null user does not own a credit card. By using structural equation modeling (SEM) for the analysis, this study is uniquely positioned to

consider broad, empirically supported structures of multiple latent variables in relation to credit card usage and retirement saving.

Rationale

A common solution to financial issues is increased formal education. While financial education is important, it merely provides benefits by building on pre-existing positive financial behaviors (Urban et al., 2018). The antecedent influence of mass media, peers, and parents is the foundation by which education can have effective results (Cole et al., 2016). As such, research on this subject must prioritize the influence of peers, parents, and media, which is commonly referred to as consumer socialization (Moschis & Churchill, 1978). The socialization process and social environment have been shown to impact many aspects of individual behavior including smoking, alcohol use, exercise, and personal finances - including credit card use and saving behaviors (Bowen, 2002; Flouri, 2004; Gudmunson & Danes, 2011). The seminal work stated that "findings provide little evidence that formal consumer education contributes much to the adolescent's learning of various consumer skills" (Moschis & Churchill, 1978, p. 606). Therefore, education is viewed as a secondary variable that is most effective when it is built on robust socialization outcomes.

Formal education has proven inadequate on its own to sufficiently enable people to manage their finances for the long term, but education adequacy has also long been an issue. Mandell (1999) found that "students from states that mandate the teaching of consumer education and personal finance do no better, and perhaps worse, than students from states lacking mandates" (p. 4a). Complicating the situation further, Bernheim and Garrett (2003) inferred that literacy programs in the workplace affected the reporting of saving patterns but not actual behavior. Additionally, Peng et al. (2007) ascertained that students who took a financial literacy

class in high school and college did not have improved investment knowledge scores. Prior research continues to support the assertion that education can be beneficial when built on a foundation of positive behavioral attributes, yet basic financial literacy alone does poorly in situations that require significant behavioral change (Gudmunson & Danes, 2011). Focusing on education as the solution is also an example of a one-variable approach outlined previously.

Finally, education, when funded by credit card issuers (e.g., banks, credit unions, and credit card companies), exposes a conflict of interest that adds to the complexity of the financial literacy situation because the lessons can be customized to serve the interest of the entity rather than the interest of the individual (Karger, 2015). Willis (2008) noted that "when consumers engage in better financial behavior, the net effect on the issuer is a decrease in card issuer profits" (p. 7). It would be naïve to expect financial service organizations, specifically those that financially benefit from credit card usage, to educate in a manner that may negatively affect bottom-line profits. Based on this empirical support, the prioritization of consumer socialization aspects over education is necessary in evaluating the relationships between the predictor and outcome variables.

Significance

The significance of this study is highlighted by three simple axioms: (a) generational ripple effect, (b) increased longevity, and (c) mathematical impact of overspending on retirement saving adequacy. First, the continued growth of credit card debt and decrease of adequate retirement savings may have a significant impact on multiple middle-class generations. Parker and Patten (2013) found that of those in the "sandwich generation" (providing support to a parent and a minor child simultaneously), 75% stated that they are responsible for providing financial support to an elderly parent. Therefore, the lack of savings of one generation may become a

burden on the second generation. If the younger generation must financially support the older generation, then every dollar spent supporting the older generation is a dollar that cannot be saved for the younger generation's retirement. This is not to suggest that one generation should not financially support the preceding generation but serves as a call to address the momentum of the cyclical effect that may create long-term, negative impacts on multiple generations of families caused by a lack of saving behaviors.

Second, retirement saving is one of the most impactful decisions that a family must consider, specifically to ensure that wealth is available for the entirety of a couple or individual's lifespan in retirement. As healthcare improves, the prospect of longer life expectancy increases and places an additional burden on individuals' retirement savings (Cocco & Gomes, 2012). Bosworth et al. (2016) examined the relationship between earnings and life expectancy and found a statistically significant relationship between household earnings and life expectancy. At age 50, those in the lowest income decile were expected to live to approximately 82, while those in the highest income decile were expected to live to 89. For those in the middle-class, the implication is that if they retire at the average age of 64, they will have nearly 24 years in retirement on average. The reality of longevity and investment risk can be exposed when people consider the true possibility of living beyond the average and well into their 90's or 100's.

Finally, the gravity of retirement saving can be viewed from the aspect of algebraic calculations to reinforce the importance of moderating personal spending. The extensive empirical evidence of overspending with credit cards has demonstrated a "credit card premium" of up to 113% (Banker et al., 2021; Feinberg, 1986; Prelec & Simester, 2001; Raghubir & Srivastava, 2008; Thomas et al., 2010). To understand the significance of this overspending, consider an individual who is 35 years old, plans to retire at 70, and overspends by $3,000 a year

when using a credit card. Just by this overspending alone, this individual would lose $516,950 in retirement savings, assuming systematic deposits and an 8% compounded rate of return. Furthermore, Cavanaugh and Sharpe (2002) found that those with credit card balances had $40,000 less in retirement than those who did not. Mathematically, for someone with a 25-year time horizon, that $40,000 would represent $490,946 in future value to retirement savings that would be forfeited.

Modification of current consumption can have a significant impact on retirement saving and is an important consideration for all levels of income. An increase of $500,000 in retirement savings, without necessitating a change other than controlling credit card overspending, represents an additional $20,000 of retirement income based on the 4% withdrawal rate (Bengen, 1994). As such, the relationships between behavior, credit card spending, and retirement savings becomes one of the most important discussions for decreasing the magnitude of risk associated with unknown life expectancy and portfolio sustainability.

Need for the Study

Generally, the existing studies focused on credit card spending and retirement savings use secondary data sets such as the Survey of Consumer Finances (SCF) or the National Financial Capability Study (NFCS) because they provide cost-effective access to rich data on a diverse set of households (Henriques & Hsu, 2014). However, using those data sets eliminates the ability to tailor survey questions to the specific research question. Primary data typically suffers from limited diversity of the respondents because college students are normally utilized for ease of access and cost feasibility, but the application of the results is limited (Peterson, 2001). The current research will use primary data from the general public to overcome the shortcomings of prior studies. It will uniquely add to the body of knowledge by incorporating a holistic group of

attributes empirically associated with personal responses to outside influences, such as advertising and impulsive buying tendencies, as well as considering the internal ability to control consumption temptations through self-control, conspicuous consumption, and consideration of future consequences. The use of primary data will provide this study with a distinctive opportunity to tailor the study to analyze attributes of credit card usage and retirement savings planning both separately and together.

Introduction to Theoretical Framework

The theoretical model derives its structure from the consumer socialization model developed by Moschis and Churchill (1978). Consumer socialization "is the process by which young people develop consumer-related skills, knowledge, and attitudes" (Moschis & Churchill, 1978, p. 599), and the three statistically significant socialization agents of influence categories they identified were mass media, parents, and peers. The influence of a socialization agent occurs through modeling, reinforcement, social interaction, and the level of impact is directly related to the frequency of contact (Moschis, 1985). The socialization process is the impact on the socialization agents and the outcome is the influence of these agents on the consumer's behavior and skills represented through actions of consumption. Consumer socialization is measured in this study with five attributes: (a) advertising effectiveness, (b) impulsive buying tendency, (c) self-control, (d) conspicuous consumption, and (e) consideration of future consequences. The specified outcomes (dependent variables) relative to this study are credit card usage and retirement saving.

Mass media represents the unification of corporations' indirect and direct influences of learning, behavior, and socialization (Moschis & Churchill, 1978) and was depicted in this study by advertising effectiveness and impulsive buying tendency. Advertising effectiveness serves to

measure the organization's efficacy of changing a non-buyer into a buyer and maintaining an existing buyer as an ongoing buyer (Sachdeva, 2015). Impulsive buying tendency depicts the covert side of advertising (subliminal messages, product placement, sounds, and smells) and addresses a subconscious type of interaction with a consumer that attempts to take advantage of opportunities for purchases that are unplanned (Jeffrey & Hodge, 2007). Credit cards serve as tools to consummate the planned or unplanned economic desire of a product and facilitate consumption that is impacted by marketing, pricing, and temporal reframing (Gourville, 1998; Raghubir & Srivastava, 2008). Moreover, credit cards have been shown to increase sales volume and the likelihood of impulsive purchases significantly (Husnain et al., 2019; Khan et al., 2016).

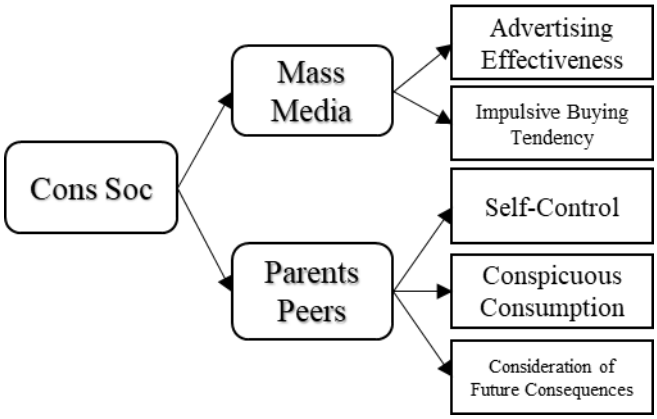
The attributes of socialization from peers and parents (Moschis & Churchill, 1978) are measured through self-control, conspicuous consumption, and consideration of future consequences. The distinction between mass media and the collective influence of peers and parents is essential to the study since mass media serves the interests of the organization, while peers and parents have the well-being of the individual at heart. Parents have the earliest influence and most impactful effect on children's development of consumer skills; these abilities are typically learned by watching parents' actions and with direct communication (Moschis, 1985). The peer agent gains an increasing level of influence as a child moves through the stages of adolescence and impacts the expressive and affective consumption habits (Reisman & Roseborough, 1955). Self-control is most influenced by parents; however, the less parents influence self-control, the more peers stimulate self-control (Meldrum & Hay, 2012). Self-control plays a unique role in mitigating the influence of marketing techniques, credit card spending, and the individual's disposition of dichotomy between short- and long-term financial considerations (Baumeister, 2002; Wertenbroch, 2003).

Conspicuous consumption is a unique attribute in the model and is heavily influenced by peers, driven by the desire for status, and termed “keeping up with the Joneses.” (Kastanakis & Balabanis, 2014). It has the most impact on those who have low self-esteem, exhibit low interpersonal confidence, and are status conscious (Lewis & Moital, 2016). Naturally, credit cards serve as an indirect connector to peer influence and conspicuous consumption primarily by facilitating consumption that would not have otherwise been consummated without access to credit. Those consumers who demonstrate high levels of conspicuous consumption were found to have higher levels of credit card debt and 108% higher rate of delinquency (Lee & Mori, 2019).

Consideration of future consequences (CFC) is another attribute represented by the socialization influence of peers and parents. It represents the temporal framing of the individual and embodies the time orientation conflict created by the intertemporal struggle between present-day consumption and delayed gratification manifested in retirement saving (Strathman et al., 1994). Those with a future orientation are more likely to save, eat healthy, exercise, and maintain a healthy weight (Joireman et al., 2012). Moreover, those who are present-minded are likely to have higher levels of credit card debt and lower levels of saving (Joireman & King, 2016). Similar to self-control, peers and parents may have a seesaw like effect on CFC. Bucciol and Zarri (2019) concluded that time orientation is relatively stable from childhood and positively influenced when parents are actively involved in the financial socialization of their children leading to a reduction of credit card misuse behavior.

Figure 1.1

Theoretical model of consumer socialization with specified socialization outcomes



The spirit of this study required the consideration of a comprehensive group of socialization processes that could measure the diverse socialization operations. The overarching objective of this study is to harmonize the attributes of socialization through latent variables to examine the relationship they have with retirement saving balances and the mediating effect of credit card usage. The existing empirical research typically minimizes the potency of mass media and focuses on a singular or limited number of attributes. This study considers the potential omitted variable bias that may exist by incorporating a holistic set of empirically substantiated attributes.

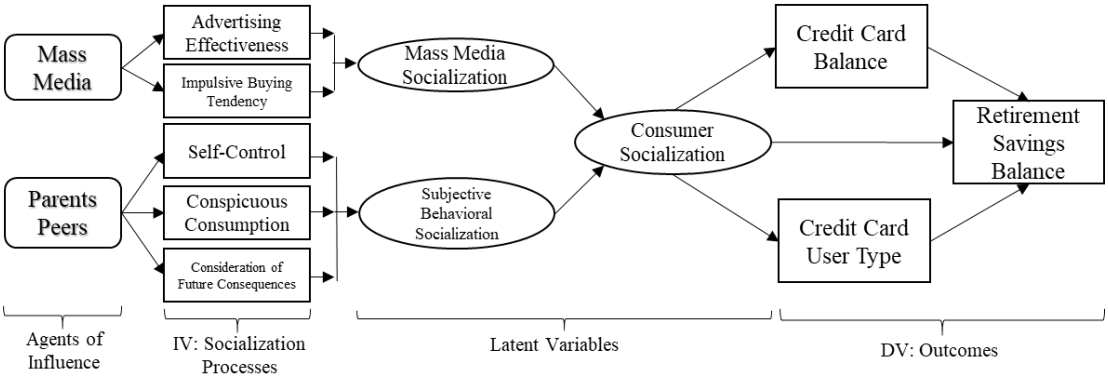
Defining the Components of the Conceptual Model

Based on the consumer socialization model (Moschis & Churchill, 1978), the conceptual model of this study consists of three primary components: the exogenous latent variables, credit card spending, and retirement savings. Three latent variables are used in this study. The first is the "Mass Medial Socialization," herein referred to as MMS, and is based on the mass media socialization agent. The attributes of this latent variable are (a) advertising effectiveness, and (b) impulsive buying tendency. This combination serves to acknowledge both the overt and covert

properties of corporate advertising. The second latent variable is "Subjective Behavioral Socialization," herein referred to as SBS, and is derived from the influence of the peer and parent socialization agents. The attributes of this latent variable are (a) self-control, (b) conspicuous consumption, and (c) consideration of future consequences. The aggregate attributes of the comprehensive latent variable termed "Consumer Socialization," herein referred to as CS, consists of all five attributes of advertising effectiveness, impulsive buying tendency, self-control, conspicuous consumption, and consideration of future consequences. These three behaviors serve to embody the traits that stimulate consumption and cover the full spectrum of behaviors, subconscious influences, and time preference. Figure 1.2 is a visual representation of the comprehensive conceptual model and the relationships that were examined for this study.

Figure 1.2

Comprehensive Conceptual Model



The literature regarding the influence of advertising effectiveness, impulsive buying tendency, self-control, conspicuous consumption, and consideration of future consequences refers to them as measures of traits or behavioral concepts. To distinguish the behavioral aspects of the measurement of those concepts from credit card and retirement savings behaviors (which

are the main dependent variables of this study) the analytical framework will refer to the exogenous latent variables taken together as consumer socialization. It is understood that the respondents were asked about behaviors to obtain the underlying indicator scales, so the distinction here is for clarity about their role in shaping the latent variables as a comprehensive predictor for both credit card usage and retirement saving behaviors.

To ensure clarity throughout the study, the following descriptions and definitions are provided. First, an attribute is defined as "a quality, character, or characteristic ascribed to someone or something" (Merriam-Webster, 2021). For the purposes of this study, an attribute is also understood as a scalable characteristic of the respondent (Lewis-Beck et al., 2012). Each characteristic is introduced and defined in the following paragraphs. Second, the "exemplary attribute" is the preferred, optimal outcome of the attribute (ex: the exemplary attribute of self-control is higher levels of self-control versus lower levels) and identified for each of the attributes in the ensuing paragraphs. Additionally, the term "construct" is used to indicate the latent variable construct that is being measured by multiple attributes. It is defined as "a characteristic that cannot be directly observed and so can only be measured indirectly" (Adams et al., 2014, p. 120).

Mass Media Socialization

The first attribute of MMS is advertising effectiveness, which is defined as "the degree to which the company's advertising induces the consumer to like the brand, improve its image, and/or purchase the brand" (Okazaki et al., 2006, p. 38). The effectiveness measured in this study is not solely tied to television advertising and comprehensively includes overt advertising like print ads, billboards, social media advertising, and radio commercials. The exemplary outcome

of this attribute is lower levels of advertising effectiveness, which is indicative of the person's ability to minimize the influence of advertisements.

The second attribute of mass media is impulsive buying tendency, and the current study recognizes a distinction between compulsive spending and impulsive spending. Compulsive buying is defined as the "the chronic, repetitive purchasing that becomes a primary response to negative events or feelings" (O'Guinn & Faber, 1989, p. 155). As such, compulsive buying is more focused on the individual's responses to emotions unrelated to corporate strategies. This research will use Piron's (1991) comprehensive, formalized definition of impulse purchasing behavior which was defined with three characteristics: "1. unplanned, 2. the result of exposure to stimuli, 3. decided on the spot" (p. 512). In a practical sense, this is covert advertising by marketers leveraging product placement, visual cues, and scents. The exemplary outcome of this attribute is lower levels of impulsive buying tendency and represents the ability to minimize the influence of covert marketing strategies.

Subjective Behavioral Socialization

The latent variable of subjective behavioral socialization contains the three attributes of self-control, conspicuous consumption, and consideration of future consequences. Self-control is defined as the "internal resources available to inhibit, override, or alter responses that may arise as a result of physiological processes, habit, learning, or the press of the situation" (Schmeichel & Baumeister, 2004, p. 86). The exemplary outcome of this attribute is higher levels of self-control. Next, conspicuous consumption has been defined as the "visible consumption of goods as a mechanism to enhance one's social standing" (Grace & Griffin, 2009, p. 15) and results in the "Veblen effect," which is "a willingness to pay a higher price for a functionally equivalent

good" (Bagwell & Bernheim, 1996, p. 349). The exemplary outcome of this attribute would be lower levels of conspicuous consumption.

The final attribute of the subjective behavioral socialization latent variable is consideration of future consequences and defined as:

> The extent to which individuals consider the potential distant outcomes of their current behaviors, and the extent to which they are influenced by these potential outcomes. It involves the intrapersonal struggle between present behavior with one set of immediate outcomes and one set of future outcomes. (Strathman et al., 1994, p. 734)

The consideration of future consequences (CFC) is scaled in a manner whereby lower scores reflect a more present or immediate time orientation while higher scores represent a more future oriented time preference. For the remaining portions of this work, the acronym of CFC will represent the broad behavior of consideration of future consequences.

Exemplary Attributes

Exemplary attributes are the preferred or ideal outcome of a selected attribute in relation to exhibiting positive effects within personal financial planning. For example, the exemplary attribute of self-control is a higher level of self-control. Each antecedent variable contributes additively to the latent variable. The exemplary attributes identified will assist with clarifying, quantifying, and examining the gradation and directional impact of the individual attributes. This will allow the researcher to acknowledge that while each variable may be unique to the individual, the collective attributes comprehensively cover the characteristics that influence consumer socialization. Table 1.1 provides a summary of the exemplary attributes created specifically for the study at hand.

Table 1.1

Exemplary Attribute Summary

Attribute	Exemplary Attribute
Advertising Effectiveness	Low Advertising Effectiveness
Impulsive Buying Tendency	Low Impulsive Buying Tendency
Self-Control	High Self-Control
Conspicuous Consumption	Low Conspicuous Consumption
Consideration of Future Consequences	High CFC

Dependent Variables

The last two categories of the conceptual model are credit card spending and retirement savings. Credit card spending was represented by the following two measurements: first, the total household balance at the time of the survey, and second, the decision to be a convenience user, revolving user, or null user of credit cards. A convenience user is a person who pays off his or her credit card balance monthly and maintains a zero balance on an ongoing basis (Rutherford & DeVaney, 2009). A revolving user is one who maintains an ongoing credit card balance (Kim & DeVaney, 2001). A null user is someone who does not have a credit card issued in his or her name. While no ongoing credit card balance may be perceived as the exemplary behavior, it is acknowledged that overspending can still occur with convenience users. An individual could overspend and pay off the credit card each month but not have the capacity to save for retirement. The reason for this is that income is finite, and overspending may lead to a higher monthly balance being paid off which subsequently results in retirement savings being crowded out.

A credit card is defined as “a card issued by banks or financial institutions enabling the holder to obtain goods and services on credit” (Jalil et al., 2011, p. 104). While other debt such as home-equity lines of credit, family loans, and consolidation loans may also inhibit retirement savings, they were considered outside the scope of this research and not included in the study. Finally, retirement savings was quantified as the current aggregate balance of all retirement accounts including all defined benefit plan variations and all defined contribution variations (i.e., 403(b), 401(k), IRA, SEP, SIMPLE, etc.). Figure 1.3 and Figure 1.4 are visual representations of the second order models of MMS and SBS.

Figure 1.3

Mass Media Socialization Second Order Model

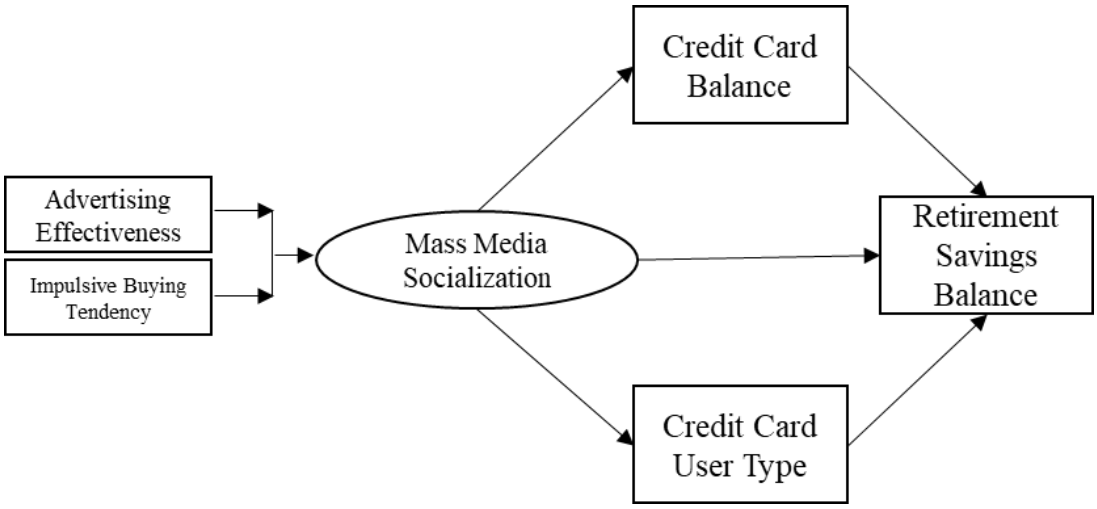
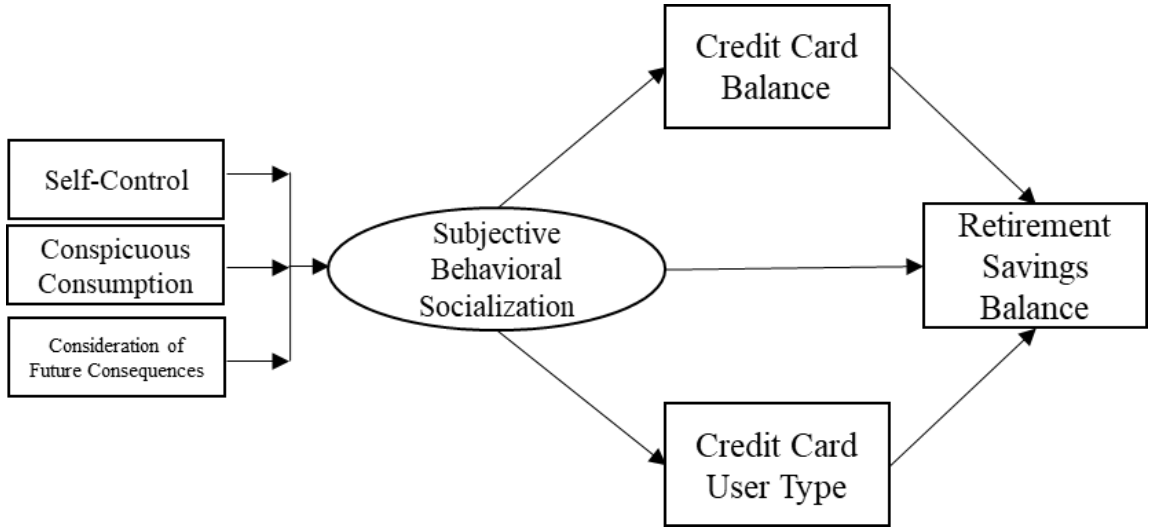


Figure 1.4

Subjective Behavioral Socialization Second Order Model 2



Research Objectives

Prior research on consumer socialization shows that parents and peers are influential in both positive and negative outcomes of consumption and saving. Financial socialization begins with behaviors modeled by parents, specifically as it relates to credit card spending and saving (Jorgensen & Savla, 2010; Marshall & Magruder, 1960; Shim et al., 2010). As children move into different stages of life, hierarchal analysis has shown that young adults are most influenced in financial decisions by their romantic partner (peer) followed by parents in relation to consumption and saving (Curran et al., 2018). From a saving aspect, Bucciol and Veronesi (2014) observed that parental teaching on saving increased an adult's likelihood to save by 16% and the amount saved by 30%. The time orientation of parents juxtaposed to mass media is a key consideration, with parents typically concerned about the long-term well-being of their children.

On the other hand, mass media socialization is typically present-focused and meant to entice consumption. The exposure to media messaging is a daily occurrence; 47% of children between ages two and eighteen and 75% of teenagers have a television in their bedroom, resulting in exposure to more than ten million marketing messages by age eighteen (Brown et al., 2004; Dotson & Hyatt, 2005). This marketing strategy promotes impulse purchasing, a lack of self-control, and conspicuous consumption with credit card spending (Godey et al., 2016).

Based on the consumer socialization model and the existing empirical body of work, the research objective of this study is to examine the mediating effect of credit card spending on the relationship between the latent variables and retirement savings for the middle class. Retirement savings adequacy is one of the greatest concerns for workers (EBRI, 2020a), and as such, it is important to understand the impact of credit card spending and its consequential outcome on retirement account balances. The 2020 Retirement Confidence Survey found that 40% of people will need more than $1 million to retire (EBRI, 2020b); however, 35% of workers reported savings of less than $25,000, and an additional 35% showed savings between $25,000 and $249,999 (EBRI, 2020c). The impending economic shock could have a generational impact that creates a negative ripple effect to future generations.

Research Questions

The theoretical constructs guided the development of the following research questions:

1. What is the relationship between the components of Consumer Socialization and retirement savings balances?
2. What is the relationship between the components of Consumer Socialization and credit card balances?

3. What is the relationship between the components of Consumer Socialization and convenience or revolving credit card users?
4. What is the mediating effect of credit card usage, measured by credit card balance, on the relationship between the Consumer Socialization construct and retirement savings balance?
5. What is the mediating effect of credit card usage, measured by credit card user type, on the relationship between the comprehensive spending behaviors and retirement savings balance?
6. What is the difference in comparative indirect effects between the Mass Media Socialization construct and the Subjective Behavioral Socialization construct on retirement savings balance?

Hypotheses

To empirically analyze these six research questions, the following hypotheses were studied:

H_1: *Based on the consumer socialization model, Consumer Socialization will have a positive relationship with retirement saving balances, holding all else equal.*

H_2: *Based on the consumer socialization model, Consumer Socialization will have a negative relationship with credit card balances, holding all else equal.*

H_3: *Based on the consumer socialization model, Consumer Socialization will be positively associated with being a convenience user, holding all else equal.*

H_4: *Based on the consumer socialization model, credit card balances will have a negative relationship with retirement saving balances, holding all else equal.*

H_5: *Based on the consumer socialization model, being a convenience user of credit cards will have a positive relationship with retirement saving balances, holding all else equal.*

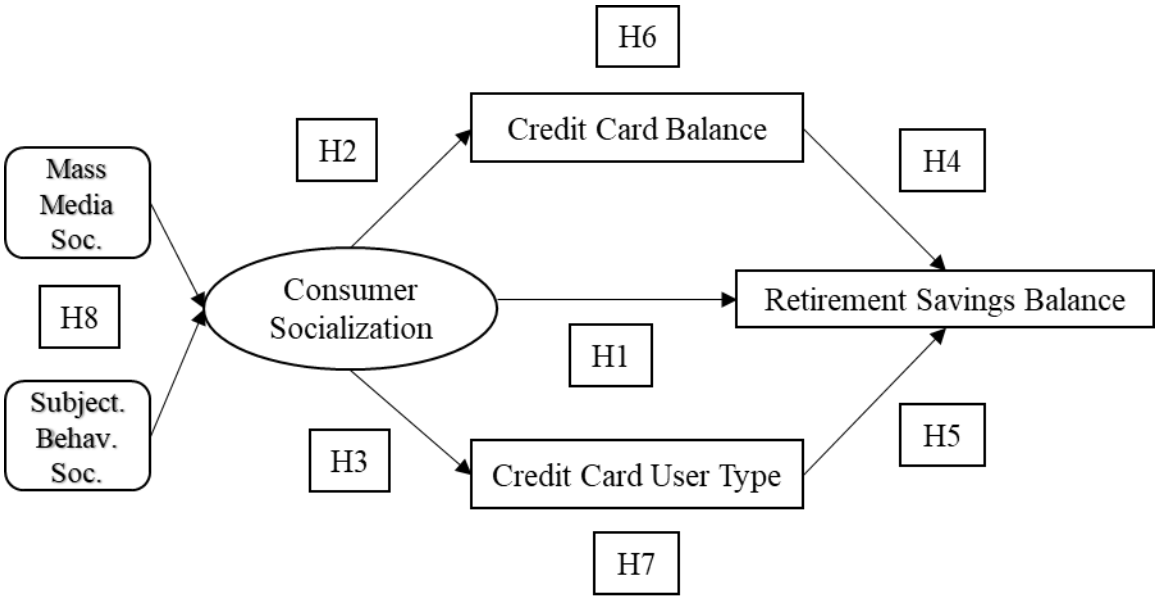
H_6: *Based on the consumer socialization model, the relationship between Consumer Socialization and retirement savings is fully mediated by credit card balances, holding all else equal.*

H_7: *Based on the consumer socialization model, the relationship between Consumer Socialization and retirement savings is fully mediated by being a convenience user, holding all else equal.*

H_8: *Based on the consumer socialization model, the Mass Media Socialization construct will have a more significant effect on the empirical model compared to the Subjective Behavioral Socialization construct, holding all else equal.*

Figure 1.5

Conceptual Model with Hypotheses



Limitations

The primary limitation to this study is the integrity of responses to the survey questions by the respondents. Intentional under-reporting of credit card data has long been a concern in household surveys (Brown et al., 2015; Means et al., 1992; Wyner, 1980; Zinman, 2009). Inaccurate responses would significantly impact the validity and reliability of the study. Unobserved heterogeneity from underreporting credit card balances and retirement saving account balances is also a limitation. Zinman (2009) found that survey fatigue, unintentional underreporting (i.e., unaware of actual aggregate credit card balances), and income levels contributed to this credit card reporting issue, and recommended an adjustment factor of 2.0 to 3.0 to account for this. The primary way this was addressed in the study is that selection of individuals was limited to those who meet the middle-class ($48,500 - $145,500) income criteria set out by Pew Research and represents 52% of the U.S. population (Bennett et al., 2020). The actual cutoff points were $50,000 - $150,000 because of how Amazon MTurk delineates income for survey purposes.

Summary

The complexity of financial decisions cannot be understated. Moreover, with the unification of financial decisions and non-financial decisions related to home-life and work-life, it is easy to see how people can become easily overwhelmed and resort to simplified decision processes and default to a decision algorithm that is not rational. Kahneman and Frederick (2002) asserted that most decisions are made intuitively and regulated by behavior. Therefore, analyzing the relationships between aggregate behaviors, credit card spending, and retirement account savings is essential to advancing the understanding of the relationship between spending and saving.

Chapter 2 - Review of Literature

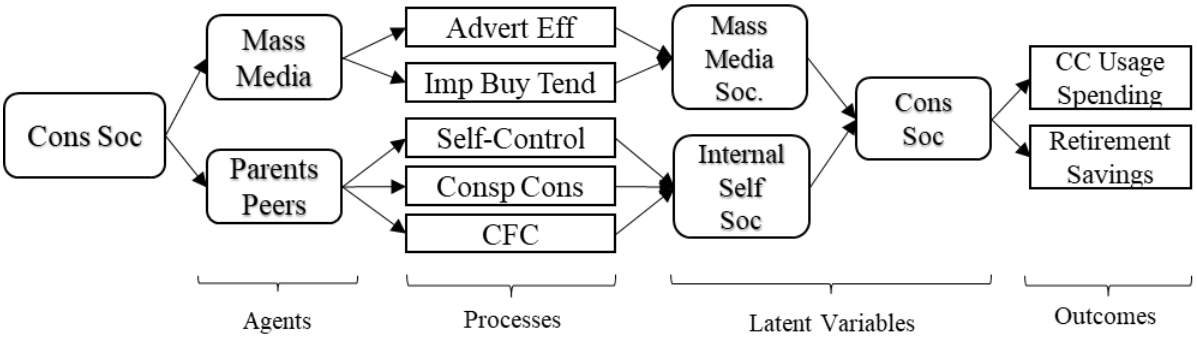
In general, the existing body of research regarding the study of behavioral attributes, credit card spending, and retirement saving confines the examination to a limited scope of variables, thus exposing most studies to the potential of omitted variable bias (Wooldridge, 2013). Further, by not including essential controls, or a full spectrum of behaviors, the interpretation of the results may also suffer from an indeterminable degree of confoundedness (Wang et al., 2012). For example, in a study that only includes self-control, the statistical analysis may support a relationship between self-control and the dependent variable. However, by overlooking other behavioral characteristics, outcomes ascribed to self-control may be attributable to a variable not accounted for in the study. Therefore, the proposed study approaches the concern that arises from the potential of omitted variable bias by including disaggregated and aggregated latent variable measures comprised of a spectrum of characteristics influenced by the consumers' socialization agents. The full spectrum of behaviors is addressed by self-control, which addresses the general ability to execute positive behaviors; conspicuous consumption represents the subconscious peer influences, and consideration of future consequences characterizes the time-framing aspect of behavior. These variables were assembled based on a collective review of the existing body of work that demonstrates significance in the relationship between consumer socialization and credit card usage or retirement savings.

Additionally, this study hypothesizes a mediating effect from credit card usage in the relationship between consumer socialization and retirement savings. As such, the review of literature will highlight existing research that supports these hypotheses. To substantiate the importance of the dependent variables, this chapter begins with a historical overview of the growth of credit card usage in America. This is followed by a review of the current state of U.S.

retirement savings through key studies that underscore the importance of retirement contributions and the behavioral characteristics that impede it. A section is then devoted to the theoretical framework of the consumer socialization model and provides a review of literature that illustrates the role that theoretical models used in prior literature had in contributing to the concerns of omitted variables. The final section elucidates the independent variables and accentuates their importance to the current study based on empirical evidence and the consumer socialization model. Figure 2.1 provides a visual representation of the theoretical and conceptual relationships that were covered in the literature review.

Figure 2.1

Theoretical and Conceptual Model



Credit Cards

Credit Card History

Credit cards in their modern form have evolved rapidly over the past 70 years. According to MacDonald and Taylor (2017), the bank-issued form of credit cards originated in 1946 and expanded with the introduction of "The Diners Club Card" in 1950. Then Bank of America and American Express launched their first cards in 1958, and MasterCard (formerly Interbank Card

Association) was introduced in 1966. In the early phases of credit card history, banks required that balances be settled in full at the end of the month. Currently, all major credit card companies issue credit cards that permit monthly balances to be carried forward on an ongoing basis up to the established credit limit.

Credit Card Debt

As of December 2020, the Federal Reserve reported that total consumer debt exceeded $4.1 trillion dollars, of which $976 billion was revolving debt (Federal Reserve, 2021). For perspective, in January 2000, the total consumer debt was $1.551 trillion of which $620 billion was revolving debt (Federal Reserve, 2021). Additionally, the average credit card interest rate is the highest it has been in 20 years at 17%, which is a direct result of the credit card issuers' need to offset expensive rewards programs (O'Neill & Gillen, 2020). WalletHub's most recent credit card survey from 2020 revealed that the average household credit card balance now exceeds $8,089 (Comoreanu, 2021).

Credit Card Overspending

The combination of high interest rates and increasing household credit card balances underscores the importance of discerning aspects of credit cards that foster overspending. Overspending, based on empirical research, can be categorized into three segments, and include: (a) higher than average transaction amounts, (b) a willingness to pay higher prices, and (c) payment decoupling. Feinberg (1986) defined a higher level of consumption (overspending) when using a credit card versus using cash as the "credit card premium." In his seminal work, he found that restaurant tips were higher when consumers used a credit card, and Hirschman (1979) reported that department store transactions were also comparatively higher for those who used a credit card versus cash. Since the seminal work of Hirschman and Feinberg, the growing body of

literature that examines credit card overspending suggests that using credit cards impacts neural mechanisms and has consistently increased consumption up to 113% (Banker et al., 2021; Chatterjee & Rose, 2011; Prelec & Simester, 2001; Raghubir & Srivastava, 2008; Thomas et al., 2010; Wang & Wolman, 2016).

The second segment of overspending is temporal reframing of product cost leading to a willingness-to-pay (WTP) higher prices with a credit card by separating a large payment into smaller payments (Gourville, 1998; Prelec & Simester, 2001). A person's WTP is defined as "the maximum price the consumer accepts to pay or the upper limit of the acceptability margin" (Le Gall-Ely, 2009, p. 18). Credit cards can boost the WTP simply by the increased spending capacity offered by an available credit line (Dietsch et al., 2000; Gourville, 1998; Lambin, 1970; Price, 1994; Raghubir & Srivastava, 2008; Zenor et al., 1998). WTP is a key component of advertising effectiveness to increase sales rates. The "easier" payments, spread over time, makes the transactions less emotionally impactful and refocus the consumer's point of reference to a smaller amount which gives the sensation of spending less.

Credit cards have also been shown to remove friction in the purchasing process and have been defined formally as "payment decoupling," which is the mental separation of the direct payment method from the purchase decision (Prelec & Loewenstein, 1998). Both Prelec and Loewenstein (1998) and Thaler (1999) attributed this phenomenon of decoupling to inconsistencies in mental accounting for the consumer. Additionally, their research found that a cash payment would decrease the pleasure associated with consumption and would increase when the association of payment was removed from the immediate consumption of the product or service. Building on this idea, Thaler (1999) revealed that payment decoupling complicates

the mental organization and evaluation of consumption and affects the behavioral association with decoupling in non-cash transactions.

Retirement Savings

As organizations shift away from defined benefit plans and aggressively move toward defined contribution plans, the burden of retirement savings adequacy rests heavily on the individual (Thaler & Benartzi, 2004). The implications of this change are not fully evident, and the 2020 Retirement Confidence Survey revealed a key paradox. The survey found that 69% of people are confident they will have enough money to retire, yet only 48% of people have calculated how much they will actually need to retire comfortably, and only 30% of people report having $250,000 or more in retirement savings (EBRI, 2020b). Moreover, the survey also found that 60% of those over age 55 have less than $250,000 saved for retirement, and 40% of people will need more than $1 million to retire (EBRI, 2020c). Most concerning is that 22% of Americans older than 50 acknowledged using retirement savings to pay down credit card debt (Traub, 2013).

One common way to explore retirement adequacy is by employing income replacement rates which are a calculation of post-retirement income as a percentage of pre-retirement income (Knoef et al., 2016). Those with a low income achieve retirement adequacy with social security since it replaces a significant percentage of income (Dushi et al., 2017). Young, middle class individuals and families find themselves in a unique position that requires a disciplined balance between spending and retirement savings. Social security does not adequately replace a high enough percentage of income in retirement, yet day-to-day spending can overtake the urgency associated with retirement savings since retirement may be an issue that will not occur for decades (Hanna et al., 2016). Two important perspectives elucidate this issue: a) understanding

the characteristics of why people save and b), examining the attributes that are associated with under-saving. Retirement saving adequacy has been attributed to age, education, income, gender, a future time orientation, access to employer-sponsored plans, and propensity to plan (Heckman & Hanna, 2015; Kim et al., 2014, 2018; Kim & Hanna, 2015; Yang & Devaney, 2012). Notably, relationships between socialization agents and retirement savings adequacy have not been fully explored and remain an area of opportunity for academic research.

Equally important to understanding retirement saving adequacy are the determinants of those who are not properly saving. Poor health, remaining work life expectancy, debt, and consumption have been shown to be the most significant inhibitors of retirement savings (Coile, 2015; Lawson & Heckman, 2017). The quandary created with these particular issues is that health and remaining work life expectancy would serve as two of the most important arguments for increasing the emphasis on savings. Poor health may decrease life expectancy, but it can potentially increase the need for additional savings in retirement to cover medication, long-term care, and doctor's visits. Moreover, subjective issues such as quality of health and life expectancy do not change the reality or importance of retirement saving.

Within the paradigms of saving and under-saving is the unknown impact of socialization agents. The existing body of research has not fully examined the relationship between the influence of peers, parents, and mass media as these factors relate to retirement saving adequacy. Furthermore, the mediating effect of credit card usage remains unexplored. This research will build on the existing body of work by using the previously established variables that are indicative of both savings adequacy and under-saving while adding in the socialization outcomes to further examine the relationship between credit card usage and retirement saving.

Mediating Effect

A specific objective of this study is to examine the hypothesized mediating effect of credit card user-type and credit card balance on the relationship between the latent variables and retirement savings balance. The existing body of research does not specifically handle the mediating effect in the same manner as this proposed study; therefore, the contribution and originality of this study will specifically address this hypothesized relationship. Prior research does, however, support mediation in similar aspects. Gamst-Klaussen et al. (2019) found that self-efficacy completely mediated the relationship between procrastination and financial behavior. In their study, procrastination was prominent in those with higher credit card debt and inhibited accomplishing positive financial behaviors like planning and saving. Low self-efficacy was a statistically significant characteristic of those who did not handle credit card debt well.

The attributes of advertising effectiveness, impulsive buying, self-control, conspicuous consumption, and CFC have also not previously been unified in a study. Separately, an extensive body of work has found support for their individual contributions to consumption and saving outcomes. The credit card's relationship to unplanned purchases has been studied for more than 40 years and has been shown to facilitate impulsive buying patterns by minimizing price sensitivity, allowing the consumer to be less cost conscious, and accelerating purchase decisions (Roberts & Jones, 2001; Tokunaga, 1993).

Self-control, conspicuous consumption, and CFC have extensive support in prior research for their influence on credit card spending as well. Low levels of self-control have been shown to facilitate materialistic behaviors, increase debt loads, and allow stress to be alleviated with shopping (Limerick & Peltier, 2014). Conspicuous consumption has been shown to increase credit card spending in those who are status conscious by increasing luxury purchases, satisfying

the desire for uniqueness, and mitigating the struggle with low self-esteem (Wai & Osman, 2019). CFC influences credit card spending based on the time orientation of the consumer, and those who have a present orientation have higher credit card debt than those with a future orientation (Joireman et al., 2010).

Within the study of mediation effect, credit card usage is considered with two separate measurements. The first is the total credit card balance and the second is repayment strategy (convenience or revolver). Considering repayment behaviors, Kim and Devaney (2001) demonstrated that convenience users were more likely to consistently save. Meanwhile, Godwin (1998) observed that those with a present orientation to their finances were more likely to have credit card balances, and Rutherford and DeVaney (2009) found that revolving users of credit cards had lower levels of self-control and a propensity for impulsive purchases. Incorporating both forms of the dependent variable is essential to the comprehensive nature of this study. Having a zero balance on credit cards may provide a sense of financial accomplishment but potentially obfuscates the manner in which credit card overspending combined with paying of monthly balances supersedes the ability to execute long-term savings objectives.

Income is finite, and the residual effect of credit card overspending could presumably crowd out the capacity to save, especially for those in the middle-class. Research is limited on the direct relationships between credit card debt and retirement savings and traditionally focuses on each process separately. One article stands as the seminal work in this area. Cavanagh and Sharpe (2002) studied the relationship between retirement savings and credit card debt balances. Using a two-stage multivariate analysis, they found that credit card debt and installment debt had an important impact on whether the individual participated in a retirement savings plan and had a statistically significant negative relationship. Of note, though, is that other forms of debt did not

have a significant relationship with the decision to participate in retirement savings. The fact that credit card debt was the only form of debt that statistically influenced discretionary retirement saving highlights the importance of the study about the selected attributes and retirement saving through the mediating factor of credit card usage and balances.

The burden of retirement savings rests primarily with the individual and is typically accomplished by using defined contribution plans. Fellowes and Spiegel (2013) found that credit card revolvers were more likely to accumulate debt faster than they accrue retirement savings. They also reported that those who have credit card debt but try to save do not have an adequate emergency fund and have 50% less saved than individuals who do not have debt and save. Chen (2019) advanced this subject further and found that approximately 40% of individuals could not cover a $400 expense due to a tight budget impacted by credit card spending.

The 2020 Retirement Confidence Survey found that 58% of workers and 42% of retirees acknowledged debt as a problem in their situation (EBRI, 2020b). That finding, along with the referenced empirical evidence, emphasizes the need for a study that coordinates the consumer socialization agents of influence outcomes in relation to credit card usage and retirement saving to bridge the gap within existing literature. Moreover, the use of a holistic grouping of the most empirically sound consumer socialization attributes minimizes the chance that variables omitted in prior research distort the full reality of credit card mediation and its retirement savings impact.

Theoretical Framework

One explanation for the omitted variable bias concern is rooted in the theoretical framework used by the existing empirical studies. Prior research has typically focused on the consumer side of the equation regarding credit card usage and saving behaviors that are guided by consumer-focused models such as the behavioral life cycle hypothesis, expected utility model,

and theory of planned behavior (e.g. Ajzen, 1991; Feinberg, 1986; Prelec & Simester, 2001; Raghubir & Srivastava, 2008; Rick, 2018; Schoemaker, 1982; Shefrin & Thaler, 1988). Broadly speaking, these theoretical models acknowledge the existence and influence of behaviors or present an explanation of the savings and spending patterns, but do not simultaneously address the sources of influence or genesis of these behaviors. The family financial socialization model examines a portion of this issue by incorporating the familial dynamics of socialization outcomes on financial decisions (Gudmunson & Danes, 2011). Nevertheless, parents are only one aspect of socialization, and by excluding the influence of peers and mass media, omitted variable bias can arise by attributing socialization disproportionately to family relationships.

To remedy these issues within the current study and provide a comprehensive analysis of the foundational influences in relation to the dependent variables, the influence of parents, peers, and mass media needs to be synthesized. Therefore, the current research is based on the consumer socialization model developed by Moschis and Churchill (1978), which stated that financial skills, knowledge, and attitudes are shaped by the influence of the socialization agents of mass media, peers, and parents. Integrating the corporate marketing and peer agents of influences is a distinguishing factor of the consumer socialization model and provides a holistic paradigm that accounts for the various sources that influence financial outcomes.

Each separate agent affects individuals differently based on the various levels of socialization influence and life stage. As children move through the different phases of life, time spent with parents decreases, and the time spent with peers increases (Csikszentmihalyi & Larson, 1984). Peers include friends, coworkers, acquaintances, romantic partners, and spouses. Over time, life becomes more intricate, and the number of financial decisions adults must make

grows in complexity and influence. Consequently, it is imperative that research discerns how these agents of influence that consume our waking hours impact spending and saving behaviors.

The consumer socialization model further serves to address potential omitted variable bias by distinctly separating peers and parents from the socialization agent of mass media. This is an important dynamic since family and peers are charged with putting the interests of the individual first, but the agent of mass media has the underlying motive to prioritize the profits, goals, and objectives of the corporate entity. The mass media latent variable is further distinguished by the advertising effectiveness scale denoting the influence of overt advertising strategies, and impulsive buying tendency, which measures the disposition of covert advertising on the consumer. The inclusion of mass media in this manner serves to fill a gap in existing literature since a disproportional exclusion of both overt and covert forms of mass media variables exists. This also serves as another example of potential omitted variable bias.

Mass Media

Socialization through mass media is accomplished by advertising which is created to sway buyers' behavior and elicit emotions (Ehrenberg, 2000; van der Goot et al., 2016). Changes of purchase behaviors is accomplished with marketing strategies that are both overt and covert and require separate scales to address the holistic effect of the mass media socialization agent. First, "advertising effectiveness" measures the general effectiveness of overt advertising of which the consumer is aware. Television as a medium of influence is usually the initial platform associated with this agent category and has long been a potent conduit for advertising (Gregory et al., 2017). The second aspect of mass media is measured by "impulsive buying tendency," and identifies the effect of advertising that is more covert in nature and of which the consumer is usually not aware of its potential to induce purchasing behavior. Covert marketing strategies seek

to reach customers through weak defensive points with strategies like placing candy at checkout lanes, creating soothing sounds, and crafting attractive scents (Kaikati & Kaikati, 2004).

Advertising Effectiveness

Television as a mass media agent of influence in the consumer socialization model is one of the most powerful tools for overt advertising effectiveness (Gregory et al., 2017). At the end of World War II, television became a ubiquitous part of American society. Since 1995, average American families have more televisions in their homes than people (O'Guinn & Shrum, 1997) and watch an average of approximately 35 to 66 hours of television per week (Beal et al., 2018; Pevos, 2020). Furthermore, those who have a social media account (i.e., Facebook, Twitter, Instagram) spend more than 3.6 hours per day interacting with the platforms (Khan et al., 2014). With consumers' time being monopolized by entertainment media, research must consider the direct and indirect impact that mass media advertising has on consumption and financial behaviors.

Advertising can spur consumption by creating a positive brand perception, enhancing learning, persuading customers to select a specific product or brand, or changing preferences or behaviors (Sachdeva, 2015). In general, advertising effectiveness is defined as "a strategy by which advertisers gain their stated advertising objectives" (Sachdeva, 2015, p. 15). For credit card companies, there is an understated duality that exists for their stated objectives. Effectiveness is not only measured by increases in new cardholders but also in the card company's ability to escalate consumption of current customers since revenue is derived from each purchase consummated with the card (Boden et al., 2019; Compton & Pfau, 2004; Wang, 2012).

The influence of marketing to encourage consumption and impact behavior is so substantial that it has been addressed by international lawmakers. Canada, Norway, and Sweden have bans on advertising to children under a certain age while Greece, France, Finland, and the European Union have content and time-of-day restrictions on advertising to children (Caraher et al., 2006). In America, lawmakers intervened to require the tobacco industry to eliminate the use of cartoon characters in advertisements because of their potential influence on those under age 18 (Saffer & Chaloupka, 2000). The CARD Act of 2009 was also a legislative result of the strength of advertising and limited the interaction credit card companies could have with college students while expanding disclosure requirements (Hawkins, 2012).

Impulsive Buying Tendency

A second aspect of mass media is covert advertising, which seeks to capitalize on subconscious behaviors resulting in impulsive purchases and is influenced by sounds and smells (Hultén, 2012; Lindstrom, 2012; Podoshen, 2005; Soars, 2009), point-of-purchase displays (Miller, 2001), and pricing strategies (Dawson & Kim, 2010; Hodge, 2004; Hultén & Vanyushyn, 2011). Impulsive buying behaviors are unique because they are not contemplative but are an emotional, unplanned response to the deployment of covert marketing strategies (Rook, 1987). Studies of impulsive buying tendency provide an explanation for the economically irrational purchase decisions of consumers (Beatty & Ferrell, 1998; Han et al., 1991; Rook & Fisher, 1995).

Previous research shows that the economic impact of impulsive purchases significantly increases consumption and is crucial to a corporation's sales strategy. As far back as the 1970s, department stores noticed that up to 62% of purchases were a result of impulse buying tendencies (Bellenger et al., 1978), and executive leadership within Coca Cola® attribute more

than 70% of their sales to impulse purchases (Karmali, 2007). The impulse purchases of candy and magazines reportedly generates more than $4.2 billion in sales (Sultan et al., 2012). Profitability, along with increased efficiencies of online purchases, smart-phones, and mobile payment methods, will increase the importance of impulsive purchases to corporations and will continue to be a topic of focus for marketers and those studying the effectiveness of such marketing.

Peers and Parents

Parents provide the earliest influence on a child's development and teach behaviors through overt and cognitive processes (Moschis, 1985). Moschis and Churchill (1978) noted that processes of modeling, reinforcement, and social interaction were the channels of learning. Within the socialization process, children learn not only by what they hear their parents tell them, but also learn from what they observe by parents modeling behaviors. This learning can be significant with regard to credit cards since cards are visible to the child during shopping trips to the grocery store, mall, and other places where consumption occurs. The non-verbal communication and modeling that occurs when children see parents use credit cards shapes the child's financial values, beliefs, and behaviors (Fox et al., 2000; Furnham, 1999; Roedder, 1999). The influence of parents has been shown to have a negative relationship with an adult child's credit card balance with higher levels of involvement related to a lower credit card balance (Limbu et al., 2012). Parents may have a varying degree of influence upon each individual child; however, the gradation of parental impact on finances plays a significant role in determining the overall consumer socialization process of the child.

Parents' behavior also has a similar influence on retirement savings. Qualitative research has indicated that adult children take on the savings attitude of their parents, most commonly

seek out parents for financial advice, and have similar retirement adequacy levels as their parents (Robertson-Rose, 2020). The behavioral influence of parents on retirement savings is similar to that of the use of credit cards and consumption. Responsible financial behaviors in children increase if parents reinforced and demonstrated self-discipline and exemplary behavioral attributes. (Tang et al., 2015). Research shows that adult children align with the retirement planning decision-making processes of their parents which reinforces the role parents play in the consumer socialization process in relation to positive financial behaviors (Koposko & Hershey, 2014).

Unique to the behaviors of self-control, conspicuous consumption, and CFC, peers and parents sometimes have an offsetting effect. A greater positive effect by parents on consumer socialization usually results in a lower negative effect from peers (Joireman et al., 2005; Meldrum & Hay, 2012; Rojas-Mendez & Davies, 2016). Similarly, since children imitate their surroundings, the absence of parents as positive role models creates a gap that is commonly filled by mass media and peers which then serve as indirect educators on consumption actions to influence behavior (Gudmunson & Beutler, 2012). This influence leads to materialism (Opree et al., 2012; Rai et al., 2018; Sirgy et al., 2012), higher consumption of luxury items (Kastanakis & Balabanis, 2012), problematic credit card behavior (Pinto et al., 2005), and present-focused rather than future-minded time orientation which negatively influences saving behaviors (Rojas-Mendez & Davies, 2016).

Self-Control

Self-control plays a distinctive role in understanding the potency of peers and parents influence in relation to the individual's disposition of consumer spending behavior (Baumeister, 2002; Wertenbroch, 2003). Self-control is defined as the "internal resources available to inhibit,

override, or alter responses that may arise as a result of physiological processes, habit, learning, or the press of the situation" (Schmeichel & Baumeister, 2004, p. 86). It serves to represent the characteristics of internal conflict between the planner and doer (Shefrin & Thaler, 1988), and includes dimensions of self-discipline, impulse control, restraint, impulsivity, inhibition, and initiation (Lindner et al., 2015). Self-control is viewed as a behavior that can be controlled by the individual and an essential predictor in reconciling financial interactions (Baumeister, 2002).

The influence of peers and parents uniquely overlap to affect the individual's self-control at varying degrees and stages of development. Meldrum et al. (2012) explored self-control behavior and found it to be most influenced by parents. Within the parental dyad, Copeland (1985) found that the mother's influence on a child's self-control impacted the way the child interacted with others, and these findings reinforced the relationship between high levels of impulse behaviors and low levels of self-control. Furthermore, peers have been found to have a moderating effect on the relationship of self-control and impulsive buying (Efendi & Indartono, 2019). This ability to use self-control as a mechanism to limit impulsive and unplanned purchase behaviors is important within consumer socialization outcomes to negate the influence of mass media advertising strategies.

When appropriate, a corporate marketing strategy includes a plan to cater to opportunities for unplanned purchases by the consumer (Jeffrey & Hodge, 2007). On the consumer side of this equilibrium lies self-control as the device to regulate those types of purchases. In his research on self-control failure and impulse purchases, Baumeister (2002) recognized that those with low levels of self-control are "seduced by the moment" (p. 674). This study was advanced by Fenton-O'Creevy et al. (2018) and showed that low self-control increases the effects of covert marketing techniques on the individual and can lead to impulsive purchases. The guidance provided by

parent and peer modeling can prove invaluable (or destructive) as the young person reacts to mass media strategies. The relationship between credit card spending, self-control, and impulsive buying can have serious implications for an individual's financial well-being as guided by the peer and parent socialization agents.

Conspicuous Consumption

Within the consumer socialization model, conspicuous consumption is heavily influenced by the peer agent and serves as a unique predictor within the spending paradigm of society. It is commonly referred to as "keeping up with the Joneses" and, within the spectrum of behaviors, is typically more subconscious in nature (Kastanakis & Balabanis, 2014). The scholarly definition characterizes it as the "visible consumption of goods as a mechanism to enhance one's social standing" (Grace & Griffin, 2009, p. 15), and results in the "Veblen effect" which is "a willingness to pay a higher price for a functionally equivalent good" (Bagwell & Bernheim, 1996, p. 349). This effect is related to the choice of status symbol luxury items over similarly serviceable items that do not carry a strong name brand. Credit cards serve to mediate this relationship by allowing consumers to purchase items they would not have otherwise been able to afford (Bagwell & Bernheim, 1996). The most prevalent status purchases were found to be clothing (Lewis & Moital, 2016; Sivanathan & Pettit, 2010), coffee (Hartmann, 2011), and travel (Faucher, 2014).

Corporate entities can also intentionally create a culture of scarcity to encourage conspicuous consumption through peers as part of a marketing strategy. This is notably demonstrated in the realm of luxury vehicles. For example, Ferrari limits production of vehicles to 4,300 regardless of the length of the waiting list to enhance the prestige associated with its brand (Betts, 2002). The growth of technology has also served to integrate mass media

advertising and compound the peer influence in conspicuous consumption to spur on the "Attention Economy." This is when peers post their pictures on Facebook, Twitter, and Instagram to instantly communicate their conspicuous consumption and receive immediate validation (Marwick, 2015). The collective nature of the body of work indicates that conspicuous consumption is closely tied to increased consumption with credit cards and negatively related to retirement saving through time preferences (Donnelly et al., 2016), especially for those who are status conscious, have low self-esteem, and exhibit low interpersonal confidence (Bearden et al., 1992).

Consideration of Future Consequences

The origination of CFC was preceded by the concept of future time perspective (FTP), which was defined as "a general concern for the future" (Kastenbaum, 1961, p. 204). The multi-dimensional scope of time perspective included time notions of the past, present, and future (Alessio et al., 2003; Zimbardo, 1999). In addition to time perspective, future orientation recognized the comprehensive influence of work motivation, goal seeking, daily planning, and pragmatic action for future gain (Gonzalez & Zimbardo, 1985). This work on future orientation and future time perspective was foundational to the current concept of CFC and characterized as:

> The extent to which individuals consider the potential distant outcomes of their current behaviors and the extent to which they are influenced by these potential outcomes. It involves the intrapersonal struggle between present behavior with one set of immediate outcomes and one set of future outcomes. (Strathman et al., 1994, p. 73)

The measurement of CFC is quantified in the scale so that lower levels of CFC represent a more present time orientation, and a higher level of CFC indicates a more future-focused time orientation.

The effect of CFC touches both financial and non-financial aspects of one's life. Future orientation of CFC has been shown to be related to decreased credit card spending, healthy eating, more exercising, positive saving behaviors, and delayed gratification (Joireman et al., 2012; Maital & Maital, 1976; Webley & Nyhus, 2006). Time preference also reveals a relationship with mass media, and those who are more present oriented have been shown to have significant vulnerability to mass media influences (Kees, 2011). Additional studies from Kees (2010) demonstrated that advertising messages moderate consumer risk perceptions, persuasion, and behavioral intentions through temporal framing manipulation. As advertising becomes even more sophisticated through engagement tactics with brands, technology, and emotional messaging, the importance of having an understanding of the significance of future orientation will become even more critical (Calder & Malthouse, 2012).

The burden of retirement saving is shifting heavily towards the individual, and the consideration of future consequences, due to decisions made today is an important paradigm for establishing a successful retirement plan. An essential aspect of retirement savings is the willingness to delay gratification for a time in the future. Multiple experiments have shown that parents play a critical role in developing this characteristic (Mischel et al., 1972; Webley & Nyhus, 2006). In the seminal work of Mischel et al. (1972), a study was done, in part, to determine the parents' role in delayed gratification outcomes, and the research found a significant relationship between the parents' role and a positive relationship to delayed gratification. In a replication of the study, Saxler (2016) found similar results to the earlier study

regarding the parental influence of delayed gratification. Prior research indicates comparable results specific to retirement savings. Koposko and Hershey (2014) posited that adult children take on a retirement saving strategy corresponding to their parents', and Robertson-Rose (2020) concluded that children have similar retirement adequacy as a result of parental encouragement. The outcomes of the prior studies further substantiate the objectives of the current study regarding the generational ripple effect. The 2020 Retirement Confidence Survey highlighted the concerns of the current generation of retirement savers (EBRI, 2020b), and if the next generation follows suit, a comprehensive understanding of the role that the agents of influence play in consumer socialization outcomes will continue to be an important element in addressing retirement adequacy issues.

Summary

Attitudes towards retirement saving adequacy issue may be attributable to a preference to not save for retirement based on shortened life expectancy or generous pension benefits. Notwithstanding this, the growth of credit card balances and concerns about the lack of adequate retirement saving in conjunction to the corporations' desire to seek increased profits through the enhanced sophistication of marketing strategies underscores the importance of this study (Rappaport & Bajtelsmit, 2019). Combined with expanded platforms to access consumers' information and personalization to target markets through Social Network Sites (SNS), the importance of self-control, awareness of conspicuous consumption, and a future orientation of CFC will continue to be an important focus for financial planners, academics, financial therapists, and behavioral scientists.

Consider someone who is 25 years old and plans to retire at 65. If that person overspends by just $250 total per month, he or she could lose out on more than $770,000 in retirement

savings, assuming an 8% compounded rate of return. Furthermore, Cavanaugh and Sharpe (2002) showed that those with credit card balances have $40,000 less in retirement savings versus those who do not. Mathematically, for someone with a 25-year time horizon, that $40,000 would represent $490,946 in future value to retirement savings that they would forfeit. Similarly, with the average credit card balance of $8,089 (Comoreanu, 2021) and an average interest rate of 17% (O'Neill & Gillen, 2020), investing the annual interest payments rather than paying them to credit card companies over a forty-year working life could increase retirement savings by more than $350,000.

Thorough investigations into credit cards, behaviors, and retirement savings exist separately. Unifying these concepts to understand the full spectrum of relationships that occur between behaviors of the consumer, marketing strategies of corporations, credit card usage, and retirement savings is important to adding context within the existing body of research. Logically, consumption increased by credit cards can have serious long-term consequences on one's financial well-being. Income is finite. Every dollar spent on consumption is a dollar not saved, and every dollar used to increase lifestyle expenses compels the individual to increase earnings and spending to maintain the lifestyle. Meanwhile, the debt accrued from credit cards with high interest rates, fees, and expenses can snowball into a perfect storm that makes saving for retirement mathematically impossible.

Chapter 3 - Methodology

The constructs of this study were based on the consumer socialization model developed by Moschis and Churchill (1978). Previous chapters provided the outline and empirical support for the foundations of the study. The analysis of this study required a robust and uniquely tailored questionnaire for the data collection. Since secondary datasets like the Survey of Consumer Finances (Federal Reserve, 2019) or the National Financial Capabilities Study (FINRA, 2018) do not include the specific attributes attuned to this study, a primary dataset was gathered. This provided the ability to directly measure the selected variables for the analysis of the hypothesized relationships between the latent variables, retirement savings, and credit card usage. The remainder of this chapter describes the methodology and analytical approach by which the primary data was collected to answer the following research questions introduced in Chapter 1:

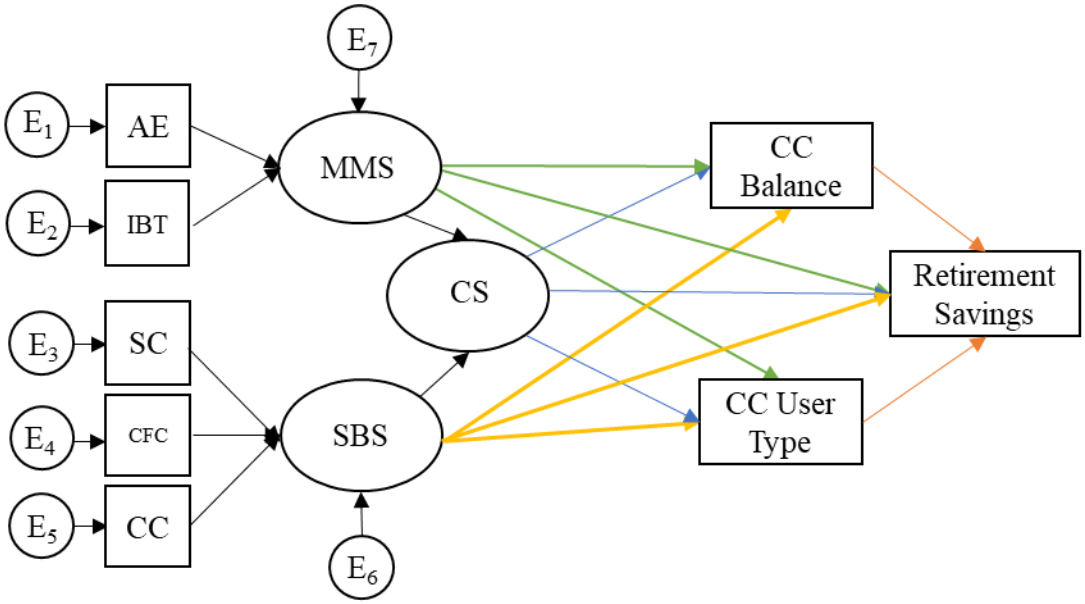
1. What is the relationship between the components of Consumer Socialization and retirement savings balances?
2. What is the relationship between the components of Consumer Socialization and credit card balances?
3. What is the relationship between the components of Consumer Socialization and convenience or revolving credit card users?
4. What is the mediating effect of credit card usage, measured by credit card balance, on the relationship between the Consumer Socialization construct and retirement savings balance?

5. What is the mediating effect of credit card usage, measured by credit card user type, on the relationship between the comprehensive spending behaviors and retirement savings balance?
6. What is the difference in comparative indirect effects between the Mass Media Socialization construct and the Subjective Behavioral Socialization construct on retirement savings balance?

Figure 3.1 provides a visual outline of the empirical model for the directional relationships between latent variables, retirement saving, and credit card spending.

Figure 3.1

Empirical Model



Hypotheses

Prior research has demonstrated that advertising effectiveness (Feinberg, 1986), impulsive buying behavior (Roberts & Jones, 2001), self-control (Haws et al., 2012),

conspicuous consumption (Bagwell & Bernheim, 1996), and CFC (Joireman et al., 2010) have strong relationships with the spending behaviors of consumers. Additionally, convenience users (those who do not continually carry balances on their cards) have been shown to have a higher propensity to save (Joireman et al., 2005); therefore, it was hypothesized that the exemplary attributes of the predictor variables would be positively related to funding retirement savings plans on a consistent basis, and thus, higher retirement saving balances. As such, the following hypotheses were provided, and Figure 3.2 provides the visual representation:

H_1: *Based on the consumer socialization model, Consumer Socialization will have a positive relationship with retirement saving balances, holding all else equal.*

H_2: *Based on the consumer socialization model, Consumer Socialization will have a negative relationship with credit card balances, holding all else equal.*

H_3: *Based on the consumer socialization model, Consumer Socialization will be positively associated with being a convenience user, holding all else equal.*

H_4: *Based on the consumer socialization model, credit card balances will have a negative relationship with retirement saving balances, holding all else equal.*

H_5: *Based on the consumer socialization model, being a convenience user of credit cards will have a positive relationship with retirement saving balances, holding all else equal.*

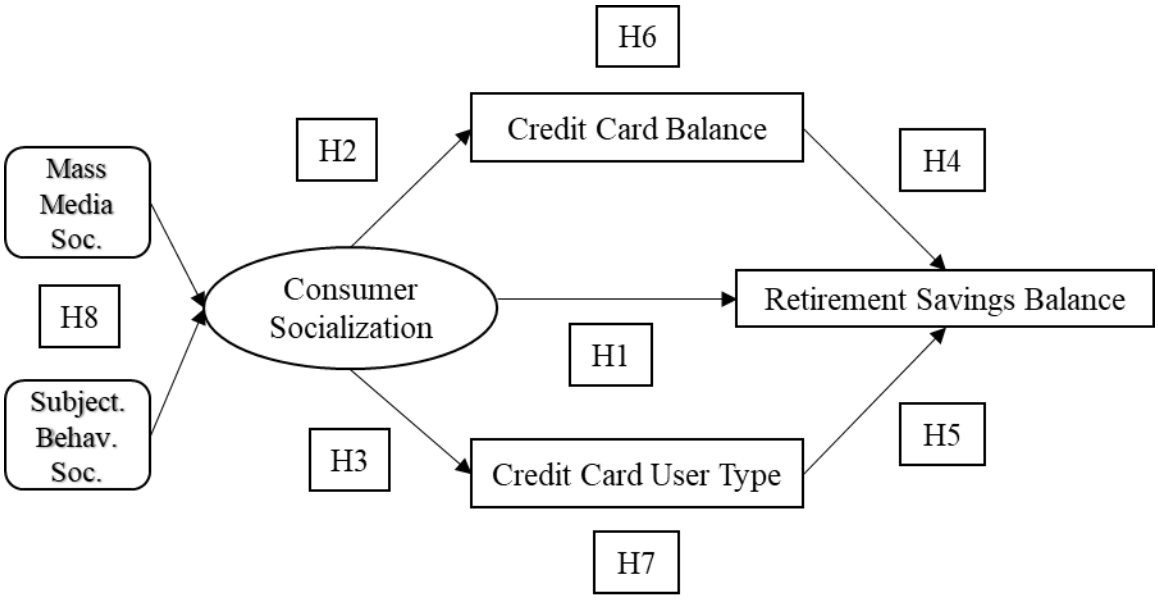
H_6: *Based on the consumer socialization model, the relationship between Consumer Socialization and retirement savings is fully mediated by credit card balances, holding all else equal.*

H_7: *Based on the consumer socialization model, the relationship between Consumer Socialization and retirement savings is fully mediated by being a convenience user, holding all else equal.*

H_8: *Based on the consumer socialization model, the Mass Media Socialization construct will have a more significant effect on the empirical model compared to the Subjective Behavioral Socialization construct, holding all else equal.*

Figure 3.2

Conceptual Model for Hypotheses



Specific Research Objectives

The primary research objective was twofold. First, this study examined the mediating effect that credit card usage had on the relationship between the latent variable of consumer socialization and retirement savings. Baron and Kenny (1986) acknowledged that in social sciences, perfect mediation may not be a realistic goal. Therefore, an expectation of a significant

reduction in the path between the exemplary behaviors and retirement savings when controlled for credit card balances would be a substantial finding. This study posited that existing literature suffers from omitted variable bias by only including limited sets of independent variables.

Second, this study intentionally included attributes related to all three agents of consumer socialization influence (Moschis & Churchill, 1978). The agents were categorized by their essence of incentive to influence. Mass media was the first category; peers and parents were the second. They are distinctly different because mass media has the best interests of the corporate entity as their central motivation and are financially incentivized to exploit behavioral weaknesses to elevate consumption. The peers and parents' group were the second category but distinctly different since these groups do not have a profit-driven incentive to bolster consumption. As such, the second objective of this research was to compare the influence that the two different categories of agents have on the sample. No existing research comparatively analyzes mass media socialization versus subjective behavioral socialization, and this study continued to advance the existing body of research by highlighting the distinction of the mass media agent that has been disproportionately considered within the existing body of literature.

Sample

Primary data was collected for this research with respondents drawn from the online resource of Amazon Mechanical Turk (MTurk). The survey was administered using Qualtrics. Amazon MTurk allows researchers to reach the number of respondents determined through power analysis to ensure enough scale responses to test hypotheses. Also, it was an efficient crowdsourcing tool that allowed for the cost-effective selection of individuals who met the middle-class ($48,500 - $145,500) income criteria, as defined by Pew Research and the U.S. Census Bureau (Bennett et al., 2020) and provides the ability to test and retest variables within

the study. Due to the selection characteristics established by MTurk, middle-class income was adapted to the nearest amounts of $50,000 - $150,000.

Income was narrowed to focus the specificity of the study since those below the middle-class threshold may use credit cards as a means to survive financially, and those above the upper threshold of middle income can mathematically afford to overspend with a credit card and still save for retirement. Additionally, the sample age was narrowed to those individuals who were between the ages of 35 and 55 and were currently employed. Prior research shows that individuals within this age group have the most hurdles to overcome in achieving retirement adequacy. This group was more likely to have an unrealistic projection of retirement adequacy (Kim & Hanna, 2015) and must consider expanded life expectancy and longer spans of retirement (Munnell et al., 2012). Furthermore, this group has been shown to be at the crossroads of important financial decisions that require balancing mortgage payments, retirement savings, saving for college, and meeting day-to-day consumption requirements (Hanna et al., 2016). Thus, the age parameters associated with the current study provided the opportunity to analyze age groups that were potentially at risk for under-saving yet have an appropriate amount of time to make financial adjustments to improve retirement adequacy. The a-priori sample size was between 100 to 400, which was based on an effect size of 0.60, a power level of 0.8, and a probability level of 0.05 for structural equation modeling (Soper, 2021).

Ensuring an optimal level of quality control was important to gathering accurate data on this platform. Prior research suggests that all participants of the survey should be paid equally, duplicate IP addresses should be blocked, and the use of geotag data should help reduce misrepresentations (Aust et al., 2013; Wessling et al., 2017). These tactics also ensure that all the

survey participants reside in the United States or Washington, D.C. International respondents and residents of the United States Territories were excluded from the participant pool.

The budget for this research was approximately $1,700. The primary components of this cost were: (a) survey reward of up to $2.00 for a fully completed survey; (b) MTurk Fee of 20%; (c) additional 5% fee for Master's Qualifications; (d) premium qualifications for age ($0.50); income ($0.50); and employment status ($0.50). The Master's Qualification designation was for workers who continue to pass high-quality statistical monitoring tests through Amazon MTurk, and using this qualification negates aspects of validity issues (Goodman & Paolacci, 2017; Sheehan & Pittman, 2016). The final sample size was 180 respondents and the total spend was approximately $1,750 which included the pilot sample and the final sample.

Study Design

The survey for this study obtained information using previously validated scales that had demonstrated a statistically significant ability to accurately measure the behavioral characteristic each was intended to represent. The total item count for the scales measuring the subjective behaviors of advertising effectiveness (Sachdeva, 2015), impulse buying tendency (Weun et al., 1998), self-control (Maloney et al., 2012), conspicuous consumption (Chaudhuri et al., 2011), and consideration of future consequences (Petrocelli, 2003), was 45. An additional 44 items were gathered for objective data with demographic information, control variable data, credit card use, and retirement savings for a total of 89 questions.

Advertising Effectiveness Scale

Advertising effectiveness was measured using a 13-item, 7-point Likert-type scale with 1 = "Strongly Disagree" and 7 = "Strongly Agree." It was adapted from the work of Sachdeva (2015), which originally focused on creating the scale for respondents in India. This scale

allowed for a broad representation of overt marketing and was not tailored to one medium of advertising such as television, radio, or outdoor advertising. The scale factors were not specific to India, and there was no indication that the country has any statistical influence on the outcome. The alpha for the final scale of Sachdeva's (2015) study was 0.74, and factor analysis for the statements ranged from 0.43 and 0.59. The alpha for this study was 0.80 and the standardized factor analysis for the statements ranged from -0.22 to 0.72. The results were averaged for each respondent. The full detail of this scale is identified in Appendix A and Appendix J.

Impulse Buying Tendency

The Impulse Buying Tendency Scale was a 5-item, 7-point Likert-type scale with 1 = "not at all like me" and 7 = "very much like me." This scale was adapted from the work of Weun et al. (1998) and validated with studies that encompassed unidimensional and internal consistency and convergent, discriminant, and predictive validity. The alpha for the three studies ranged from 0.80 to 0.85. The goodness of fit ranged from 0.98 to 0.99; the adjusted-goodness-of-fit ranged from 0.95 to 0.97. The samples for all the confirmatory studies were fairly distributed in consideration of gender and ethnicity. The alpha for this study was 0.82 and the standardized factor analysis for the statements ranged from 0.49 to 0.93. The results were averaged for each respondent. The full detail of this scale is identified in Appendix B and Appendix J.

Self-Control Scale

The self-control scale serves to measure the ability for a person to restrain undesirable behaviors and limit oneself from being susceptible to low levels of self-control. Those with higher levels of impulsivity tendencies need higher levels of restraint to properly execute self-

regulating behaviors. This study used the 8-item, 7-point Likert-type scale with 1 = "not at all like me" and 7 = "very much like me." This scale was developed from the initial work of Tangney et al. (2004), who previously developed a 36-item Self-Control Scale that was originally a 5-point Likert-type scale, then narrowed down to the current 13-item scale. This was changed to a 7-point Likert-type scale to maintain consistency throughout the study. The alpha for the Tangney et al. (2004) version of the scale was 0.83 and encompassed three multi-dimensional facets model that had the most statistical support from prior research (Lindner et al., 2015). In the study to further examine the factor loading, Maloney et al. (2012) conducted three studies analyzing exploratory factor analysis and confirmatory factor analysis. Their study using structural equation modeling showed statistically significant support for the two-factor structure of the scale and was used in this study. The alpha for this study was 0.86 and the standardized factor analysis for the statements ranged from 0.28 to 0.84. The results were averaged for each respondent. The full detail of this scale is identified in Appendix C and Appendix J.

Conspicuous Consumption Scale

Conspicuous consumption was measured using an 11-item 7-point Likert-type scale with 1 = "not at all like me" and 7 = "very much like me." This scale was adapted from the work of Chaudhuri et al. (2011) in which they studied 12-items for the original scale and found that one factor did not have a statistically significant relationship and was dropped from the final scale. The remaining 11-factor analysis scores range from 0.55 to 0.81 and had an alpha of 0.84. The alpha for this study was 0.94 and the standardized factor analysis for the statements ranged from 0.58 to 0.87. The results were averaged for each respondent. The full detail of this scale is identified in Appendix D and Appendix J.

Consideration of Future Consequences Scale

Consideration of future consequences was measured using an 8-item 7-point Likert-type scale with 1 = “not at all like me” and 7 = “very much like me.” The research to narrow the factors of the scale by Petrocelli (2003) was based on the original 12-item scale developed by Strathman et al. (1994). The consideration of future consequences scale has been used in ameliorating a litany of positive behaviors associated with a future orientation such as healthy food purchases (Thomas et al., 2010), eating healthy (Dutta & Youn, 1999), and exercising (Adams & Nettle, 2009). Petrocelli (2003) began the analysis with the original 12-item scale and found a similar alpha to the original study of .82 and noted a gender difference in the results with males scoring significantly lower than females. The alpha for the final study was .82 and the goodness of fit and adjusted-goodness-of-fit statistics supported the use of the shorter 8-item scale over the original 12-item scale. Similar to the original study, Petrocelli (2003) identified a continued gender difference, with women being more likely to have a future time orientation than men. The alpha for this study was 0.88 and the standardized factor analysis for the statements ranged from 0.16 to 0.90. The results were averaged for each respondent. The full detail of this scale is identified in Appendix E and Appendix J.

Latent Variables

Three latent variables were used in this study. MMS consisted of advertising effectiveness and impulsive buying tendency, SBS consisted of self-control, conspicuous consumption, and consideration of future consequences. The original latent variable for CS was proposed as advertising effectiveness, impulsive buying tendency, self-control, conspicuous consumption, and consideration of future consequences. However, the final model did not use the second-order latent variables and only used the CS latent model only consisted of impulsive

buying tendency, self-control, conspicuous consumption, and consideration of future consequences because advertising effectiveness weakly loaded on impulsive buying tendency.

The latent variable of MMS had an alpha of 0.80 and standardized factor loadings that ranged from 0.121 to 1.40. The latent variable of SBS had an alpha of 0.76 and standardized factor loadings that ranged from 0.64 to 0.83. The latent variable of CS with all five variables had an alpha 0.74 and standardized factor loadings that ranged from 0.095 to 0.82. The CS latent variable used in the final model with only the four variables had an alpha of 0.67 and standardized factor loadings that ranged from 0.61 to 0.83.

Credit Card Usage

Respondents will provide quantitative information about their credit cards and credit card usage. Questions include the number of credit cards they have, whether they pay all of them off monthly, and the aggregate balance of all credit cards. The credit card questions were adapted from the 2018 NFCS Survey. The affirmative response to 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” was used to code convenience users of credit cards. The affirmative response to the question: “In the past 12 months, which of the following describes your experience with credit cards? -In some months, I carried over a balance and was charged interest” was used to code revolving users of credit cards. The 2016 Survey of Consumer Finances provided the model for the credit card balance question, which states: “After the last payments were made on your credit card accounts, what was the balance still owed on all these accounts?”

Retirement Savings

Retirement saving questions have also been adapted from the 2018 NFCS Survey. The response to the question: “What amount did you contribute to your retirement accounts in 2020

(including 401(k), Roth or Traditional IRA, 403(b), SEPP, SIMPLE, or Keogh Plans)? $0; $1 - $5,000; $5,001 - $10,000; More than $10,000" was used to create the code for retirement contributions. The 2016 Survey of Consumer Finances provided the model for the retirement balance question, which states: "After the last contribution was made to your retirement account, what was the total balance of these accounts (including 401(k), Roth or Traditional IRA, 403(b), SEPP, SIMPLE, or Keogh Plans)?"

Demographic and Control Variables

Demographic variables include age, gender, ethnicity, education level, household income, net worth, presence of dependent children, and work status of both the respondent and spouse/partner. Household income was used as the control variable to ensure that middle-class individuals were used within the analysis based on Pew Research and the U.S. Census Bureau guidelines (Bennett et al., 2020). A full list of the questionnaire for demographic and control variables, credit card usage, and retirement contributions is included in Appendix F-H. The full survey that was administered is shown in Appendix I and outlines the instructions for the respondent, the informed consent form, and the post survey debriefing.

Table 3.1

Latent Variable Measurement Overview

Predictor Variable	Item Count	Measurement
Advertising Effectiveness	13	7-point Likert-type scale with lower scores indicating a lower level of advertising effectiveness on the individual.
Impulse Buying Tendency	5	7-point Likert-type scale with lower scores indicating a lower level of impulse buying tendency.
Self-Control	8	7-point Likert-type scale with higher scores indicating a higher level of self-control.
Conspicuous Consumption	11	7-point Likert-type scale with lower scores indicating a lower level of conspicuous consumption.
Consideration of Future Consequences	8	High future-time orientation indicates a focus on future orientation of behaviors.

Table 3.2

Demographic, dependent variable, and control variable overview

Variable	Measurement
Credit Card Variables	
Number of credit cards	Six categories
Credit card usage	Three categories
Balance	Seven categories
Reason for Debt	Eight categories
Credit Score	Four categories
Partner Credit Score	Four categories
Retirement Variables	
Determined Retirement Need	Yes / No
Regularly Contribute	Yes / No
2020 Contribution	Four categories
Balance	Four categories
Access to retirement plan at work	Yes / No
Partner retirement plan access at work	Yes / No
Automatic Contributions	Yes / No
Match	Yes / No
Partner Match	Yes / No
Automatic Enrollment	Yes / No
Partner – Automatic Enrollment	Yes / No
Expected Retirement Age	Six categories
Partner – Expected Retirement Age	Six categories
Retirement Income Replacement Rate	Three categories
Retirement Income Satisfaction	Three categories

Variable	Measurement
Control / Demographic Variables	
Age	35-55
Partner Age	Six Categories
Gender	Male / Female
Marital Status	Five categories
Dependent Children	0 - 4+
Ethnicity	Five categories
Identify as Hispanic, Latino(a), Latinx	Yes / No
Income	$50,000 - $150,000
Employment Status	Three categories
Employment Status (spouse/partner)	Three categories
Education	Five categories
Education (spouse/partner)	Five categories
Dependent Children	Four categories
Total Investable Assets	$0 - $9,999,999
Emergency Fund	Five categories
Net Worth	Five categories
Health Status	Four categories
Partner Health Status	Four categories
Life Expectancy	Six categories
Partner Life Expectancy	Six categories
Own a home	Yes / No

Analysis Methods

The purpose of this study was to examine the relationship between the latent variables and the dependent variables of credit card spending and retirement savings. It was hypothesized that the relationship between latent variables and retirement savings balance would be fully mediated by credit card spending. Baron and Kenny (1986) acknowledged that in social sciences, perfect mediation may not be a realistic goal and stated that a noteworthy reduction in the relationship between the variables would be a significant outcome. Understanding the implication of the relationships between CS, credit card balances, and retirement savings will assist with advancing the discussion on solutions for balancing current consumption with future savings.

Initially, ANOVA analysis was conducted on each of the categorical variable differences within each of the five scales. This allowed for the comparison of more variables with more

flexibility and reduced the possibility of type-1 errors. The purpose of this was to uncover any significant group differences that may need further exploration within the study and assist with determining what is driving certain behaviors within the construct. This analysis was also used to determine which attributes were significant across multiple behaviors. Mean, standard deviation, *f*-values, and *p*-values were used in the analysis. Tables 4.4 – 4.13 provide a detailed analysis of the results for the ANOVA analysis.

Structural Equation Modeling (SEM) was used to constrain direct paths and deliver indirect and direct effects outcomes. The first model tests the mediating effect of credit card balances on the relationship between the latent variable and retirement saving balances. The underlying regression equations used to provide these outcomes were based on the recommendations of Preacher and Hayes (2004):

$$Y = \beta_0 + cX + \varepsilon_1 \qquad (1)$$

$$M = \beta_0 + aX + \varepsilon_2 \qquad (2)$$

$$Y = \beta_0 + c'X + bM + \varepsilon_3 \qquad (3)$$

where *b* represents an intercept coefficient, *Y* is the outcome variable of retirement savings, *X* is the latent variable, and *M* is the credit card balance. The total effect of the latent variable on retirement savings is denoted by *c* and c' and is the direct effect of the latent variable on retirement savings after controlling for the credit card variable.

The second set of regression equations is similar to the first model; however, the mediating relationship was analyzed based on the probability of being a null, convenience, or revolving user of credit cards with the following equation for the categorical outcome of the mediating variable:

$$M = log(\frac{Fij}{1-Fij}) = \alpha_i + \beta x_i,\ j=1,\ldots,j\text{-}1 \qquad (4)$$

where $\beta x_i = \beta_1 x_{i1} + \ldots + \beta_k x_{ik}$ and $F_{ij} = \Sigma_{m=1}^{j} p_{im}$, where F_{ij} is the cumulative probability that respondent i is in the j^{th} category or higher (Allison, 2012). The proportional odds assumption is thought to be an achievable assumption within the three categories proposed (null, convenience, revolver).

Bootstrapping, which is a nonparametric resampling procedure, was used to construct the confidence intervals for the indirect effects. This method is recommended above the "4-Step Approach" (Briggs, 2006; Preacher & Hayes, 2004) and is suggested by Shrout and Bolger (2002) for nonexperimental research situations. Following these references, 2,000 bootstraps was used for analysis. The large-sample theory is not used for bootstrapping, which makes it effective for large and small sample sizes. Confidence intervals were used to analyze the indirect effect, and based on the results, if zero is not included in the 95% confidence interval, the conclusion can be drawn that the indirect effect is significantly different from zero at the 5% level for a two-tailed test. Furthermore, this will provide robust analysis on the mediating role that credit card spending plays in the relationship between the comprehensive socialization latent variable and retirement saving.

An additional benefit of the bootstrapping method was that multiple mediators can be tested simultaneously (Preacher & Hayes, 2008). This was an important aspect when considering comparative analysis of effects between null, convenience, and revolving users. The analysis outlined by Preacher and Hayes (2008) also revealed that by using percentile bootstrap confidence intervals, indirect effect analysis does not require that sampling distribution be normal. The comparison of relative magnitude of the specific indirect effects associated with credit card user type and credit card balance and testing the competing models allows this analysis to meet the study's objective.

Analysis Structure

Initial coding was completed using SAS 9.4. Since this study utilized structural equation modeling, Mplus 8.4 (Muthen & Muthen, 2017) was used to conduct the path analysis for the latent variable structural model, mediation models, and bootstrapping analysis. Confirmatory Factor Analysis (CFA) will also be conducted on the factor structure of the latent variables to examine the paths that link each indicator to their corresponding latent variable. Figure 3.3 provides an illustration of the specifications of the full CFA Model.

Figure 3.3

CFA Model

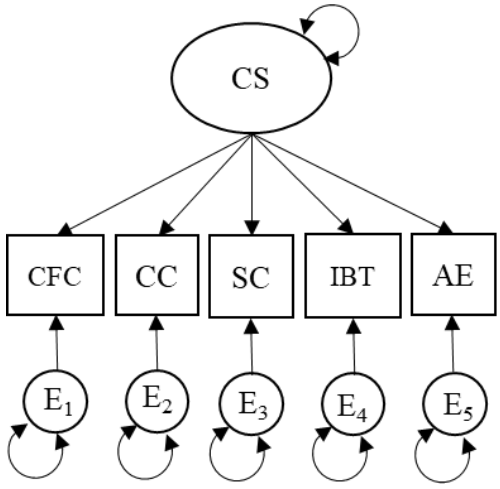
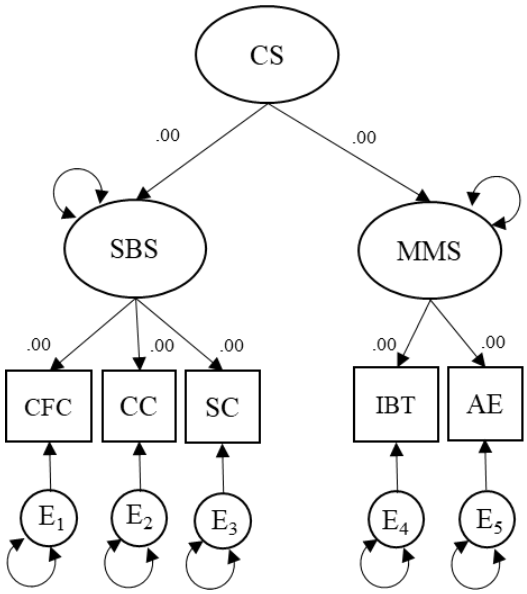


Figure 3.4 provides an illustration of the specifications of the second order CFA Model for the disaggregated latent variables.

Figure 3.4

Second Order CFA Model



Tables that were included in Chapter 4 include a detailed outline of the descriptive statistics, results of each of the attributes for respondents for both the dependent and independent variables, scale results, correlation matrices, summary of factor loading, and details of the latent variable structure.

Model Testing

This study created a data set through Amazon MTurk, and respondents must complete the full survey in order to receive the payment; therefore, missing data should not be an issue in this study. If missing data were to arise for an unknown reason (technology error, platform malfunction), the reason for missingness was to be identified and the expectation was that the missing at random assumption would likely be made at that time. As such, full information maximum likelihood (FIML) was to be used to estimate missing parameters. FIML is a process by which missing values are not imputed; rather, observable data outcomes such as means,

variances, and covariances are used to estimate the missing parameters (Acock, 2005). As expected, there were no instances of missing data, thus FIML was not used for this study.

Since this is self-reported data, outliers could have been an issue. They were to be identified with the Outlier Labeling Rule based on whether the datapoint exceeds the upper or lower bound (Hoaglin et al., 1986). The potential for outliers rests with the variables of credit card and retirement savings balances. It was possible for respondents to include responses that were fictitious. Outliers was addressed after data was collected and the resolution was to be based on an individual review of each one. Due to the categorical nature of the response options, there were no outliers that needed to be addressed.

Model fit was analyzed with the chi-square test, standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA), Tucker Lewis index (TLI), and comparative fit index (CFI). Excellent model fit was to be based on the following thresholds: for chi-square, a *p*-value greater than .05 (not significant), for SRMR and RMSEA a value of .05 or below, and for TLI and CFI a value above .90 with a preferred value of .95 (Kenny, 2015; Kline, 2011).

Pilot Testing

Pilot testing was conducted to evaluate the feasibility of combining the validated scales, to understand the time commitment needed to complete the full survey, and to expose any issues in the process that may not have been previously identified such as those involving time constraints of the survey and dropout issues from survey fatigue (van Teijlingen & Hundley, 2001). The prediction was that this survey should take no longer than 20-minutes to complete, and the order of surveys was knockout questions, advertising effectiveness, impulsive buying tendency, self-control, conspicuous consumption, CFC, then demographic, credit card usage,

retirement saving information. Since the costs associated with Amazon MTurk were significant, the pilot test will include a sample size of 25 to balance the need to fully replicate the study in the pilot testing and costs associated with Amazon MTurk. The pilot test was successful in getting the right group of individuals to participate and on average took 16 minutes to complete providing evidence that the full study should proceed.

Limitations and Assumptions

The primary limitation was the assumed accuracy of the self-reported data that was collected, especially around credit card debt information. In his research on self-reported credit card data, Zinman (2009) found that this issue leads to under-reporting by a factor of two, and Durkin (2000) noted that people viewed this type of revolving debt as undesirable and therefore underreport information. This was consistent with research on other aspects of life that have a negative social stigma (Karlan & Zinman, 2008). Therefore, it was logical to assume that the credit card debt situation is much more fragile and severe than the data shows. Furthermore, a study as far back as 2000 showed that 51% of families described the use of credit cards as "bad" (Durkin, 2000); within the same timeframe, research showed that 73% of households have a credit card (Bertaut & Haliassos, 2006). This long-standing paradox created by the conceptual relationship between credit cards, spending, and the impact on capacity to accomplish other financial goals can be difficult to understand for consumers and was often times obfuscated by mixed messages of the "right" thing to do from professionals and mediums of influence like news, television, and radio programs that also have corporate interests as a priority (Slovic et al., 1977).

Limitations were also acknowledged in regard to the Amazon MTurk platform. First, technologically advanced individuals may be able to mitigate the internet protocol verifications

of location with Virtual Private Networks (VPN) (Dennis et al., 2020). Second, prior research has also demonstrated that there can be a positivity bias based on quality issues (Matherly, 2019). Finally, any study using the MTurk platform is inherently limited to the participants (workers) who were present at the time of the study's release, which could affect the validity and reliability of the study (Dennis et al., 2020). However, a wide body of literature suggests that by using the "Master Qualifications," which is a reputation system intended to identify and filter quality candidates, the merit of the findings was more reasonable and enhances the validity of findings (Goodman & Paolacci, 2017; Sheehan & Pittman, 2016). As acknowledged previously, this study will use the Master's Qualifications to assuage the validity and reliability concerns.

Chapter 4 - Findings and Results

The following chapter describes the results of the data collection and the analyses conducted to address the research questions and hypotheses. Qualtrics was used to create the survey and Amazon MTurk was the distribution platform. A total of 180 fully completed surveys were collected and included in the analyses. The primary purpose of this study was to examine the relationship between consumer socialization constructs and retirement saving and the hypothesized mediating impact of credit card spending. Structural equation modeling was used to analyze the following research questions:

1. What is the relationship between the components of Consumer Socialization and retirement savings balances?
2. What is the relationship between the components of Consumer Socialization and credit card balances?
3. What is the relationship between the components of Consumer Socialization and convenience or revolving credit card users?
4. What is the mediating effect of credit card usage, measured by credit card balance, on the relationship between the Consumer Socialization construct and retirement savings balance?
5. What is the mediating effect of credit card usage, measured by credit card user type, on the relationship between the comprehensive spending behaviors and retirement savings balance?
6. What is the difference in comparative indirect effects between the Mass Media Socialization construct and the Subjective Behavioral Socialization construct on retirement savings balance?

Demographic Characteristics of the Sample

Descriptive statistics for the sample demographics from 180 completed surveys are presented in Table 4.1. Women represented 53% (*n* = 96) and men represented 47% (*n* = 84) of the participants. The most common age group was between the ages of 50-54 (*n* = 67, 37%). The age groups of 40-44 and 45-49 were similarly represented, with each group representing 26% of the sample (*n* = 47). The smallest represented age group was 35-39 (*n* = 19, 11%). Married individuals were a large portion of the survey and represented 83% of the sample (*n* = 150). Those who identified as White represented 79% of the sample (*n* = 143); Black / African-American represented 7% of the sample (*n* = 13); and those who identified as Hispanic/Latino or Other were 14% of the group (*n* = 24). The largest majority group with dependent children were those with two financially dependent children (*n* = 65, 36%). Additionally, within the education variable, 50% of the respondents had a bachelor's degree *(n* = 90) and 28% had a master's degree or higher *(n* = 51). Considering the partner's education, 45% had a bachelor's degree (*n* = 71) and 23% held a master's degree or higher *(n* = 37). Income was specifically limited in this study to four categories. The most common category was those with a household income of $75,000 - $100,000 (*n* = 59, 33%). The next most common were those with a household income of $50,000 - $75,000 (*n* = 52, 29%). Households with an income of $125,000 to $150,000 represented 22% of the sample (*n* = 40), and the income bracket of $100,000 to $125,000 represented 16% of the sample size (*n* = 29). Both the respondent and the partner's health status were commonly rated as excellent or good (*n* = 161; 89%; *n* = 131; 87%). Most respondents expected to live past 86 (*n* = 56, 31%) and owned a home (*n* = 147, 82%). From a financial standpoint, the most predominant emergency fund size was more than $15,000 (*n* = 57, 32%); the most common net worth category was more than $250,000 (*n* = 38, 21%); the most

represented investable asset category was between $50,000-$99,999 (*n* = 40, 22%). Finally, the most popular way for couples to manage finances was together rather than separately (*n* = 122, 68%).

Table 4.1

Sample Demographics (N = 180)

Variable	Category	*n*	%
Gender*	Male	84	46.67
	Female	96	53.33
Age*	35-39	19	10.56
	40-44	47	26.11
	45-49	47	26.11
	50-54	67	37.22
Partner's Age	35-39	14	7.78
	40-44	41	22.78
	45-49	52	28.89
	50-54	59	32.78
	55 or over	14	7.78
Marital Status*	Married	150	83.33
	Divorced	13	7.22
	Widowed	1	0.56
	Separated	3	1.67
	Never Married	13	7.22
Ethnicity*	White	143	79.44
	Black / African-American	13	7.22
	Hispanic / Latino	12	6.67
	Other	12	6.67
Dependent Child(ren)*	0	58	32.22
	1	27	15.00
	2	65	36.11
	3	25	13.89
	4 or more	5	2.78
Education*	Less than High School	0	0
	High School Diploma	6	3.33
	Some college but no degree	33	18.33
	Bachelor's Degree	90	50.00
	Master's Degree or higher	51	28.33

Variable	Category	*n*	%
Partner's Education	Less than High School	1	10.64
	High School Diploma	12	7.64
	Some college but no degree	36	22.93
	Bachelor's Degree	71	45.22
	Master's Degree or higher	37	23.57
Partner's Work Status	Full-time	159	88.33
	Part-time	6	3.33
	Homemaker	15	8.33
Household Income*	$50,000 - $74,999	52	28.89
	$75,000 - $99,999	59	32.78
	$100,000 - $124,999	29	16.11
	$125,000 - $150,000	40	22.22
Health Status*	Excellent	36	20.00
	Good	125	69.44
	Fair	19	10.56
	Poor	0	0.00
Partner's Health Status*	Excellent	39	25.83
	Good	92	60.93
	Fair	14	9.27
	Poor	6	3.97
Expected Life Expectancy*	Under 65	8	4.44
	65-70	17	9.44
	71-75	19	10.56
	76-80	36	20.00
	81-85	44	24.44
	Over 86	56	31.11
Partner's Life Expectancy	Under 65	8	5.23
	65-70	13	8.50
	71-75	23	15.03
	76-80	28	18.30
	81-85	32	20.92
	Over 86	49	32.03
Own a Home*	Yes	147	81.67
	No	33	18.33
Emergency Fund Amount*	$0	14	7.78
	$1-$4,999	47	26.11
	$5,000-$9,999	49	27.22
	$10,000-$14,999	13	7.22
	$15,000 or more	57	31.67

Variable	Category	*n*	%
Net Worth*	Less than $25,000	11	6.11
	$25,000 - $49,999	23	12.78
	$50,000 - $99,999	44	24.44
	$100,000 - $250,000	45	25.00
	More than $250,000	57	31.67
Investable Assets	Less than $25,000	37	20.56
	$25,000 - $49,999	28	15.56
	$50,000 - $99,999	40	22.22
	$100,000 - $250,000	37	20.56
	More than $250,000	38	21.11
Manage Finances Together	Yes	122	67.78
	No	58	32.22

*Final model control variables

Descriptive Statistics of the Sample

Descriptive statistics for the retirement and credit card associated variables in this study are presented in Tables 4.2 and 4.3. One of the vital aspects of this study was determining the type of credit card usage. Credit card user type was categorized between a convenience user, revolving user, and null user. The convenience user represented 52% of the sample (n = 93); revolving users were 45% of the sample (n = 81), and null users represented 3% (n = 6). The two most prevalent categories for number(s) of cards were those having 2-3 cards which was 44% of the sample (n = 81), and the second most common category were those with 4-8 credit cards, which was 21% of the sample (n = 37). The typical selection for respondents assessing their reason for credit card debt was to cover household expenses (n = 74, 41%). Respondents also stated that they had credit card debt because they enjoyed spending (n = 32, 18%) and used the money for health/medical expenses (n = 32, 18%). Covering day-to-day expenses was also a common reason for credit card debt (n = 26, 14%). Credit score was presented as four categories with both a number and a descriptor. Most respondents stated that their credit score was poor and

below 629 (*n* = 89, 49%). Those with a 630-689 (fair) score represented 28% (*n* = 50) of the sample, individuals with a good score (690-719) were 18% of the sample (*n* = 33), and only eight individuals represented their score as excellent (above 720) (4%).

Within the variables associated with retirement, most respondents had determined their retirement need (*n* = 131, 73%), had access to a retirement plan at work (*n* = 142, 79%), were provided a match (*n* = 121, 67%), automatically contributed to their work plan (*n* = 150, 83%), and regularly contributed to the plan (*n* = 150, 83%). Only 9% (*n* = 16) did not contribute to a retirement account in 2020, and of the remaining three categories, 31% (*n* = 55) contributed up to $5,000; 30% (*n* = 54) contributed between $5,000 and $10,000, and 31% (*n* = 55) contributed more than $10,000. Partners of respondents had lower access to an employer-sponsored retirement plan (*n* = 108, 60%) and were less likely to receive a match (*n* = 86, 48%). Auto-enrollment in retirement plans is not as popular as selective enrollment. Only 46% (*n* = 82) of respondents were automatically enrolled, and only 34% (*n* = 61) of partners were automatically enrolled in the company-sponsored plan.

The most prevalent expected retirement age for respondents was 65-70 (*n* = 81, 45%) and the predominant retirement age for partners was before 65 (*n* = 118, 81%). Retirement income satisfaction was an important confidence metric for those in this study's predetermined age brackets. Most respondents felt that their retirement income would be adequate (*n* = 68, 38%), while 6% (*n* = 11) believed it would be totally inadequate; 11% (*n* = 20) stated somewhat adequate, 32% (*n* = 57) more than adequate and 13% very adequate (*n* = 24). A majority of respondents believed their retirement income would be less than their current income (*n* = 93, 52%), and 37% (*n* = 67) stated that it would be the same, while only 11% stated that it would be more than their current income (*n* = 20).

Table 4.2

Credit Card Variable Summary Statistics (N = 180)

Variable	Category	*n*	%
User Type	Convenience User	93	51.67
	Revolving User	81	45.00
	Null User	6	3.33
Number of Cards	0	5	2.78
	1	42	23.33
	2-3	80	44.44
	4-8	37	20.56
	9-12	12	6.67
	13-20	3	1.67
	More than 20	1	0.56
Reason for CC Debt	Enjoy Spending	32	17.78
	Health / Medical Expenses	32	17.78
	Household Expenses	74	41.11
	Job Change	0	0.00
	Moving Expenses	4	2.22
	Home Furnishings	7	3.89
	Education Expenses	5	2.78
	Day-to-Day Expenses	26	14.44
Credit Score*	Below 629 (Poor)	89	49.44
	630-689 (Fair)	50	27.78
	690-719 (Good)	33	18.33
	Above 720 (Excellent)	8	4.44
Partner's Credit Score	Below 629 (Poor)	72	48.98
	630-689 (Fair)	37	25.17
	690-719 (Good)	28	19.05
	Above 720 (Excellent	10	6.80

*Control variable for final model

Table 4.3

Retirement Variable Summary Statistics (N = 180)

Variable	Category	*n*	%
Retirement Need*	Yes, determined retirement need	131	72.78
	No, have not determined need	49	27.22
2020 Retmt Contribution*	Contributed $0 in 2020	16	8.89
	Contributed $1 - $5,000	55	30.56
	Contributed $5,001 - $10,000	54	30.00
	Contributed more than $10,000	55	30.56
Employer Sponsored Plan*	Yes, have access	142	78.89
	No, do not have access	38	21.11
Partner's Sponsored Plan	Yes, have access	108	60.00
	No, do not have access	72	40.00
Regularly Contribute*	Yes	150	83.33
	No	30	16.67
Automatic Contributions	Yes	155	86.11
	No	25	13.89
Receive Match*	Yes	121	67.22
	No	59	32.78
Partner Receives Match	Yes	86	47.78
	No	94	52.22
Auto Enrolled in Plan	Yes	82	45.56
	No	98	54.44
Partner Auto Enrolled in Plan	Yes	61	33.89
	No	119	66.11
Expected Retirement Age*	Before 65	64	35.56
	65-70	81	45.00
	71-75	23	12.78
	76-80	6	3.33
	After 80	3	1.67
	Never Retire	3	1.67

Variable	Category	*n*	%
Partner's Expected Retirement Age	Before 65	118	81.38
	65-70	21	6.11
	71-75	3	2.07
	76-80	0	0.00
	After 80	3	2.07
	Never Retire	0	0.00
Retirement Income Satisfaction	Totally Inadequate	11	6.11
	Somewhat Inadequate	20	11.11
	Adequate	68	37.78
	More than Adequate	57	31.67
	Very Satisfactory	24	13.33
Retirement Income vs Current Income*	Less Than	93	51.67
	Same	67	37.22
	More Than	20	11.11

*Control variables for final model

Tables 4.4 through 4.13 provide a summary of the analysis of group differences for the scales that were selected for the study. The first table of each scale considers the differences between groups for the control variables and the second table for each scale evaluates the differences between the retirement and credit card variables. The composite score for the five components of the consumer socialization latent variable were computed by averaging the responses to the corresponding items and reverse coding the necessary responses.

Table 4.4 reveals that variables of gender ($p = 0.005$), ethnicity ($p = 0.006$), and emergency fund ($p = 0.019$) had statistically significant differences between the respective categorical groups. Age, marital status, number of financially dependent children, education, homeownership, income, net worth, health status, and life expectancy did not have statistically significant differences between the categorical groups within the advertising effectiveness scale.

Table 4.4

Control Variable Differences - Advertising Effectiveness (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
Gender				7.97	0.005***
Male	84	5.26	0.64		
Female	96	5.52	0.61		
Age Category				0.49	0.689
35-39	19	5.55	0.59		
40-44	47	5.36	0.53		
45-49	47	5.36	0.72		
50-55	67	5.41	0.66		
Marital Status				0.99	0.416
Married	150	5.41	0.64		
Divorced	13	5.62	0.48		
Widowed	1	5.08	.		
Separated	3	5.23	0.48		
Never Married	13	5.15	0.76		
Ethnicity				4.30	0.006***
White	143	5.34	0.60		
Black / African American	13	5.49	0.72		
Hispanic / Latino	12	5.99	0.53		
Other	12	5.47	0.79		
Dependent Children				1.46	0.217
0	58	5.30	0.64		
1	27	5.42	0.72		
2	65	5.40	0.58		
3	25	5.65	0.65		
4 or more	5	5.20	0.27		
Education				1.20	0.310
High School Diploma	6	5.58	0.65		
Some college but no degree	33	5.49	0.66		
Bachelor's Degree	90	5.31	0.59		
Master's Degree or higher	51	5.48	0.68		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Own Home				0.36	0.549
Yes	147	5.39	0.64		
No	33	5.46	0.62		
Emergency Fund				3.02	0.019**
I do not have an emergency fund	14	5.57	0.54		
$1-$4,999	47	5.63	0.59		
$5,000 - $9,999	49	5.29	0.59		
$10,000 - $14,999	13	5.19	0.61		
More than $15,000	57	5.31	0.68		
Household Income Category				1.97	0.120
$50,000 - $75,000	52	5.35	0.59		
$75,000 - $100,000	59	5.42	0.54		
$100,000 - $125,000	29	5.63	0.73		
$125,000 - $150,000	40	5.27	0.72		
Net Worth				1.03	0.393
Less than $25,000	11	5.69	0.52		
$25,000 - $49,999	23	5.50	0.65		
$50,000 - $99,999	44	5.29	0.61		
$100,000 - $250,000	45	5.38	0.56		
More than $250,000	57	5.40	0.71		
Health Status				0.22	0.799
Excellent	36	5.42	0.68		
Good	125	5.38	0.64		
Fair	19	5.48	0.53		
Poor	0	.	.		
Life Expectancy				0.53	0.751
Under 65	8	5.22	0.45		
65-70	17	5.51	0.46		
71-75	19	5.34	0.57		
76-80	36	5.49	0.53		
81-85	54	5.33	0.69		
Over 86	46	5.41	0.73		

*$p<0.1$, **$p<0.05$, ***$p<0.01$

Table 4.5 indicates that the variables of credit score (p = 0.009), having an employer-sponsored plan (p = 0.089), expected retirement age (p = 0.054), and expected retirement income adequacy (p = 0.0001) had statistically significant differences between the respective categorical groups. Credit card user type, number of cards, determining retirement need, making regular retirement contributions, making automatic contributions, having a match, and expected retirement income versus current income did not have statistically significant differences between the categorical groups for the advertising effectiveness scale.

Table 4.5

Credit Card and Retirement Variable Differences - Advertising Effectiveness (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
User Type				1.63	0.198
Convenience User	93	5.32	0.71		
Revolving User	81	5.47	0.54		
Null User	6	5.67	0.43		
Number of Cards				0.69	0.658
0	5	5.57	0.40		
1	17	5.57	0.48		
2-3	94	5.33	0.67		
4-8	46	5.39	0.67		
9-12	13	5.50	0.51		
13-20	4	5.75	0.63		
More than 20	1	5.54	.		
Credit Score				3.96	0.009***
Below 629 (Poor)	89	5.28	0.64		
630-689 (Fair)	50	5.40	0.62		
690-719 (Good)	33	5.60	0.57		
Above 720 (Excellent)	8	5.89	0.60		
Determined Retirement Need				0.74	0.392
Yes, determined need	131	5.42	0.62		
No, have not determined need	49	5.33	0.67		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Retirement Contribution				1.18	0.280
Yes, regularly contribute	150	5.42	0.64		
No, do not regularly contribute	30	5.28	0.62		
2020 Retirement Contribution				0.09	0.966
Contributed $0 in 2020	16	5.45	0.54		
Contributed $1 - $5,000	55	5.41	0.66		
Contributed $5,001 - $10,000	54	5.40	0.62		
Contributed more than $10,000	55	5.37	0.67		
Employer Sponsored Plan				2.93	0.089*
Yes, have access	142	5.36	0.60		
No, do not have access	38	5.55	0.73		
Automatic Contribution				2.13	0.146
Yes	155	5.43	0.61		
No	25	5.23	0.74		
Employer Match				0.27	0.607
Yes	121	5.38	0.60		
No	59	5.43	0.70		
Expected Retirement Age				2.22	0.054*
Before 65	64	5.33	0.60		
65-70	81	5.40	0.59		
71-75	23	5.45	0.75		
76-80	6	6.08	0.70		
After 80	3	4.79	0.39		
Never Retire	3	5.59	1.09		
Expected Retirement Income Adequacy				6.14	<0.001***
Totally Inadequate	11	5.87	1.02		
Somewhat Inadequate	20	5.29	0.59		
Adequate	68	5.18	0.52		
More than Adequate	57	5.63	0.54		
Very Satisfactory	24	5.35	0.72		
Retirement Income vs Current Income				1.28	0.281
Less Than	93	5.37	0.66		
Same	67	5.38	0.60		
More Than	20	5.61	0.59		

*p<0.1, **p<0.05, *** p<0.001

Table 4.6 shows that the variables of gender ($p = 0.023$), number of dependent children ($p = 0.079$), education ($p = 0.073$), having an emergency fund ($p < 0.001$), household income ($p = 0.003$), and net worth ($p = 0.008$) had statistically significant differences between the respective categorical groups. Age, marital status, ethnicity, homeownership, health status, and life expectancy did not have statistically significant differences between the categorical groups within the impulsive buying tendency scale.

Table 4.6

Control Variable Differences - Impulsive Buying Tendency (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
Gender				5.25	0.023**
Male	84	3.76	1.19		
Female	96	4.19	1.31		
Age Category				0.17	0.917
35-39	19	3.85	1.17		
40-44	47	4.07	1.31		
45-49	47	4.03	1.05		
50-55	67	3.95	1.42		
Marital Status				1.43	0.227
Married	150	4.03	1.26		
Divorced	13	3.49	1.53		
Widowed	1	5.80	.		
Separated	3	4.80	1.25		
Never Married	13	3.80	1.06		
Ethnicity				1.03	0.383
White	143	3.96	1.24		
Black / African American	13	3.83	1.77		
Hispanic / Latino	12	4.60	1.03		
Other	12	3.92	1.17		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Dependent Children				2.13	0.079*
0	58	3.69	1.31		
1	27	4.19	1.36		
2	65	4.26	1.17		
3	25	3.91	1.28		
4 or more	5	3.32	0.83		
Education				2.36	0.073*
High School Diploma	6	4.57	1.84		
Some college but no degree	33	4.44	1.43		
Bachelor's Degree	90	3.89	1.14		
Master's Degree or higher	51	3.82	1.25		
Own Home					
Yes	147	3.99	1.25	0.03	0.854
No	33	4.03	1.37		
Emergency Fund				7.21	<0.001***
I do not have an emergency fund	14	4.83	0.74		
$1-$4,999	47	4.29	1.31		
$5,000 - $9,999	49	4.26	1.04		
$10,000 - $14,999	13	3.06	1.21		
More than $15,000	57	3.53	1.28		
Household Income Category				4.81	0.003***
$50,000 - $74,999	52	4.35	1.04		
$75,000 - $99,999	59	4.11	1.39		
$100,000 - $124,999	29	3.94	1.22		
$125,000 - $150,000	40	3.40	1.21		
Net Worth				3.59	0.008***
Less than $25,000	11	4.80	1.13		
$25,000 - $49,999	23	4.25	0.80		
$50,000 - $99,999	44	4.30	1.21		
$100,000 - $250,000	45	3.85	1.36		
More than $250,000	57	3.61	1.30		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Health Status				1.02	0.361
Excellent	36	3.73	1.29		
Good	125	4.05	1.27		
Fair	19	4.14	1.26		
Poor	0	.	.		
Life Expectancy				0.66	0.658
Under 65	8	4.05	0.90		
65-70	17	4.28	1.26		
71-75	19	3.91	1.06		
76-80	36	4.05	1.25		
81-85	44	4.14	1.35		
Over 86	56	3.78	1.35		

*p<0.1, **p<0.05, *** p<0.001

Table 4.7 specifies that the variables of user type (p = 0.004), credit score (p < .001), making a retirement contribution in 2020 (p < 0.001), and expected retirement income adequacy (p = 0.079) had statistically significant differences between the respective categorical groups. Number of credit cards, determining retirement need, making regular retirement contributions, having an employee-sponsored plan, making automatic contributions, having an employer match, expected retirement age, and retirement income versus current income did not have statistically significant differences between the categorical groups for the impulsive buying tendency scale.

Table 4.7

Credit Card and Retirement Variable Differences - Impulsive Buying Tendency (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
User Type				5.73	0.004***
Convenience User	93	3.71	1.29		
Revolving User	81	4.34	1.16		
Null User	6	3.67	1.31		
Number of Cards				0.40	0.881
0	5	3.88	1.35		
1	17	4.02	1.32		
2-3	94	3.94	1.34		
4-8	46	3.93	1.19		
9-12	13	4.32	1.08		
13-20	4	4.50	1.09		
More than 20	1	5.00	.		
Credit Score				8.37	<0.001***
Below 629 (Poor)	89	3.63	1.33		
630-689 (Fair)	50	4.01	1.13		
690-719 (Good)	33	4.84	0.98		
Above 720 (Excellent)	8	4.35	0.72		
Determined Retirement Need				0.11	0.740
Yes, determined need	131	3.97	1.25		
No, have not determined need	49	4.04	1.33		
Retirement Contribution				2.21	0.139
Yes, regularly contribute	150	3.93	1.26		
No, do not regularly contribute	30	4.31	1.27		
2020 Retirement Contribution				7.49	<0.001***
Contributed $0 in 2020	16	3.99	1.37		
Contributed $1 - $5,000	55	4.45	1.12		
Contributed $5,001 - $10,000	54	4.14	1.20		
Contributed more than $10,000	55	3.39	1.25		
Employer Sponsored Plan				0.89	0.348
Yes, have access	142	4.04	1.25		
No, do not have access	38	3.82	1.35		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Automatic Contribution				0.34	0.562
Yes	155	4.02	1.28		
No	25	3.86	1.20		
Employer Match				0.81	0.369
Yes	121	4.05	1.27		
No	59	3.87	1.27		
Expected Retirement Age				0.74	0.594
Before 65	64	3.91	1.28		
65-70	81	4.09	1..25		
71-75	23	4.08	1.31		
76-80	6	3.80	1.52		
After 80	3	4.20	0.69		
Never Retire	3	2.80	1.64		
Expected Retirement Income Adequacy				2.13	0.079*
Totally Inadequate	11	4.56	0.91		
Somewhat Inadequate	20	4.59	1.32		
Adequate	68	3.81	1.22		
More than Adequate	57	3.93	1.37		
Very Satisfactory	24	3.88	1.29		
Retirement Income vs Current Income				2.12	0.123
Less Than	93	3.94	1.29		
Same	67	4.20	1.14		
More Than	20	3.57	1.52		

*p<0.1, **p<0.05, *** p<0.001

Table 4.8 shows that the variables of number of dependent children (p = 0.032), education (p = 0.084), homeownership (p = 0.073), having an emergency fund (p < 0.001), household income (p = 0.068), health status (p = 0.009), and life expectancy (p = 0.092) had statistically significant differences between the respective categorical groups. Gender, age, marital status, ethnicity, and net worth did not have statistically significant differences between the categorical groups within the self-control scale.

Table 4.8

Control Variable Differences - Self-Control (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
Gender				0.21	0.647
Male	84	4.37	1.28		
Female	96	4.46	1.28		
Age Category				0.22	0.884
35-39	19	4.25	1.22		
40-44	47	4.41	1.31		
45-49	47	4.38	1.21		
50-55	67	4.50	1.34		
Marital Status				0.84	0.499
Married	150	4.35	1.25		
Divorced	13	4.92	1.42		
Widowed	1	4.63	.		
Separated	3	4.04	1.38		
Never Married	13	4.71	1.49		
Ethnicity				1.71	0.166
White	143	4.35	1.30		
Black / African American	13	5.17	1.34		
Hispanic / Latino	12	4.36	0.57		
Other	12	4.50	1.33		
Dependent Children				2.70	0.032**
0	58	4.77	1.33		
1	27	4.05	1.31		
2	65	4.20	1.22		
3	25	4.68	1.16		
4 or more	5	3.88	0.80		
Education				2.26	0.084*
High School Diploma	6	5.29	0.99		
Some college but no degree	33	4.13	1.30		
Bachelor's Degree	90	4.33	1.31		
Master's Degree or higher	51	4.65	1.18		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Own Home				3.24	0.073*
Yes	147	4.34	1.28		
No	33	4.77	1.21		
Emergency Fund				6.02	<0.001***
I do not have an emergency fund	14	3.84	1.09		
$1-$4,999	47	4.25	1.14		
$5,000 - $9,999	49	4.01	1.18		
$10,000 - $14,999	13	5.30	0.83		
More than $15,000	57	4.85	1.37		
Household Income Category				2.42	0.068*
$50,000 - $74,999	52	4.12	1.12		
$75,000 - $99,999	59	4.36	1.38		
$100,000 - $124,999	29	4.50	1.18		
$125,000 - $150,000	40	4.82	1.31		
Net Worth				1.49	0.207
Less than $25,000	11	4.13	1.36		
$25,000 - $49,999	23	4.08	0.89		
$50,000 - $99,999	44	4.22	1.23		
$100,000 - $250,000	45	4.52	1.22		
More than $250,000	57	4.68	1.44		
Health Status				4.87	0.009**
Excellent	36	4.71	1.32		
Good	125	4.45	1.22		
Fair	19	3.63	1.32		
Poor	0	.	.		
Life Expectancy				1.93	0.092*
Under 65	8	3.41	1.15		
65-70	17	4.17	1.21		
71-75	19	4.41	1.08		
76-80	36	4.52	1.13		
81-85	44	4.25	1.29		
Over 86	56	4.70	1.39		

*p<0.1, **p<0.05, ***p<0.001

Table 4.9 highlights that the variables of user type (p = 0.022), credit score (p = .008), making a retirement contribution in 2020 (p < 0.001), having access to an employer-sponsored plan (p = .009), receiving a match (p = .013), and retirement income versus current income (p = 0.043) had statistically significant differences between the respective categorical groups. Number of credit cards, determining retirement need, making regular retirement contributions, making automatic contributions, expected retirement age, and expected retirement income adequacy did not have statistically significant differences between the categorical groups for the self-control scale.

Table 4.9

Credit Card and Retirement Variable Differences - Self-Control (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
User Type				3.91	0.022**
Convenience User	93	4.62	1.24		
Revolving User	81	4.14	1.24		
Null User	6	5.02	1.67		
Number of Cards				0.52	0.795
0	5	4.80	1.76		
1	17	4.24	1.37		
2-3	94	4.36	1.26		
4-8	46	4.53	1.24		
9-12	13	4.41	1.26		
13-20	4	5.00	1.68		
More than 20	1	3.13	.		
Credit Score				4.11	0.008***
Below 629 (Poor)	89	4.72	1.35		
630-689 (Fair)	50	4.21	1.56		
690-719 (Good)	33	4.11	1.13		
Above 720 (Excellent)	8	3.58	1.00		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Determined Retirement Need				0.14	0.712
Yes, determined need	131	4.44	1.24		
No, have not determined need	49	4.36	1.37		
Retirement Contribution				0.26	0.614
Yes, regularly contribute	150	4.40	1.26		
No, do not regularly contribute	30	4.53	1.38		
2020 Retirement Contribution				6.32	<0.001***
Contributed $0 in 2020	16	4.87	1.50		
Contributed $1 - $5,000	55	4.15	1.19		
Contributed $5,001 - $10,000	54	4.05	1.13		
Contributed more than $10,000	55	4.92	1.25		
Employer Sponsored Plan				6.96	0.009***
Yes, have access	142	4.29	1.26		
No, do not have access	38	4.89	1.26		
Automatic Contribution				1.05	0.307
Yes	155	4.38	1.26		
No	25	4.66	1.38		
Employer Match				6.30	0.013**
Yes	121	4.25	1.22		
No	59	4.75	1.33		
Expected Retirement Age				1.07	0.377
Before 65	64	4.48	1.32		
65-70	81	4.33	1.29		
71-75	23	4.59	1.12		
76-80	6	4.27	1.34		
After 80	3	3.38	0.43		
Never Retire	3	5.54	1.44		
Expected Retirement Income Adequacy				0.60	0.664
Totally Inadequate	11	4.05	1.00		
Somewhat Inadequate	20	4.14	1.44		
Adequate	68	4.48	1.25		
More than Adequate	57	4.52	1.22		
Very Satisfactory	24	4.39	1.48		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Retirement Income vs Current Income				3.21	0.043**
Less Than	93	4.47	1.32		
Same	67	4.18	1.08		
More Than	20	4.98	1.53		

*p<0.1, **p<0.05, ***p<0.001

Table 4.10 indicates that the variables of number of dependent children ($p < 0.001$), education ($p = 0.084$), having an emergency fund ($p = 0.006$), net worth ($p = 0.003$), health status ($p = 0.006$), and life expectancy ($p = 0.002$) had statistically significant differences between the respective categorical groups. Gender, age, marital status, ethnicity, education, homeownership, and income did not have statistically significant differences between the categorical groups within the conspicuous consumption scale.

Table 4.10

Control Variable Differences - Conspicuous Consumption (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
Gender				0.70	0.404
Male	84	3.57	1.47		
Female	96	3.76	1.53		
Age Category				0.67	0.572
35-39	19	3.73	1.43		
40-44	47	3.82	1.57		
45-49	47	3.79	1.39		
50-55	67	3.47	1.56		
Marital Status				2.30	0.060*
Married	150	3.75	1.53		
Divorced	13	2.55	1.11		
Widowed	1	3.56	.		
Separated	3	4.63	1.54		
Never Married	13	3.63	1.14		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Ethnicity				0.61	0.611
White	143	3.65	1.51		
Black / African American	13	3.66	1.50		
Hispanic / Latino	12	3.42	1.70		
Other	12	4.19	1.26		
Dependent Children				9.17	<0.001***
0	58	2.86	1.21		
1	27	3.92	1.54		
2	65	4.33	1.38		
3	25	3.69	1.59		
4 or more	5	3.02	1.24		
Education				0.82	0.484
High School Diploma	6	3.15	2.06		
Some college but no degree	33	3.38	1.44		
Bachelor's Degree	90	3.75	1.42		
Master's Degree or higher	51	3.78	1.62		
Own Home				0.07	0.795
Yes	147	3.66	1.54		
No	33	3.58	1.32		
Emergency Fund				3.71	0.006***
I do not have an emergency fund	14	3.98	1.66		
$1-$4,999	47	3.80	1.51		
$5,000 - $9,999	49	4.16	1.48		
$10,000 - $14,999	13	3.01	1.12		
More than $15,000	57	3.21	1.41		
Household Income Category				2.05	0.108
$50,000 - $74,999	52	4.06	1.41		
$75,000 - $99,999	59	3.57	1.59		
$100,000 - $124,999	29	3.25	1.43		
$125,000 - $150,000	40	3.61	1.47		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Net Worth				4.27	0.003***
Less than $25,000	11	3.89	1.70		
$25,000 - $49,999	23	4.21	1.49		
$50,000 - $99,999	44	4.22	1.53		
$100,000 - $250,000	45	3.22	1.32		
More than $250,000	57	3.34	1.42		
Health Status				5.31	0.006***
Excellent	36	4.33	1.32		
Good	125	3.52	1.54		
Fair	19	3.17	1.14		
Poor	0	.	.		
Life Expectancy				3.87	0.002***
Under 65	8	4.84	1.51		
65-70	17	4.51	1.20		
71-75	19	4.24	1.39		
76-80	36	3.47	1.40		
81-85	44	3.36	1.52		
Over 86	56	3.37	1.47		

*p<0.1, **p<0.05, ***p<0.001

Table 4.11 reveals that the variables of credit score ($p < .001$), employer match ($p = 0.037$), expected retirement age ($p = 0.09$), and retirement income versus current income ($p = 0.012$) had statistically significant differences between the respective categorical groups. User type, number of cards, determining retirement need, making regular retirement contributions, making a 2020 retirement contribution, having an employer-sponsored plan, automatic contributions, and expected retirement income adequacy did not have statistically significant differences between the categorical groups for the conspicuous consumption scale.

Table 4.11

Credit Card and Retirement Variable Differences - Conspicuous Consumption (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
User Type				2.31	0.102
Convenience User	93	3.53	1.50		
Revolving User	81	3.90	1.51		
Null User	6	2.83	0.99		
Number of Cards				1.08	0.376
0	5	2.82	1.10		
1	17	3.49	1.62		
2-3	94	3.71	1.55		
4-8	46	3.54	1.40		
9-12	13	4.10	1.56		
13-20	4	4.06	1.05		
More than 20	1	6.22	.		
Credit Score				11.52	<0.001***
Below 629 (Poor)	89	3.14	1.45		
630-689 (Fair)	50	4.22	1.30		
690-719 (Good)	33	4.40	1.34		
Above 720 (Excellent)	8	2.64	1.27		
Determined Retirement Need				0.29	0.590
Yes, determined need	131	3.71	1.54		
No, have not determined need	49	3.57	1.41		
Retirement Contribution				0.06	0.802
Yes, regularly contribute	150	3.66	1.51		
No, do not regularly contribute	30	3.73	1.48		
2020 Retirement Contribution				1.44	0.233
Contributed $0 in 2020	16	3.69	1.67		
Contributed $1 - $5,000	55	3.66	1.54		
Contributed $5,001 - $10,000	54	3.97	1.47		
Contributed more than $10,000	55	3.38	1.43		
Employer Sponsored Plan				1.92	0.168
Yes, have access	142	3.75	1.49		
No, do not have access	38	3.37	1.53		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Automatic Contribution				0.00	0.999
Yes	155	3.65	1.54		
No	25	3.65	1.26		
Employer Match				4.44	0.037**
Yes	121	3.81	1.51		
No	59	3.32	1.43		
Expected Retirement Age				1.94	0.090*
Before 65	64	3.68	1.51		
65-70	81	3.62	1.50		
71-75	23	3.64	1.43		
76-80	6	2.41	1.30		
After 80	3	5.21	0.79		
Never Retire	3	4.88	0.73		
Expected Retirement Income Adequacy				0.65	0.627
Totally Inadequate	11	3.39	1.57		
Somewhat Inadequate	20	3.48	1.42		
Adequate	68	3.53	1.39		
More than Adequate	57	3.77	1.62		
Very Satisfactory	24	3.98	1.55		
Retirement Income vs Current Income				4.54	0.012**
Less Than	93	3.35	1.38		
Same	67	4.06	1.48		
More Than	20	3.68	1.79		

*p<0.1, **p<0.05, ***p<0.001

Table 4.12 specifies that the variables of number of dependent children ($p < 0.001$), having an emergency fund ($p < 0.001$), income ($p < 0.001$), net worth ($p < 0.001$), and life expectancy ($p < 0.001$) had statistically significant differences between the respective categorical groups. Gender, age, marital status, ethnicity, education, homeownership, and health status did not have statistically significant differences between the categorical groups within the CFC scale.

Table 4.12

Control Variable Differences – CFC (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
Gender				0.69	0.409
Male	84	4.74	1.21		
Female	96	4.59	1.30		
Age Category				0.53	0.660
35-39	19	4.55	1.36		
40-44	47	4.54	1.36		
45-49	47	4.61	1.13		
50-55	67	4.81	1.25		
Marital Status				1.62	0.171
Married	150	4.57	1.26		
Divorced	13	5.18	1.22		
Widowed	1	5.75	.		
Separated	3	4.38	1.54		
Never Married	13	5.20	1.01		
Ethnicity				0.29	0.830
White	143	4.66	1.28		
Black / African American	13	4.93	1.07		
Hispanic / Latino	12	4.51	1.17		
Other	12	4.54	1.33		
Dependent Children				7.01	0.000***
0	58	5.28	0.93		
1	27	4.50	1.34		
2	65	4.17	1.35		
3	25	4.75	1.03		
4 or more	5	4.40	1.18		
Education				0.12	0.950
High School Diploma	6	4.81	1.13		
Some college but no degree	33	4.59	1.28		
Bachelor's Degree	90	4.64	1.22		
Master's Degree or higher	51	4.73	1.35		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Own Home				0.44	0.510
Yes	147	4.63	1.29		
No	33	4.79	1.11		
Emergency Fund				7.44	<0.001***
I do not have an emergency fund	14	3.92	1.19		
$1-$4,999	47	4.52	1.24		
$5,000 - $9,999	49	4.20	1.29		
$10,000 - $14,999	13	5.22	0.95		
More than $15,000	57	5.22	1.05		
Household Income Category				7.52	<0.001***
$50,000 - $74,999	52	4.05	1.08		
$75,000 - $99,999	59	4.73	1.39		
$100,000 - $124,999	29	4.89	1.02		
$125,000 - $150,000	40	5.18	1.13		
Net Worth				7.77	<0.001***
Less than $25,000	11	4.16	1.38		
$25,000 - $49,999	23	3.94	1.03		
$50,000 - $99,999	44	4.22	1.37		
$100,000 - $250,000	45	4.91	1.03		
More than $250,000	57	5.20	1.11		
Health Status				0.997	0.382
Excellent	36	4.69	1.45		
Good	125	4.60	1.24		
Fair	19	5.02	0.96		
Poor	0	.			
Life Expectancy				4.77	<0.001***
Under 65	8	3.39	0.96		
65-70	17	3.90	1.22		
71-75	19	4.22	1.21		
76-80	36	4.82	1.10		
81-85	44	4.94	1.18		
Over 86	56	4.90	1.28		

*p<0.1, **p<0.05, ***p<0.001

Table 4.13 exposes that the variables of user type (p = 0.022), number of credit cards (p = 0.094), credit score (p < .001), making a 2020 retirement contribution (p = 0.001), and retirement income vs current income (p = 0.017) had statistically significant differences between the respective categorical groups. Determining retirement need, making regular retirement contributions, having an employer-sponsored plan, making automatic contributions, having an employer match, expected retirement age, and retirement income adequacy did not have statistically significant differences between the categorical groups for the CFC scale.

Table 4.13

Credit Card and Retirement Variable Differences – CFC (N = 180)

Variable	*n*	*M*	*SD*	*f-value*	*p*
User Type				3.88	0.022**
Convenience User	93	4.80	1.29		
Revolving User	81	4.43	1.20		
Null User	6	5.63	0.82		
Number of Cards				1.84	0.094*
0	5	5.50	0.85		
1	17	4.78	1.38		
2-3	94	4.58	1.27		
4-8	46	4.85	1.20		
9-12	13	4.09	1.16		
13-20	4	5.28	0.76		
More than 20	1	2.38	.		
Credit Score				11.25	<0.001***
Below 629 (Poor)	89	5.15	1.15		
630-689 (Fair)	50	4.37	1.22		
690-719 (Good)	33	3.95	1.16		
Above 720 (Excellent)	8	3.98	0.88		
Determined Retirement Need				0.00	0.976
Yes, determined need	131	4.66	1.27		
No, have not determined need	49	4.67	1.23		

Variable	*n*	*M*	*SD*	*f-value*	*p*
Retirement Contribution				0.48	0.492
Yes, regularly contribute	150	4.69	1.27		
No, do not regularly contribute	30	4.52	1.17		
2020 Retirement Contribution				5.37	0.001***
Contributed $0 in 2020	16	4.49	1.42		
Contributed $1 - $5,000	55	4.37	1.19		
Contributed $5,001 - $10,000	54	4.46	1.31		
Contributed more than $10,000	55	5.20	1.07		
Employer Sponsored Plan				0.36	0.550
Yes, have access	142	4.63	1.30		
No, do not have access	38	4.77	1.10		
Automatic Contribution				0.16	0.688
Yes	155	4.64	1.29		
No	25	4.76	1.02		
Employer Match				0.29	0.593
Yes	121	4.62	1.30		
No	59	4.73	1.16		
Expected Retirement Age				1.25	0.289
Before 65	64	4.70	1.39		
65-70	81	4.61	1.24		
71-75	23	4.83	1.03		
76-80	6	4.73	0.80		
After 80	3	3.13	0.78		
Never Retire	3	5.42	0.19		
Expected Retirement Income Adequacy				0.69	0.597
Totally Inadequate	11	4.20	0.87		
Somewhat Inadequate	20	4.54	1.23		
Adequate	68	4.74	1.16		
More than Adequate	57	4.77	1.34		
Very Satisfactory	24	4.49	1.50		
Retirement Income vs Current Income				4.17	0.017**
Less Than	93	4.89	1.17		
Same	67	4.32	1.30		
More Than	20	4.72	1.28		

*p<0.1, **p<0.05, ***p<0.001

Table 4.14

Summary of Significant Results for Variable Differences

Variable	*AES*	*IBT*	*SC*	*CC*	*CFC*	*Total*
Gender	X	X				2
Age Category						0
Marital Status				X		1
Ethnicity	X					1
Dependent Children		X	X	X	X	4
Education		X	X			2
Own Home			X			1
Emergency Fund	X	X	X	X	X	5
Household Income Category		X	X		X	3
Net Worth		X		X	X	3
Health Status			X	X		2
Life Expectancy			X	X	X	3
User Type		X	X		X	3
Number of Cards					X	1
Credit Score	X	X	X	X	X	5
Determined Retirement Need						0
Regular Retirement Contribution						0
2020 Retirement Contribution		X	X		X	3
Employer Sponsored Plan	X		X			2
Automatic Contribution						0
Employer Match			X	X		2
Expected Retirement Age	X			X		2
Expected Retirement Income Adequacy	X	X				2
Retirement Income vs Current Income			X	X	X	3
Total	7	10	13	10	10	

Table 4.15 displays descriptive statistics for the AE, IBT, SC, CC, and CFC variables by type of credit card user.

Table 4.15

Scale Results by CC User Type (N = 180)

Variable	CC User Type											
	Null User (*n = 6)*				Convenience User (*n* = 93)				Revolving User (*n* = 81)			
	M	*SD*	*Min*	*Max*	*M*	*SD*	*Min*	*Max*	*M*	*SD*	*Min*	*Max*
Advertising Effect.	5.67	0.43	5.00	6.15	5.32	0.71	3.62	6.85	5.47	0.54	4.08	6.54
Impulsive Buying Tend	3.67	1.31	1.80	5.40	3.71	1.29	1.00	7.00	4.34	1.16	1.60	6.60
Self-Control	5.02	1.67	2.63	6.88	4.62	1.24	1.88	7.00	4.14	1.24	1.88	7.00
Conspicuous Consumption	2.83	0.99	1.33	4.11	3.53	1.50	1.00	6.22	3.90	1.51	1.00	7.00
CFC	5.63	0.82	4.38	6.75	4.80	1.29	1.75	6.88	4.43	1.20	1.75	6.25

Table 4.16 displays descriptive statistics for retirement savings, credit card balance, and credit card user type. Retirement savings was represented by a 4-point scale where 1 = $1-$49,999, 2 = $50,000-$99,999, 3 = $100,000 - $250,000, and 4 = more than $250,000. Credit card balance was represented by a 7-point scale, where 1 = $0, 2 = $1-$4,999, 3 = $5,000 - $9,999, 4 = $10,000 - $14,999, 5 = $15,000 - $19,999, 6 = $20,000 - $24,999, and 7 = $25,000 or more. Convenience users and revolving users were the most prevalent categories in the study, with convenience users representing 52%. Convenience users had the highest average retirement savings balance, followed by revolving users, and null users. Null users had the lowest sub-sample population and should not be used to derive associations with retirement and credit card balances.

Table 4.16

Dependent Variable Statistics

Variable	*M*	*SD*	*Min*	*Max*
Retirement Savings	2.28	1.14	1	4
Null Users	1.50	0.84	1	3
Revolving Users	2.04	1.11	1	4
Convenience Users	2.55	1.11	1	4
Credit Card Balance	2.20	1.38	1	7
Null Users	1.00	0.00	1	1
Revolving Users	2.77	1.32	1	7
Convenience Users	1.78	1.28	1	7

Table 4.17 displays a correlation matrix for the AE, IBT, SC, CC, and CFC variables. AE was positively correlated with IBT (r = .17, p = .023). IBT was negatively correlated with SC (r = -.56, p < .001) and CFC (r = -.49, p < .001), and IBT was positively correlated with CC (r = .37, p < .001). SC was negatively correlated with CC (r = -.24, p = .001) and positively correlated with CFC (r = .52, p < .001). CC was negatively correlated with CFC (r = -.57, p < .001).

Table 4.17

Correlation Matrix for Scales

Variable	AE	IBT	SC	CC
Impulsive Buying Tend	.17*	--		
Self-Control	.04	-.56**	--	
Conspicuous Consumption	.14	.37**	-.24**	--
CFC	-.04	-.49**	.52**	-.57**

*p < .05. **p < .01.

Report of Multivariate Results

Confirmatory factor analysis was conducted to establish the best measurement model for the latent independent variable (CS, SBS, and MMS). CS was initially defined by five indicators: AE, IBT, SC, CC, and CFC. SBS is a sub-dimension of CS and was initially defined by three indicators: CFC, CC, and SC. MMS is a second sub-dimension of CS and was initially defined by two indicators: IBT and AE. To aid in interpretation of the models, all indicators were scored such that higher values reflected more responsible behavior.

First, CS was modeled as a first order latent variable with five indicators. This model did not demonstrate good fit, $\chi^2[5] = 40.81$, $p < .001$, CFI = .84, TLI = .68, SRMR = .06, RMSEA = .20. Standardized indicator loadings for the model are displayed in Table 4.18. The loadings revealed that AE very weakly contributed to the CS construct, so this indicator was considered for removal from the model. After removing AE, the CFI slightly improved, $\chi^2[2] = 30.22$, $p < .001$, CFI = .87, TLI = .60, SRMR = .06, RMSEA = .28. The remaining indicators had strong standardized loadings (ranging from .61 to .82). Modification indices did not reveal any error covariances that could be added to the model to substantially improve fit. Figure 4.1 contains the diagram for the first order CFA with the AE variable removed.

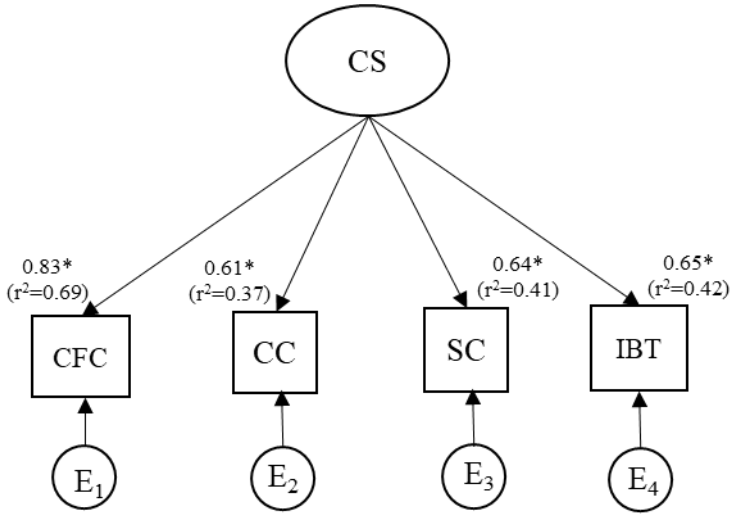
Table 4.18

Standardized Loadings for First Order CFA

Variable	Standardized Loading
AE	.095
IBT	.661
SC	.636
CC	.608
CFC	.824

Figure 4.1

First Order Standardized Loading CFA Model Without AE



* $p < 0.001$; $\alpha = 0.67$.

Next, a CFA was attempted for the originally proposed second order model with CS as the second order latent variable and SBS and MMS as first order latent sub-dimensions of CS. However, estimates for this model could not be computed because the model was not identified. Alternatively, a CFA was attempted without CS as a second order latent variable, leaving only SBS and MMS as first order latent variables. This model did not demonstrate good fit, $\chi^2[4] = 36.22$, $p < .001$, CFI = .85, TLI = .64, SRMR = .06, RMSEA = .21, and an invalid estimate (negative variance) was produced due to the AE variable weakly loading on the MMS construct and inflating the standardized loading of the IBT indicator (see Table 4.19 for the standardized loadings). These results suggest that the MMS latent variable with two indicators does not produce a valid measurement model.

Table 4.19

Standardized Loadings for CFA with SBS and MMS

Variable	Standardized Loading
MMS	
AE	.121
IBT	1.40
SBS	
SC	.642
CC	.601
CFC	.827

Structural equation models were conducted based on the CFA results to address the study hypotheses. In the SEMs, the independent variable was CS; the dependent variable was retirement savings balance, and the mediator variables were credit card balance and credit card user type. The control variables included in the analysis were age, income, gender, marital status (dichotomized as partnered or not partnered), race (dichotomized as white or non-white), education, number of dependents, health status, life expectancy, home ownership, emergency fund, net worth, determined retirement need, retirement contribution, work retirement plan, employer retirement match, expected retirement age, rating of retirement income, expectation of retirement income, and credit score.

To explore the possibility of including the AE and IBT variables as observed independent variables in the structural models, SEMs were conducted to compare the fit of a) the model with CS as a latent variable with four indicators (SC, CC, CFC, and IBT), b) the model with SBS as a latent variable and AE and IBT as observed independent variables, and c) the model with SBS as a latent variable, with IBT as an observed independent variable. The SEMs were conducted both including all control variables and only including central and statistically significant control

variables (age, income, gender, marital status, race, education, number of dependents, health status, life expectancy, net worth, retirement contribution, work retirement plan, expected retirement age, and credit score). Table 4.20 displays the fit statistics for these models. The model with CS as a latent variable with four indicators (SC, CC, CFC, and IBT) had markedly better fit ($\chi^2[71] = 157.46$, $p < .001$, CFI = .84, TLI = .68, SRMR = .06, RMSEA = .08) compared to the alternative models, suggesting that the CS latent variable with four indicators was the most appropriate measurement model. Additionally, the models with a reduced number of control variables had better fit than the models including all control variables ($\chi^2[50] = 124.17$, $p < .001$, CFI = .86, TLI = .72, SRMR = .06, RMSEA = .09). The chi-square difference test validated this selection ($\chi^2_{diff}[21] = 33.29$, $p < .05$). Therefore, the final structural models were conducted with the reduced set of control variables.

Table 4.20

Comparison of Structural Model Fit Measures

Model	χ^2	*df*	Chi-Square	CFI	TLI	SRMR	RMSEA
All Control Variables							
CS latent variable with four indicators	157.46	71	<.001	0.838	0.677	0.057	.082
SBS latent variable with AE and IBT observed variables	172.19	53	<.001	0.789	0.332	0.060	.112
SBS latent variable with IBT observed variable	161.19	49	<.001	0.789	0.394	0.064	.113
Reduced Control Variables							
CS latent variable with four indicators	124.17	50	<.001	0.858	0.719	0.059	.091
SBS latent variable with AE and IBT observed variables	148.30	39	<.001	0.803	0.398	0.066	.125
SBS latent variable with IBT observed variable	137.35	35	<.001	0.804	0.446	0.071	.127

Tests of Main Hypotheses

Table 4.21 displays the regression coefficients for the SEM with credit card balance as the mediator. CS was significant and positively related to retirement savings (*B* = 0.31, 95% CI [0.01, 0.63]) and negatively related to credit card balance (*B* = -0.46, 95% CI [-0.98, 0.11]). Credit card balance was not significantly related to retirement savings (*B* = 0.06, 95% CI [-0.05, 0.14]). As CS was significantly related to retirement savings while controlling for credit card balance, and credit card balance was not significantly related to retirement savings, full mediation was not demonstrated. The indirect effect of CS on retirement savings through credit card balance was not significant, *B* = -0.03, β = -0.02, 95% CI [-0.08, 0.02], indicating that the effect of CS on retirement savings was not partially mediated by credit card balance. Figures 4.2 displays the unstandardized and standardized path coefficients for the mediation analysis.

Table 4.21

SEM Predicting Retirement Savings Mediated by Credit Card Balance

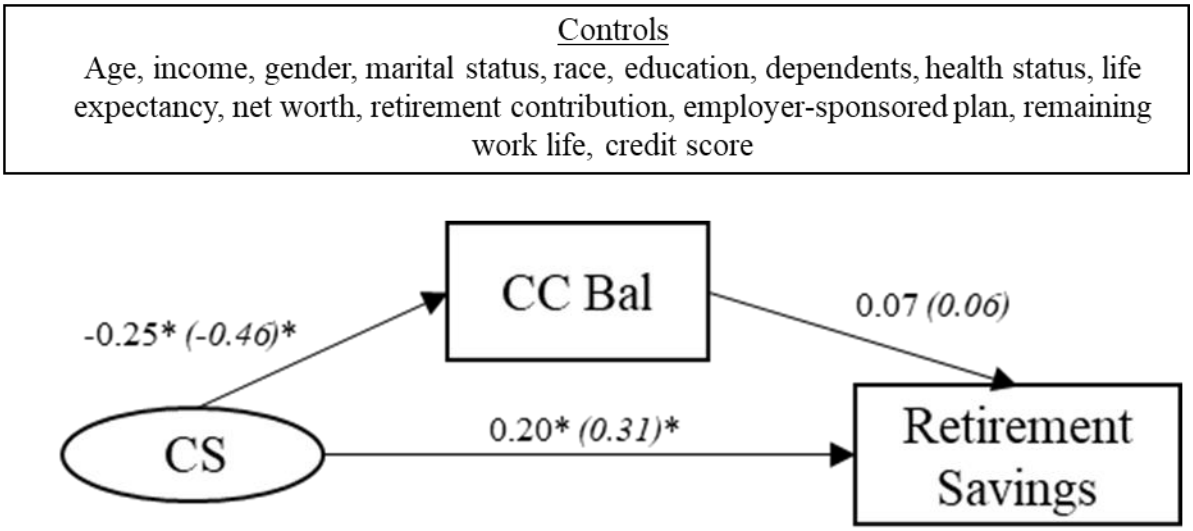
							95% CI	
Predictor	TO	Estimate	β	S.E.	Est./S.E	*p*	Low	Upper
Age	CS	-0.02	-0.03	0.05	-0.36	.722	-0.12	0.08
Income	CS	0.16	0.24	0.06	2.49	.013*	0.04	0.29**
Gender	CS	-0.15	-0.10	0.12	-1.27	.205	-0.41	0.06
Marital status	CS	0.46	0.23	0.18	2.61	.009*	0.14	0.82**
Race	CS	0.17	0.09	0.12	1.39	.165	-0.06	0.41
Education	CS	-0.09	-0.11	0.06	-1.43	.153	-0.20	0.04
Dependents	CS	-0.11	-0.18	0.04	-2.66	.008*	-0.20	-0.32**
Health status	CS	0.16	0.12	0.09	1.74	.082	-0.05	0.32
Life expectancy	CS	0.12	0.25	0.04	3.05	.002*	0.05	0.21**
Net worth	CS	0.06	0.10	0.06	1.04	.296	-0.05	0.18
Retirement	CS	-0.22	-0.11	0.16	-1.43	.153	-0.55	0.05

Predictor	TO	Estimate	β	S.E.	Est./S.E	*p*	95% CI	
							Low	Upper
Work retirement	CS	0.40	0.22	0.17	2.33	.020*	0.10	0.78**
Expected	CS	0.01	0.01	0.05	0.18	.855	-0.08	0.12
Credit score	CS	0.24	0.30	0.08	2.91	.004*	0.10	0.43**
CS	Retmt Sav	0.31	0.20	0.16	1.99	.047*	0.01	0.63**
CS	CC Balance	-0.46	-0.25	0.22	-2.14	.033*	-0.98	-0.11**
CC balance	Retmt Sav	0.06	0.07	0.05	1.19	.235	-0.05	0.14
Age	Retmt Sav	0.17	0.15	0.06	2.93	.003*	0.06	0.28**
Income	Retmt Sav	0.04	0.04	0.07	0.66	.511	-0.10	0.18
Gender	Retmt Sav	-0.03	-0.02	0.14	-0.25	.801	-0.29	0.24
Marital status	Retmt Sav	-0.24	-0.08	0.19	-1.23	.217	-0.60	0.14
Race	Retmt Sav	-0.18	-0.06	0.14	-1.26	.209	-0.47	0.09
Education	Retmt Sav	0.21	0.16	0.08	2.79	.005*	0.07	0.37**
Dependents	Retmt Sav	-0.02	-0.02	0.07	-0.36	.716	-0.15	0.11
Health status	Retmt Sav	0.01	0.01	0.12	0.11	.913	-0.22	0.26
Life expectancy	Retmt Sav	0.01	0.02	0.05	0.24	.811	-0.08	0.11
Net worth	Retmt Sav	0.39	0.42	0.06	6.53	< .001*	0.29	0.52**
Retirement	Retmt Sav	-0.78	-0.26	0.21	-3.73	< .001*	-1.23	-0.41**
Work retirement	Retmt Sav	-0.09	-0.03	0.20	-0.43	.668	-0.47	0.32
Expected	Retmt Sav	-0.23	-0.20	0.06	-3.72	< .001*	-0.34	-0.11**
Credit score	Retmt Sav	-0.06	-0.05	0.10	-0.65	.513	-0.25	0.12
Age	CC Balance	0.06	0.05	0.08	0.77	.441	-0.10	0.22
Income	CC Balance	-0.02	-0.02	0.11	-0.21	.830	-0.22	0.20
Gender	CC Balance	0.12	0.04	0.20	0.59	.557	-0.35	0.53
Marital status	CC Balance	-0.39	-0.11	0.22	-1.81	.070	-0.83	0.05
Race	CC Balance	-0.12	-0.04	0.27	-0.45	.653	-0.61	0.43
Education	CC Balance	0.13	0.08	0.10	1.24	.215	-0.08	0.34
Dependents	CC Balance	0.26	0.22	0.10	2.62	.009*	0.07	0.46**
Health status	CC Balance	-0.20	-0.08	0.15	-1.37	.170	-0.49	0.09
Life expectancy	CC Balance	-0.05	-0.05	0.08	-0.67	.506	-0.20	0.11
Net worth	CC Balance	-0.01	-0.01	0.09	-0.06	.953	-0.19	0.18
Retirement	CC Balance	0.06	0.02	0.26	0.24	.811	-0.47	0.54
Work retirement	CC Balance	-0.20	-0.06	0.28	-0.72	.473	-0.72	0.38
Expected	CC Balance	0.16	0.12	0.09	1.83	.067	-0.01	0.35
Credit score	CC Balance	-0.32	-0.21	0.15	-2.17	.030*	-0.61	-0.03**

*$p < 0.05$ (two-tailed).; **Does not cross neutral CI indicator of zero.

Figure 4.2

Standardized (Unstandardized) Coefficients for Credit Card Balance Mediation Model



Model fit indices: $\chi^2[50] = 124.166$, $p < .001$, *CFI* = .86, *TLI* = .72, *SRMR* = .06, *RMSEA* = .09 (confidence interval [0.07, 0.11]). *$p < 0.05$ (two-tailed).

Table 4.22 displays the regression coefficients for the SEM with credit card user type as the mediator. For the purposes of the analysis, credit card user type was categorized as 1 = convenience or null user and 2 = revolving user. The six null users were included with the convenience user group since the sample size was too small to be its own category. It was considered preferential to the respondent as the lack of having a credit card was not based on their inability to obtain a credit card due to income or score. These individuals were still able to register a credit score as mortgage debt, vehicle debt, and school loan debt can provide a credit rating. Those in the null group has similar characteristics to convenience users and it was determined that they should be included as part of the group with a zero credit card balance. CS was significantly related to retirement savings (*B* = 0.28, 95% CI [-0.03, 0.58]), and the regression estimate for CS predicting credit card user type was significant (*B* = -0.69, 95% CI [-1.92, -0.04]). The odds ratio for CS predicting credit card user type was also significant (OR =

0.50, p = .049), indicating that for every one-point increase in CS, participants had 0.50 times the odds to be a revolving user compared to a convenience user. Credit card user type was not significantly related to retirement savings (B = 0.01, 95% CI [-0.26, 0.50]). As credit card user type was not significantly related to retirement savings, full mediation was not demonstrated. When a regression estimate for the p-value does not align with the odds ratio p-values, Muthen (2018) recommends using confidence intervals since logit assumes approximate normality. Therefore, the use of confidence intervals will consider non-normality through the usage of non-symmetric intervals. Additionally, Muthen recommends evaluating confidence intervals by whether they cover a neutral point of zero. Figure 4.3 displays the unstandardized path coefficients for the mediation analysis.

Table 4.22

Predicting Retirement Savings Mediated by Credit Card User Type

						95% CI	
Predictor	TO	Estimate	S.E.	Est./S.E	*p*	Lower	Upper
Age	CS	-0.02	0.05	-0.41	.680	-0.13	0.09
Income	CS	0.16	0.07	2.47	.014*	0.04	0.30**
Gender	CS	-0.16	0.12	-1.32	.186	-0.43	0.06
Marital status	CS	0.47	0.18	2.57	.010*	0.14	0.84**
Race	CS	0.17	0.13	1.35	.177	-0.06	0.43
Education	CS	-0.09	0.07	-1.41	.160	-0.21	0.05
Dependents	CS	-0.12	0.04	-2.67	.008*	-0.20	-0.03**
Health status	CS	0.15	0.10	1.53	.127	-0.08	0.33
Life expectancy	CS	0.13	0.04	2.99	.003*	0.04	0.21**
Net worth	CS	0.06	0.06	1.04	.299	-0.05	0.18
Retirement contr	CS	-0.24	0.16	-1.49	.136	-0.57	0.05
Work retmt plan	CS	0.42	0.18	2.39	.017*	0.12	0.82**

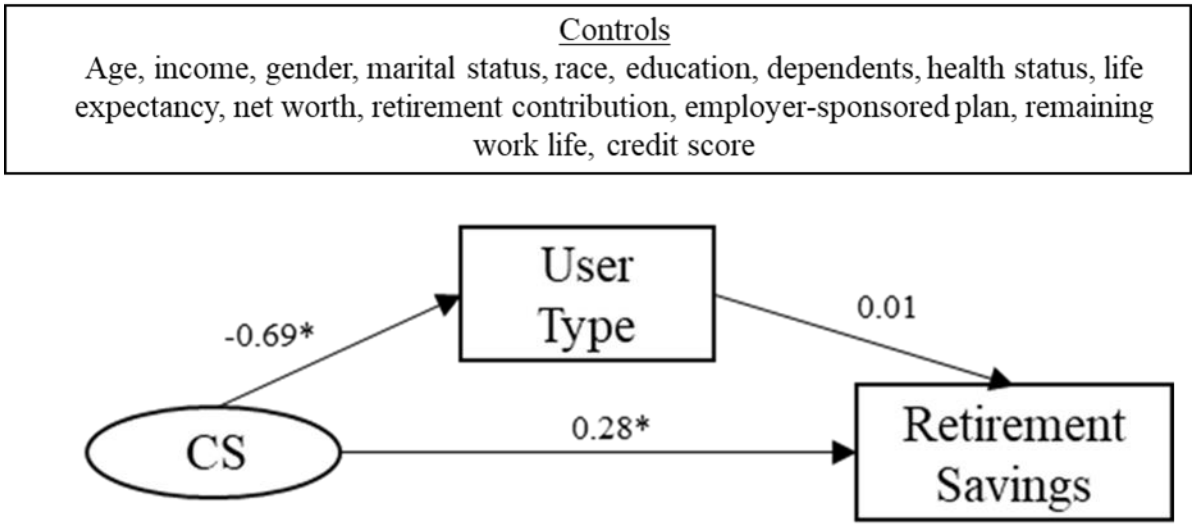
						95% CI	
Predictor	TO	Estimate	S.E.	Est./S.E	*p*	Lower	Upper
Expected retmt age	CS	0.01	0.05	0.14	.885	-0.08	0.12
Credit score	CS	0.25	0.09	2.88	.004*	0.10	0.44**
CS	Retmt Sav	0.28	0.16	1.78	.076	0.03	0.58**
CS	User Type	-0.69	0.50	-1.37	.171	-1.92	-0.04**
User Type	Retmt Sav	0.01	0.13	0.04	.968	-0.26	0.50
Age	Retmt Sav	0.17	0.06	2.99	.003*	0.06	0.29**
Income	Retmt Sav	0.04	0.07	0.64	.523	-0.09	0.18
Gender	Retmt Sav	-0.03	0.14	-0.20	.842	-0.28	0.24
Marital status	Retmt Sav	-0.26	0.19	-1.33	.183	-0.62	0.12
Race	Retmt Sav	-0.18	0.14	-1.29	.197	-0.42	0.09
Education	Retmt Sav	0.22	0.08	2.87	.004*	0.07	0.37**
Dependents	Retmt Sav	-0.01	0.06	-0.16	.874	-0.14	0.12
Health status	Retmt Sav	0.00	0.13	0.03	.973	-0.23	0.26
Life expectancy	Retmt Sav	0.01	0.05	0.20	.845	-0.09	0.11
Net worth	Retmt Sav	0.39	0.06	6.48	< .001*	0.28	0.52**
Retirement Contr	Retmt Sav	-0.78	0.21	-3.67	< .001*	-1.23	-0.40**
Work Retmt Plan	Retmt Sav	-0.10	0.21	-0.48	.629	-0.49	0.33
Expected retmt age	Retmt Sav	-0.22	0.06	-3.60	< .001*	-0.33	-0.10**
Credit score	Retmt Sav	-0.08	0.10	-0.79	.427	-0.28	0.11
Age	User Type	0.07	0.24	0.29	.773	-0.39	0.55
Income	User Type	0.32	0.25	1.30	.193	-0.10	0.90
Gender	User Type	0.04	0.46	0.09	.930	-0.84	0.96
Marital status	User Type	0.69	0.64	1.07	.287	-0.44	2.11
Race	User Type	-0.40	0.63	-0.63	.531	-1.76	0.79
Education	User Type	-0.58	0.33	-1.76	.078*	-1.40	-0.06**
Dependents	User Type	0.23	0.21	1.09	.278	-0.15	0.70
Health status	User Type	1.01	0.42	2.38	.017*	0.43	2.11**
Life expectancy	User Type	0.14	0.16	0.85	.394	-0.13	0.50
Net worth	User Type	-0.08	0.24	-0.35	.730	-0.57	0.38

Predictor	TO	Estimate	S.E.	Est./S.E	*p*	95% CI Lower	95% CI Upper
Retirement contr	User Type	0.02	0.72	0.03	.980	-1.47	1.41
Work retmt plan	User Type	0.69	0.69	1.00	.317	-0.52	2.22
Expected retmt age	User Type	0.04	0.26	0.15	.884	-0.49	0.58
Credit score	User Type	-0.55	0.38	-1.46	.144	-1.40	-0.05**

*$p < 0.05$ (two-tailed); **Does not cross neutral CI indicator of zero. *Note.* Standardized estimates and specific indirect effects are not computed in Mplus for models with categorical mediators. Mplus does not provide output in this situation.

Figure 4.3

Unstandardized Coefficients for User Type Mediation Model



Note: Standardized estimates and specific indirect effects are not computed in Mplus for models with categorical values. *$p < 0.05$ (two-tailed).

Table 4.23 displays the regression coefficients for the SEM with credit card balance and credit card user type as the mediators. CS was significantly related to retirement savings (*B* = 0.30, 95% CI [0.03, 0.63]), credit card user type (*B* = -0.81, 95% CI [-0.08, 0.02]), and credit card balance (*B* = -0.51, 95% CI [-1.17, -0.13]). Credit card user type was not significantly related to retirement savings (*B* = -0.04, 95% CI [-0.31, 0.23]), and credit card balance was not

significantly related to retirement savings (*B* = 0.06, 95% CI [-0.05, 0.16]). Since credit card user type and credit card balance were not significantly related to retirement savings, full mediation by both mediators simultaneously was not demonstrated. Figure 4.4 displays the unstandardized path coefficients for the mediation analysis.

Table 4.23

SEM Predicting Retirement Savings Mediated by Credit Card Balance and User Type

						95% CI	
Predictor	TO	Estimate	S.E.	Est./S.E.	*p*	Lower	Upper
Age	CS	-0.02	0.05	-0.37	.712	-0.12	0.08
Income	CS	0.16	0.06	2.50	.013*	0.04	0.30**
Gender	CS	-0.16	0.12	-1.30	.193	-0.42	0.06
Marital status	CS	0.47	0.18	2.63	.009*	0.14	0.83**
Race	CS	0.17	0.12	1.39	.164	-0.06	0.42
Education	CS	-0.09	0.07	-1.40	.160	-0.21	0.05
Dependents	CS	-0.12	0.04	-2.66	.008*	-0.20	-0.03**
Health status	CS	0.16	0.10	1.67	.094	-0.06	0.33
Life expectancy	CS	0.13	0.04	3.05	.002*	0.05	0.21**
Net worth	CS	0.06	0.06	1.05	.294	-0.05	0.19
Retirement contribution	CS	-0.24	0.16	-1.47	.142	-0.56	0.05
Work retirement plan	CS	0.42	0.17	2.49	.013*	0.12	0.80**
Expected retirement age	CS	0.01	0.05	0.17	.866	-0.08	0.12
Credit score	CS	0.25	0.08	2.97	.003*	0.10	0.43**
CS	Retmt Sav	0.30	0.18	1.70	.089	0.03	0.63**
CS	User Type	-0.81	1.20	-0.67	.501	-2.68	-0.03**
CS	CC Bal	-0.51	0.29	-1.74	.082	-1.17	-0.13**
User Type	Retmt Sav	-0.04	0.13	-0.29	.770	-0.31	0.23
Credit card balance	Retmt Sav	0.06	0.05	1.25	.213	-0.05	0.16
Age	Retmt Sav	0.17	0.06	2.92	.003*	0.05	0.29**
Income	Retmt Sav	0.05	0.07	0.69	.491	-0.09	0.19
Gender	Retmt Sav	-0.03	0.14	-0.25	.804	-0.29	0.24

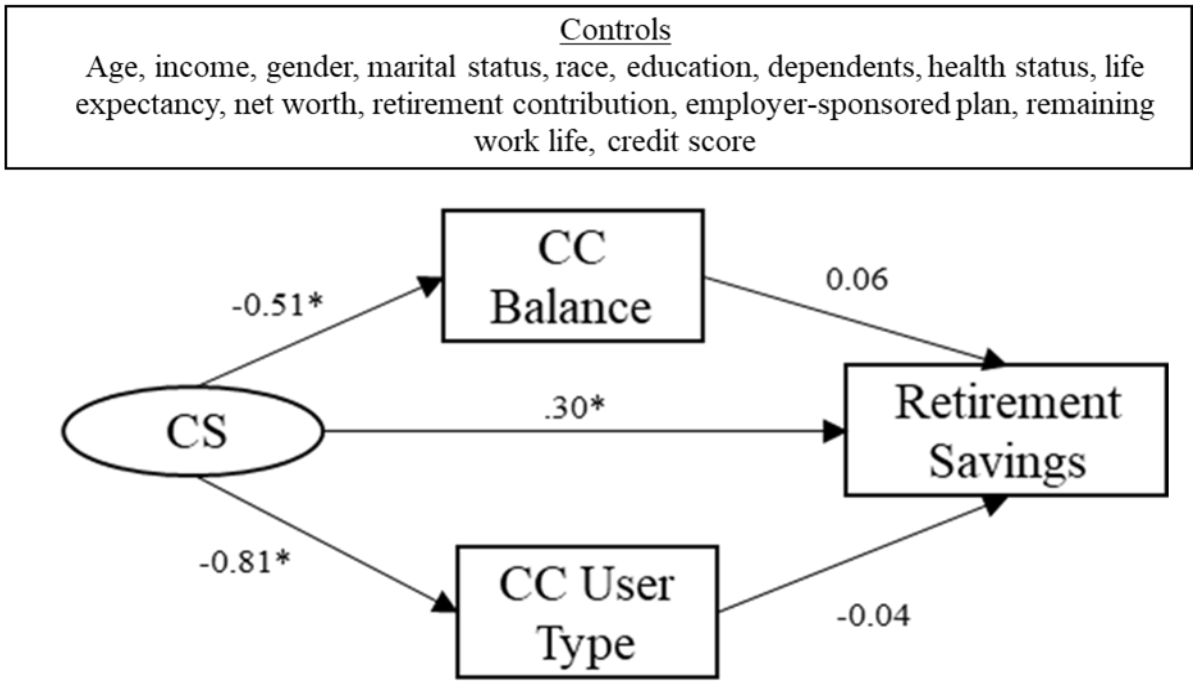
Predictor	TO	Estimate	S.E.	Est./S.E.	*p*	95% CI Lower	95% CI Upper
Marital status	Retmt Sav	-0.23	0.20	-1.15	.250	-0.61	0.16
Race	Retmt Sav	-0.18	0.14	-1.25	.210	-0.47	0.09
Education	Retmt Sav	0.21	0.08	2.64	.008*	0.05	0.36**
Dependents	Retmt Sav	-0.03	0.07	-0.37	.709	-0.15	0.11
Health status	Retmt Sav	0.02	0.13	0.19	.850	-0.21	0.28
Life expectancy	Retmt Sav	0.01	0.05	0.27	.784	-0.09	0.11
Net worth	Retmt Sav	0.39	0.06	6.48	< .001*	0.28	0.52**
Retirement contribution	Retmt Sav	-0.78	0.21	-3.68	< .001*	-1.23	-0.41**
Work retirement plan	Retmt Sav	-0.08	0.21	-0.40	.691	-0.49	0.34
Expected retirement age	Retmt Sav	-0.23	0.06	-3.66	< .001*	-0.34	-0.11**
Credit score	Retmt Sav	-0.06	0.10	-0.66	.513	-0.26	0.12
Age	User Type	0.07	0.25	0.27	.788	-0.41	0.57
Income	User Type	0.34	0.31	1.10	.270	-0.08	0.95
Gender	User Type	0.02	0.53	0.04	.968	-0.97	0.95
Marital status	User Type	0.75	0.91	0.82	.413	-0.39	2.41
Race	User Type	-0.37	0.66	-0.56	.576	-1.74	0.84
Education	User Type	-0.60	0.38	-1.57	.117	-1.48	-0.08**
Dependents	User Type	0.22	0.25	0.91	.365	-0.22	0.69
Health status	User Type	1.04	0.57	1.81	.070	0.47	2.21**
Life expectancy	User Type	0.15	0.24	0.65	.517	-0.12	0.59
Net worth	User Type	-0.07	0.25	-0.30	.766	-0.56	0.41
Retirement contribution	User Type	-0.01	0.79	-0.01	.994	-1.55	1.36
Work retirement plan	User Type	0.74	0.86	0.87	.384	-0.47	2.42
Expected retirement age	User Type	0.04	0.27	0.15	.877	-0.50	0.60
Credit score	User Type	-0.52	0.44	-1.19	.236	-1.39	0.17
Age	CC Bal	0.06	0.08	0.74	.457	-0.11	0.22
Income	CC Bal	-0.02	0.11	-0.13	.893	-0.22	0.22
Gender	CC Bal	0.11	0.20	0.52	.604	-0.27	0.52
Marital status	CC Bal	-0.37	0.25	-1.49	.137	-0.81	0.15
Race	CC Bal	-0.11	0.27	-0.41	.684	-0.61	0.46
Education	CC Bal	0.12	0.11	1.16	.245	-0.09	0.34

Predictor	TO	Estimate	S.E.	Est./S.E.	*p*	95% CI Lower	95% CI Upper
Dependents	CC Bal	0.25	0.10	2.48	.013*	0.06	0.46**
Health status	CC Bal	-0.20	0.16	-1.24	.214	-0.49	0.12
Life expectancy	CC Bal	-0.04	0.08	-0.54	.591	-0.19	0.12
Net worth	CC Bal	0.00	0.10	-0.02	.982	-0.19	0.19
Retirement contribution	CC Bal	0.05	0.27	0.17	.863	-0.54	0.52
Work retirement plan	CC Bal	-0.17	0.30	-0.57	.569	-0.70	0.48
Expected retirement age	CC Bal	0.16	0.09	1.80	.072	0.01	0.35**
Credit score	CC Bal	-0.30	0.16	-1.92	.055	-0.60	-0.02**

*$p < 0.05$ (two-tailed); **Does not cross neutral CI indicator of zero. *Note.* Standardized estimates and specific indirect effects are not computed in Mplus for models with categorical mediators.

Figure 4.4

Unstandardized Coefficients for Credit Card Balance and User Type Mediation Model



Note: Standardized estimates and specific indirect effects are not computed in Mplus for models with categorical mediator values. *$p < 0.05$ (two-tailed).

In order to determine if credit card user type had possible moderating effects, sub-group mediation models were attempted. Table 4.24 displays the regression coefficients for the SEM with credit card balance as the mediator for convenience users only. CS was significantly related to retirement savings (B = 0.37, 95% CI [-0.11, 0.91]) and credit card balance (B = -0.36, 95% CI [-1.22, -0.03]). Credit card balance was not significantly related to retirement savings (B = 0.10, 95% CI [-0.09, 0.26]). As credit card balance was not significantly related to retirement savings, full mediation was not demonstrated. The indirect effect of CS on retirement savings through credit card balance was not significant, B = -0.04, β = -0.03, 95% CI [-0.16, 0.01], indicating that the effect of CS on retirement savings was not partially mediated by credit card balance. Figure 4.5 displays the unstandardized and standardized path coefficients for the mediation analysis. A model also was attempted for the revolving user subset of participants; however, this model could not achieve convergence. Estimates for the revolving user group could not be calculated.

Table 4.24

SEM Predicting Retirement Savings Mediated by Credit Card Balance (Convenience Users Only)

							95% CI	
Predictor	TO	Estimate	β	S.E.	Est./S.E.	*p*	Lower	Upper
Age	CS	-0.04	-0.05	0.10	-0.46	.648	-0.25	0.11
Income	CS	0.16	0.22	0.10	1.55	.121	-0.14	0.39
Gender	CS	0.11	0.07	0.19	0.58	.565	-0.28	0.51
Marital status	CS	0.40	0.17	0.37	1.08	.281	-0.26	1.18
Race	CS	0.02	0.01	0.24	0.06	.950	-0.48	0.50
Education	CS	0.06	0.06	0.12	0.50	.618	-0.15	0.32
Dependents	CS	-0.06	-0.08	0.09	-0.65	.514	-0.19	0.16
Health status	CS	0.26	0.17	0.17	1.57	.117	-0.16	0.55
Life expectancy	CS	0.13	0.22	0.07	1.82	.069	0.03	0.25**

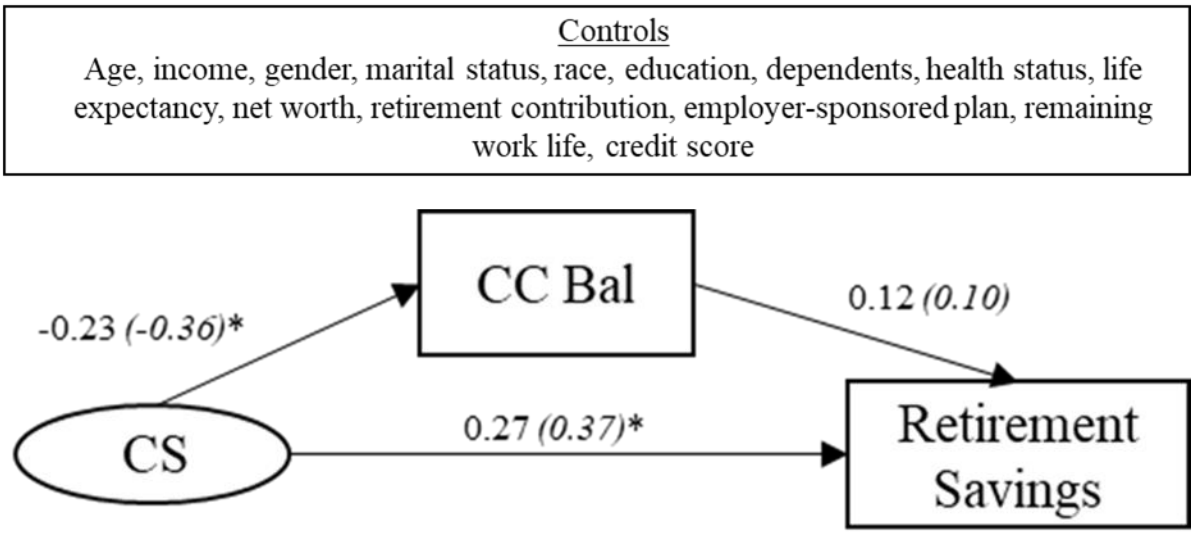
Predictor	TO	Estimate	β	S.E.	Est./S.E.	*p*	95% CI Lower	95% CI Upper
Net worth	CS	0.15	0.21	0.10	1.51	.131	-0.06	0.33
Retmt contrib.	CS	-0.30	-0.11	0.25	-1.18	.239	-0.80	0.23
Work retmt plan	CS	0.49	0.19	0.36	1.35	.177	-0.12	1.30
Expect retmt age	CS	-0.01	-0.02	0.09	-0.16	.873	-0.18	0.18
Credit score	CS	0.31	0.26	0.17	1.85	.064	0.03	0.61**
CS	Retmt Sav	0.37	0.27	0.22	1.65	.099	0.11	0.91**
CS	CC Balance	-0.36	-0.23	0.32	-1.14	.256	-1.22	-0.03**
CC Balance	Retmt Sav	0.10	0.12	0.09	1.14	.254	-0.09	0.24
Age	Retmt Sav	0.22	0.19	0.10	2.31	.021	0.03	0.37**
Income	Retmt Sav	0.09	0.09	0.10	0.87	.385	-0.11	0.28
Gender	Retmt Sav	-0.25	-0.11	0.18	-1.35	.176	-0.57	0.14
Marital status	Retmt Sav	-0.20	-0.06	0.28	-0.69	.490	-0.75	0.37
Race	Retmt Sav	0.03	0.01	0.24	0.10	.917	-0.47	0.49
Education	Retmt Sav	0.26	0.19	0.11	2.36	.018*	0.03	0.46**
Dependents	Retmt Sav	0.09	0.09	0.09	1.00	.320	-0.08	0.27
Health status	Retmt Sav	-0.06	-0.03	0.17	-0.37	.714	-0.41	0.26
Life expectancy	Retmt Sav	0.03	0.04	0.06	0.49	.623	-0.10	0.15
Net worth	Retmt Sav	0.42	0.45	0.11	4.03	< .001*	0.23	0.65**
Retmt contrib.	Retmt Sav	-0.53	-0.14	0.33	-1.60	.109	-1.19	0.14
Expect retmt age	Retmt Sav	-0.19	-0.19	0.08	-2.38	.017*	-0.32	0.00
Credit score	Retmt Sav	0.03	0.02	0.18	0.19	.849	-0.30	0.38
Age	CC Balance	0.08	0.06	0.12	0.67	.501	-0.18	0.29
Income	CC Balance	-0.15	-0.13	0.12	-1.19	.234	-0.38	0.10
Gender	CC Balance	0.05	0.02	0.28	0.17	.866	-0.50	0.60
Marital status	CC Balance	-0.45	-0.12	0.30	-1.46	.143	-0.97	0.24
Race	CC Balance	-0.14	-0.04	0.35	-0.39	.699	-0.93	0.46
Education	CC Balance	0.07	0.05	0.13	0.57	.572	-0.16	0.35
Dependents	CC Balance	0.08	0.07	0.10	0.80	.427	-0.13	0.29
Health status	CC Balance	-0.27	-0.12	0.25	-1.06	.288	-0.75	0.22
Life expectancy	CC Balance	-0.04	-0.05	0.11	-0.39	.700	-0.22	0.20
Net worth	CC Balance	-0.16	-0.15	0.14	-1.13	.258	-0.45	0.13
Retmt contrib.	CC Balance	0.26	0.06	0.38	0.67	.506	-0.57	0.98

Predictor	TO	Estimate	β	S.E.	Est./S.E.	*p*	95% CI Lower	Upper
Work retmt plan	CC Balance	-0.88	-0.22	0.42	-2.11	.035*	-1.68	0.02
Expect retmt age	CC Balance	0.08	0.07	0.11	0.76	.446	-0.18	0.28
Credit score	CC Balance	-0.46	-0.25	0.28	-1.63	.103	-1.08	-0.06**

*$p < .05$; **Does not cross neutral CI indicator of zero

Figure 4.5

Standardized (Unstandardized) Coefficients for Credit Card Balance Mediation Model (Convenience Users Only)



Model fit indices: $\chi^2[50] = 91.092$, $p < .001$, *CFI* = .88, *TLI* = .75, *SRMR* = .06, *RMSEA* = .09 (confidence interval [0.06, 0.12]). *$p < 0.05$ (two-tailed).

Report of research questions and hypotheses

The study was conducted to address the following research questions:

1. What is the relationship between the components of Consumer Socialization and retirement savings balances?
2. What is the relationship between the components of Consumer Socialization and credit card balances?

3. What is the relationship between the components of Consumer Socialization and convenience or revolving credit card users?
4. What is the mediating effect of credit card usage, measured by credit card balance, on the relationship between the Consumer Socialization construct and retirement savings balance?
5. What is the mediating effect of credit card usage, measured by credit card user type, on the relationship between the comprehensive spending behaviors and retirement savings balance?
6. What is the difference in comparative indirect effects between the Mass Media Socialization construct and the Subjective Behavioral Socialization construct on retirement savings balance?

The results pertaining to the specific research hypotheses are summarized below:

H_1: *Based on the consumer socialization model, Consumer Socialization will have a positive relationship with retirement saving balances, holding all else equal.*

The results of the SEMs showed that CS was positively related to retirement savings in the models. While the *p*-value was not significant, the 95% confidence intervals demonstrated significance. When a regression estimate for the *p*-value does not align with the confidence intervals, Muthen (2018) recommends using confidence intervals since logit assumes approximate normality. Based on these results, Hypothesis 1 was supported.

H_2: *Based on the consumer socialization model, Consumer Socialization will have a negative relationship with credit card balances, holding all else equal.*

The results of the SEM showed that CS was negatively related to credit card balance. Based on these results, Hypothesis 2 was supported.

H_3: *Based on the consumer socialization model, Consumer Socialization will be positively associated with being a convenience user, holding all else equal.*

The results of the SEM showed that the odds ratio for CS predicting credit card user type was significant. Specifically, participants with higher levels of CS were less likely to be revolving users (i.e., more likely to be convenience users). Based on these results, Hypothesis 3 was supported.

H_4: *Based on the consumer socialization model, credit card balances will have a negative relationship with retirement saving balances, holding all else equal.*

The results of the SEMs showed that credit card balance was not significantly related to retirement savings. Based on these results, Hypothesis 4 was not supported.

H_5: *Based on the consumer socialization model, being a convenience user of credit cards will have a positive relationship with retirement saving balances, holding all else equal.*

The results of the SEMs showed that credit card user type was not significantly related to retirement savings. Based on these results, Hypothesis 5 was not supported.

H_6: *Based on the consumer socialization model, the relationship between Consumer Socialization and retirement savings is fully mediated by credit card balances, holding all else equal.*

The results of the SEMs showed that credit card balance was not significantly related to retirement savings, and there was no significant indirect effect of CS through credit card balance on retirement savings. Full mediation was not demonstrated in the data. Based on these results, Hypothesis 6 was not supported.

H_7: *Based on the consumer socialization model, the relationship between Consumer Socialization and retirement savings is fully mediated by being a convenience user, holding all else equal.*

The results of the SEMs showed that credit card user type was not significantly related to retirement savings. Full mediation was not demonstrated in the data. Based on these results, Hypothesis 7 was not supported.

H_8: *Based on the consumer socialization model, the Mass Media Socialization construct will have a more significant effect on the empirical model compared to the Subjective Behavioral Socialization construct, holding all else equal.*

The results of the CFAs demonstrated that the best fitting measurement model was a single first order CS construct. SEMs including separate observed variables pertaining to MMS (i.e., AE and IBT) demonstrated markedly worse fit than the single construct model. The data did not support Hypothesis 8.

Summary of Findings

Structural equation modeling was conducted on a sample of 180 participants to determine the mediating effect that credit card usage has on the relationship between the latent variable of consumer socialization and the dependent variable of retirement savings. Initial CFAs showed that four indicators (IBT, SC, CC, and CFC) of a single first order CS construct provided the best measurement model for the independent variable. The SEM results showed that CS was positively related to retirement savings, negatively related to credit card balance, and positively associated with being a convenience user based on the usage of confidence intervals in situations of data with non-normality (Muthen, 2018). However, credit card balance and being a

convenience user did not significantly influence retirement savings. The conditions for full mediation were not demonstrated in the data.

Chapter 5 - Discussion and Implications

According to the 2020 Retirement Confidence Survey, only one-fourth of workers are very confident in their ability to retire comfortably, and approximately half of all individuals acknowledge debt as an impediment to saving for retirement (EBRI, 2020b). Moreover, 63% of Americans fear running out of money in retirement (Allianz Life Insurance Company, 2017). Based on those facts, traditional rational thought would expect workers to be more aggressive in saving for retirement. However, the 2020 Retirement Confidence Survey found that 40% of people will need more than $1 million to retire, yet only 30% of workers have a current balance over $250,000 (EBRI, 2020b; EBRI, 2020c). Most concerning is that only half of the baby-boomer generation is adequately funded for retirement; another 25% have challenges with retirement funding, and the remaining 25% are at risk of being considered impoverished (Lown, 2008).

Since the 2020 Retirement Confidence Survey found that half the population considers debt an impediment to retirement savings, this study sought to explore this situation further by focusing on credit card debt. Prior literature has shown that credit cards can lead to overspending by as much as 113% by facilitating (a) higher than average transaction amounts, (b) a willingness to pay higher prices, and (c) payment decoupling (Banker et al., 2021; Chatterjee & Rose, 2011; Prelec & Simester, 2001; Raghubir & Srivastava, 2008; Thomas et al., 2010; Wang & Wolman, 2016). Based on these findings from prior literature, the focus of the current research is to further explore the relationship between credit cards and retirement savings based on the consumer socialization model (Moschis & Churchill, 1978).

The consumer socialization model (Moschis & Churchill, 1978) found that the three consumer socialization agents of parents, peers, and mass media were the socialization agents

responsible for the development of consumer-related skills. In this study, five variables were selected to represent the aforementioned consumer socialization agents – advertising effectiveness, impulsive buying tendency, self-control, conspicuous consumption, and consideration of future consequences. Since this type of analysis had not been previously attempted, it was important to have a sophisticated structural model that could effectively analyze the relationships between the dependent, independent, and mediating variables. Credit card spending was specified as a mediator between consumer socialization and retirement savings. Confirmatory factor analysis was conducted to establish the best measurement model for the latent independent variable, to wit, the standardized factor loading results supported the use of impulsive buying tendency (0.661), self-control (0.636), conspicuous consumption (0.608), and consideration of future consequences (0.828), but advertising effectiveness was too low at 0.095. By removing advertising effectiveness and using the consumer socialization latent variable with four factors, the final model was significant. Even without advertising effectiveness, the goodness of fit for the models and the multivariate outcomes supported the conceptually sound basis of utilizing the consumer socialization model.

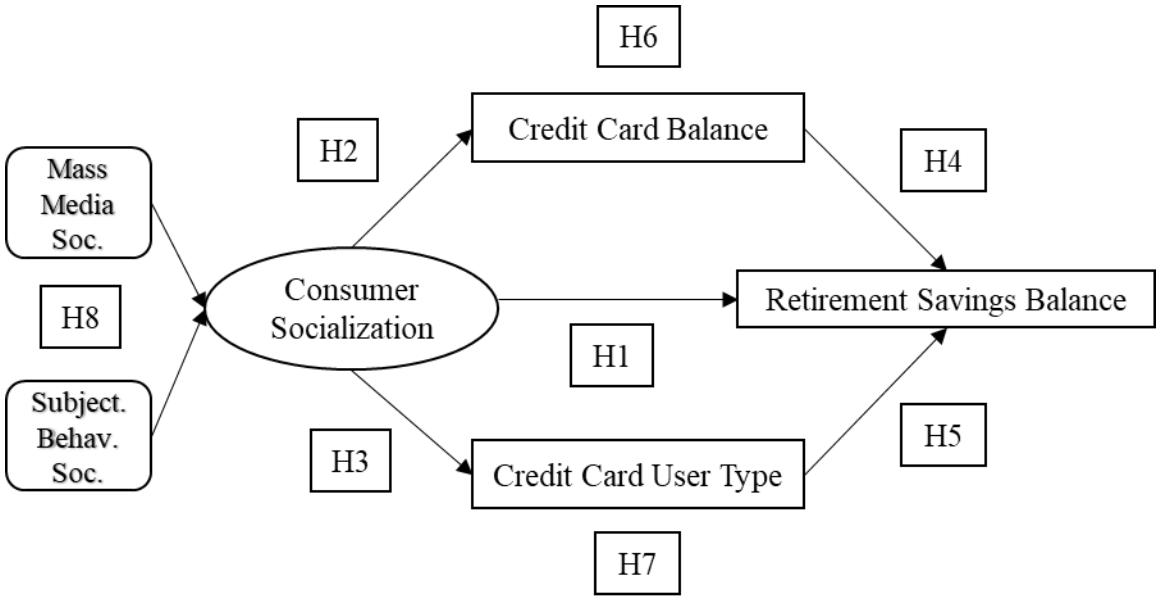
Once the model fit was established, a series of structural equation modeling (SEM) analyses were conducted to examine the relationships between the observed variables and latent variables with credit card spending and retirement savings. This chapter relates the outcome of the study, the literature review, and the theoretical framework described in the second chapter. The following chapter is segmented into four sections: discussion of research findings, implication of findings, limitations of current study, and recommendations for future studies.

Discussion of Research Findings

The main objective of this study was to research the relationship between consumer socialization and retirement savings and the potential mediating effect of credit card spending. Retirement saving was measured by total balance of retirement accounts, and the mediating variable of credit card usage was segmented between (a) total credit card balance and (b) credit card user type (revolver versus convenience user). Figure 5.1 illustrates the conceptual relationships and the associated hypotheses. A total of eight hypotheses were used to test the six research questions. The remaining portions of this section expand on each individual research question and the connected hypotheses.

Figure 5.1

Conceptual Model with Hypotheses



Research Question 1: Consumer socialization and retirement savings balances

The first research question was, "What is the relationship between the components of Consumer Socialization and retirement savings balances?" The associated hypothesis was:

H_1: Based on the consumer socialization model, Consumer Socialization will have a positive relationship with retirement saving balances, holding all else equal.

It was anticipated that those who demonstrated higher levels of positive consumer socialization attributes (i.e., low impulsive buying tendency, high self-control, low conspicuous consumption) would have higher levels of retirement savings because they would be able to better control the finite resources of wealth and income. The SEM analysis found full support for this hypothesis. This finding is important because it permitted the testing of the remaining hypotheses. Without a significant influence of consumer socialization on retirement savings, the theoretical model would not have been appropriate, and the study on credit card spending would have been unnecessary.

These results connected the consumer socialization agents of peers, parents, and mass media to retirement savings through measured behaviors of self-control, conspicuous consumption, impulsive buying tendency, and CFC. The outcome for first hypothesis aligns with earlier qualitative research which found that adult children most commonly consult parents for financial advice and take on the modeled financial behavior they saw demonstrated by their parents during childhood (Robertson-Rose, 2020). Similarly, parents' behavior often serves as an offsetting effect to negative peer and mass media influences and helps adult children avoid materialism, consume fewer luxury items, and have a future time orientation (Joireman et al., 2005; Kastanakis & Balabanis, 2014; Meldrum & Hay, 2012; Rojas-Mendez & Davies, 2016).

Significant control variables associated with this hypothesis included age, education, and expected retirement age while non-significant control variables included health status and remaining life expectancy. The control variable significance levels had blended results compared to prior literature which found key attributes of retirement savings to be health, life expectancy,

and remaining work-life expectancy (Coile, 2015; Lawson & Heckman, 2017). The difference in results is likely attributable to the different sample groups that were studied, and this research's limitation on age and income within the sample.

Research Question 2: Consumer socialization and credit card balances

The second research question was, "What is the relationship between the components of Consumer Socialization and credit card balances?" The associated hypothesis was:

> *H_2: Based on the consumer socialization model, Consumer Socialization will have a negative relationship with credit card balances, holding all else equal.*

It was expected that those who showed higher positive attributes of the consumer socialization latent variable would have lower credit card balances because they had a keener ability to manage finances in a manner that balanced current consumption with future needs. The hypothesis posits that the more consumers were able to control their behaviors associated with impulsive purchases, self-control, the influence of peers, and a future time orientation, the more likely they were to have lower credit card balances. The data were studied with two different credit card variables to get a broader understanding of the results. First, credit card balance and user type were analyzed separately; then, they were analyzed together in a single model. In both models associated with credit card balances, there was a statistically significant negative relationship between consumer socialization and credit card balances indicating that higher levels of positive consumer socialization behavior were related to lower credit card balances.

Again, the results of this second hypothesis were instrumental to the remaining hypotheses of this research. At least one statistically significant result from the second or third hypothesis was necessary to test the mediating effect(s). The results also provided a necessary connection to the consumer socialization model and the selected behaviors. Similar to saving

behaviors, the actions and advice of peers and parents can have an offsetting effect with regards to credit card usage. Specifically, Limbu et al., (2012) found that positive parental influence was foundational to college students limiting their risky credit card usage and desire for material items. These outcomes of this study aligned with prior literature which found that low levels of self-control, conspicuous consumption, and short-term time preferences leads to increased credit card debt load, status conscious shopping, and present-time orientation (Joireman et al., 2010; Limerick & Peltier, 2014; Wai & Osman, 2019).

Research Question 3: Consumer socialization and user type

The third research question was, "What is the relationship between the components of Consumer Socialization and convenience or revolving credit card users?" The hypothesis associated with this question was:

> *H_3: Based on the consumer socialization model, Consumer Socialization will be positively associated with being a convenience user, holding all else equal.*

It was expected that the research findings would suggest that the more positive the consumers' socialization was, the more likely they were to be a convenience user compared to those who had not paid off their balance in full every month for the last 12-months. Similar to the second hypothesis, this research question and hypothesis was tested in a model solely with credit card user type and then simultaneously with credit card balance to ensure a robust analysis of the results. In both situations, the results of the SEM found statistically significant relationships between higher levels of positive consumer socialization attributes and being a convenience user. The results indicated support for Hypothesis 3 by demonstrating that those with higher levels of consumer socialization were more likely to be convenience users of credit cards.

These findings align well with earlier research from Rutherford and DeVaney (2009), which found that convenience users were more likely to have higher levels of self-control and a stronger ability to limit impulsive purchases. Moreover, the results are harmonized with prior literature denoting the strong influence of peers, parents, and mass media on behavioral attributes that affect positive or negative credit card behavior and consumption actions (Gudmunson & Danes, 2011; Rai et al., 2018; Sirgy et al., 2012). Identical to the aforementioned situations, the stronger the positive parental influence is, the less likely a person will succumb to negative peer influence or mass media influences that nurture higher levels of consumption and materialism (Kastanakis & Balabanis, 2014; Koposko & Hershey, 2014; Rojas-Mendez & Davies, 2016).

Research Question 4: Mediating effect of credit card balance

The fourth question asked, "What is the mediating effect of credit card usage, measured by credit card balance, on the relationship between the Consumer Socialization construct and retirement savings balances?" The hypotheses aligned with this question were:

> *H_4: Based on the consumer socialization model, credit card balances will have a negative relationship with retirement saving balances, holding all else equal.*
>
> *H_6: Based on the consumer socialization model, the relationship between Consumer Socialization and retirement savings is fully mediated by credit card balances, holding all else equal.*

It was expected that the research would show that those with a higher credit balance would have a lower retirement savings balance, and, therefore, credit card balance would have a mediating effect between the relationship of consumer socialization and retirement savings. The results of the analysis demonstrated that there was no statistically significant relationship between credit card balance and retirement savings. There was also no significant indirect effect detected by the

SEM models of consumer socialization through credit card balance on retirement savings. Therefore, neither hypothesis four nor hypothesis six was supported by the data.

The mediation hypotheses were an exploratory aspect of this study since no prior research had analyzed this type of relationship in a similar manner. This hypothesis was based on data from the 2020 Retirement Confidence Survey (EBRI, 2020b) and Traub (2013) which indicated that 22% of Americans older than 50 had used retirement savings to pay down credit card debt and that approximately half of all individuals concede debt as a hinderance to saving for retirement. Moreover, the growing amount of the average household credit card debt in concert with the employers' increasing preference of defined contribution plans augment the individual's increasing personal responsibility to balance consumption, debt, and retirement saving adequacy which added to the substantiation of the mediation hypotheses (Comoreanu, 2021).

The justification for these outcomes may be attributable to a few different details. First, the lack of support for hypotheses four and six is evidence that there is the potential to adequately manage credit card spending while saving for retirement. Furthermore, the debt category may have been too restrictive since it is not necessarily credit card debt that is the mediator; rather, debt as an aggregate number (car debt, mortgage, student loans, etc.) that could be the mediating factor. For example, mortgage debt has been shown to increase credit card debt by $3,900 over the long-term (Fulford & Stavins, 2021); therefore, various debts have a complementary relationship rather than an individualized relationship. Additionally, retirement savings balance was the dependent variable, and results may have been different if level of retirement income adequacy based on age and retirement income goal were the dependent variables rather than simply balance levels of retirement saving.

Research Question 5: Mediating effect of credit card user type

The fifth research question was, "What is the mediating effect of credit card usage, measured by credit card user type, on the relationship between the comprehensive spending behaviors and retirement savings balance?" and the two related hypotheses were:

> *H_5: Based on the consumer socialization model, being a convenience user of credit cards will have a positive relationship with retirement saving balances, holding all else equal.*
>
> *H_7: Based on the consumer socialization model, the relationship between Consumer Socialization and retirement savings is fully mediated by being a convenience user, holding all else equal.*

It was expected that the data would demonstrate that those who were convenience users would have higher retirement savings balances and that being a convenience user would fully mediate the relationship between consumer socialization and retirement savings. The SEM analysis demonstrated that the credit card user type was not statistically significant in relation to retirement savings. Based on these results, hypotheses five and seven were not supported.

Similar to results for hypothesis four and six, the lack of the support for hypotheses five and seven is evidence that there is the potential to adequately manage credit card spending while saving for retirement. Again, since the 2020 Retirement Confidence Survey found that 58% of workers and 42% of retirees acknowledged debt as a problem in their situation (EBRI, 2020b), the true mediator may be the aggregate levels of debt rather than one specific debt. Additionally, retirement savings was the dependent variable, and results may have been different if retirement variable was changed to an adequacy-based variable. Nevertheless, additional research should be conducted in relation to consumer socialization and retirement savings with different debt types

as the mediating effect to further understand the full scope as to why such a large portion of individuals consider debt to be a hindrance to retirement saving.

Research Question 6: Difference in comparative effects

The sixth research question asked, "What is the difference in comparative indirect effects between the Mass Media Socialization construct and the Subjective Behavioral Socialization construct on retirement savings balance?" The associated hypothesis for this research question was:

> *H_8: Based on the consumer socialization model, the Mass Media Socialization construct will have a more significant effect on the empirical model compared to the Subjective Behavioral Socialization construct, holding all else equal.*

In this scenario, the expectation was that the mass media latent variable, which consisted of advertising effectiveness and impulsive buying tendency, would have a larger effect size on consumer socialization than the subjective behavioral socialization latent variable that consisted of self-control, conspicuous consumption, and CFC. This supposition was based on prior research that highlighted the significance of television advertising specifically and its ability to enhance the consummation of sales, peer effects, and short-term time framing (Beal et al., 2018; Boyland & Halford, 2013; Opree et al., 2012; Rojas-Mendez & Davies, 2016; van der Goot et al., 2016). The model analysis for this study was affected by the results of the CFA which demonstrated that the model with the best fit was the single first order CS construct (see Table 4.18). The factor loading for the variables also indicated that advertising effectiveness needed to be removed from the model. An attempt was made to adjust the model and run advertising effectiveness separate from impulsive buying tendency. The SEM model that included separate observed variables associated with MMS was distinctly worse than the single construct model.

As such, the single first order model included impulsive buying tendency as an observed variable along with the SBS latent variable. The model fit did not meet the ideal metrics as lined out by Kenny (2015) and Kline (2011) but did exceed the minimum standards for model fit. Due to the use of the four construct model for the full latent variable of consumer socialization, this hypothesis was not able to be fully tested and thus not supported.

One reason the data may not have found this scale to be effective is the lack of specificity within the scale. The scale used (Sachdeva, 2015) apparently did not have the necessary detail to illuminate the manner in which advertising affects the individual for this study. In retrospect, the questions may have been interpreted by the respondent as a generalization on what advertising effectiveness is rather than whether the statement made advertising effective to them as an individual consumer making purchase decisions. For example, question one stated, "Effective advertisement results in exposure to the product" and question four stated, "Effective informational advertisement creates interest in the product." It may be plausible that the respondent did not connect the statement to themselves and whether it applied to the manner in which advertising is effective on them and their purchase decisions. The respondents may have simply viewed this question as an opinion on whether the statement made advertising effective to the general consumer. Moschis and Churchill (1978) found mass media to be one of the strongest agents of consumer socialization. Likewise, Gregory et al. (2017) found television to be one of the most powerful influences of overt advertising. The results expose a gap in the existing literature that needs additional focus, so future research can quantify the influence of advertising on the spending and saving patterns of individuals.

Socialization processes sub-analysis

The standardized loadings for the first order CFA model demonstrated an unacceptable load for advertising effectiveness and was removed from the model. However, within the sub-analysis of this socialization process, only gender, ethnicity, partner's education, having an employee-sponsored retirement plan, and having an emergency fund exhibited statistically significant control group differences. The number of credit cards, user type, and retirement contributions did not demonstrate any statistical differences between the groups within the control variables (i.e., gender, ethnicity, number of dependent children). This result further supports the use of the consumer socialization theoretical model because each of the four variables that represent the socialization agents contributed collectively to the results and findings of this study.

Second, impulsive buying tendency had an acceptable standardized loading, and gender, number of dependent children, education, and household income were statistically significant in the differences between the control variable subgroups. Furthermore, there were also statistically significant differences between user type, 2020 retirement contributions, net worth, investable assets, and the existence of an emergency fund. These results are in line with prior research which suggest that levels of impulsive buying tendency are indicative of the levels of spending, and high levels of impulsive purchases can result in economically irrational purchases (Beatty & Ferrell, 1998; Han et al., 1991; Rook & Fisher, 1995).

Third, self-control only had differences within the control variables for the number of dependent children, education, and household income. Similar to impulsive buying tendency, differences in credit cards and retirement savings appeared as expected in the variables. User type, 2020 retirement contribution, access to an employee-sponsored plan, possessing various

levels of investable assets, and the existence of an emergency fund all had statistically significant *p*-values. Again, consumers with lower levels of self-control typically contribute less to retirement, have lower levels of investable assets, and forego an emergency fund because of higher levels of spending (Limerick & Peltier, 2014). These results further support the inclusion and importance of the relationship of self-control to retirement saving (Jeffrey & Hodge, 2007; Lindner et al., 2015; Thaler & Shefrin, 1981).

Fourth, conspicuous consumption represented the peer effect of the consumer socialization model and demonstrated statistically significant differences in the control variables for the number of dependent children, marital status, and partner's education. While there were no significant differences in retirement variables or credit card variables, net worth, investable assets, and having an emergency fund all had significant *p*-values. The statistically significant results of net worth, investable assets, and emergency fund again lend support to the findings of prior research that illustrate the ability for peers and parents to influence spending and saving patterns (Faucher, 2014; Hartmann, 2011; Lewis & Moital, 2016; Sivanathan & Pettit, 2010). The lack of significant results with credit card and retirement variables may be a result of the fact that this was a cross-sectional study. In a longitudinal study, it could be expected that more differences within this variable would be exposed. The peer effect that results from conspicuous consumption may not be clearly evident in a study like this which only takes a snapshot in time but may become more prominent in situations that are viewed over a longer period of time for respondents.

Fifth, within CFC, only number of dependent children, partner's education, and household income were statistically significant, and these factors do not provide meaningful insight into the sample group. However, user type, number of cards, 2020 retirement

contribution, net worth, level of investable assets, and having an emergency fund all demonstrated statistically significant results. These findings would support the premise of CFC in that those with a more forward focused time perspective would have higher levels of savings and net worth (Joireman et al., 2012; Joireman & King, 2016; Maital & Maital, 1976).

Collectively, only the existence of an emergency fund and credit score rating were statistically significant in the sub-analyses of all five variables. This would indicate that these are important factors for financial planners to focus on throughout the financial planning process. Having an emergency fund may be one of the most important aspects of a financial plan because this fund would allow the consumer to weather financial storms that may arise from job changes, job loss, car repairs, or other situations that may necessitate a quick influx of cash to avoid high-interest debt options.

SEM predictor paths

Within the SEM models, six variables were significant in determining consumer socialization within the models that analyzed credit card balance and credit card user type mediation. Both models revealed that income, marital status, life expectancy, access to a retirement plan, and credit score were all statistically significant and had a positive relationship while number of dependent children had a negative relationship and was statistically significant. These models highlight important factors that financial planners and those who integrate client psychology into their practice must consider during the initial fact-fact finding process (Chaffin, 2018). The findings are consistent with what would be expected for a practitioner to have a long-term positive influence on retirement planning (Kiso & Hershey, 2016).

Next, age, education, net worth, retirement contributions, and expected retirement age were all statistically significant in predicting retirement savings. Again, these are key factors that

can be used in any financial planning or financial therapy situation along with the development of financial education. Most important is the retirement age variable. While someone may expect to retire at a certain age, he or she must be prepared for the imponderables that could occur. From an educational standpoint, factoring in the unknown is important because the risk of saving less because the expected retirement age is further away could be detrimental to a financial situation. Early retirement could be brought on by unknown medical conditions, having to take care of a spouse earlier than projected, disinterest in the job, and more. Education about the importance of retirement savings must highlight these risks since the likelihood of having a fallback like a pension and/or social security to fully fund retirement is not a high probability.

In the analysis of credit card usage, the significant variables for the path to credit card balance were marital status, number of dependent children, expected retirement age, and credit score. For the path to user type, education, health status, and credit score were statistically significant. The consistency of variables like number of dependent children, expected retirement age, and marital status highlights specific focus areas for financial planners and therapists. Naturally, having more children and an income in the constrained income bracket of $50,000 - $150,000 puts additional burdens on the family's financial decisions. It is imperative that those in a fiduciary role as financial planners address these issues and help families walk through the solutions that can ensure an adequate balance of spending and saving based on their goals and objectives as clients.

Summary

The outcome for all the hypotheses was likely influenced at some level by the lack of significance found with the advertising effectiveness variable. The seminal work of Moschis and Churchill (1978) indicated that mass media was a significant aspect of socialization processes. In

spite of the increased sophistication and expansion of social media platforms along with an average of 2.6 televisions per household (EIA, 2017), and an average of 66 hours of television viewing per week (Pevos, 2020), the expected outcomes and impact of the current state of effect of advertising effectiveness could not be fully determined. The lack of an advertising effectiveness variable most likely impacted the credit card spending variables and the relationship between credit card balance and user type and retirement savings. Alternatively, the fact that there was a statistically significant relationship between consumer socialization and retirement savings and consumer socialization and credit card spending further supports the theoretical model used to determine the CS latent variable.

Implication of Findings

The findings of this study present several implications that are relevant for individuals working as financial planners, financial therapists, and behavioral finance researchers. The demonstration of a strong association between consumer socialization and credit card spending and planning for retirement saving suggests that these key relationships should be considered in the individual interactions with clients and within holistic plans that are developed to lay out the path for accomplishing long-term goals and objectives. Even though a mediating effect was not substantiated with this data, the current research demonstrates that there is a heavy influence from consumer socialization on credit cards and retirement savings separately. Furthermore, empirical research highlights the potential to overspend with credit cards and the subsequent concern that credit card overspending might have for clients' ability to sustain their lifestyles in retirement (Banker et al., 2021; Chatterjee & Rose, 2011; EBRI, 2020b; Prelec & Simester, 2001; Raghubir & Srivastava, 2008; Thomas et al., 2010; Wang & Wolman, 2016).

Practical Implications

The statistically significant relationships between the impulsive buying tendency, self-control, conspicuous consumption, and CFC highlights the importance for financial planners to include a discussion of these factors in the fact-finding process in the early stages of the financial planning relationship. Second, the results may support the findings of prior literature that people typically fail to fully disclose the complete story about their credit card debt (Karlan & Zinman, 2008; Zinman, 2009). Therefore, connecting the various aspects of consumer socialization with the individual/couple's saving and spending habits would be imperative for gathering complete and accurate data within the development of a comprehensive financial plan.

Since there was no support for the mediation hypotheses, the results suggest that individuals can both use a credit card and save for retirement. However, it would be practical for financial planners to investigate this dynamic between saving and spending further during the initial conversation with the client. Furthermore, since there was not sufficient support for the mediation hypotheses, a prudent financial planner should also look at other types of debt (i.e., mortgage, auto, student loans) that may be the mediating and potentially problematic factor for that specific family. Income and wealth are finite, and the implications of this study suggest that this sample group could both save and use a credit card wisely. Nevertheless, this must be judiciously evaluated on an individual basis to ensure that the specific individual or couple is not inhibiting their retirement savings by debt.

Client Psychology Implications

In the past decade, a shift has occurred in financial planning away from examining sheer numbers to a larger exploration of the emotional and human aspects of financial planning. This is sometimes referred to as financial therapy (e.g., Grable et al., 2010), life planning (e.g.,

Anderson & Sharpe, 2008), client psychology (e.g., Chaffin, 2018), and other terms. Client psychology is a rapidly growing field within the financial planning paradigm. This type of counseling promotes financial health by integrating various aspects of cognitive, emotional, behavioral, relational, and economic elements of people and couples (Archuleta et al., 2015). In the current research, approximately 17% of participants acknowledged that they manage their finances separately from their spouse. While managing finances separately is not inappropriate, a financial therapist would want to evaluate each specific situation to examine the cognitive biases associated with this decision-making process, the results of this process, and the impact that the process may be playing on the relationship along with analyzing saving and spending habits.

Furthermore, this study focused specifically on middle-class individuals; client psychology can be used to help evaluate the role that consumer socialization may play in the financial relationship of all couples, regardless of household income. Those in the middle-class are in a unique situation whereby they can mathematically afford to both save and spend within limits. However, finding those limits can be difficult when the roles of impulsive spending, self-control, conspicuous consumption, and CFC are considered. Moreover, expanding the income limits and replicating this study into higher socio-economic statuses may also be beneficial to understanding other implications for those in higher income and net worth categories.

Since there were direct relationships from consumer socialization to retirement savings and credit cards, those advisors who integrate client psychology into their practices would be well served to understand the role that consumer socialization plays in the unique situations for their clients. The link between consumer socialization and financial behaviors can be further extended for financial therapy to understand not only the relationships of factors within each

individual, but also to analyze how the consumer socialization process between the couple has been blended and examine if that blending exposes any further financial concerns.

Behavioral Finance Implications

Another aspect of client psychology is behavioral finance, which is defined "as the application of psychology to finance" (Pompian, 2006, p. 5). Early behavioral finance viewed decisions as irrational if they did not conform to traditional statistical logic, but this view has been modernized to be better understood through the lens of utility theory and utility satisfaction received from individuals making decisions which appear irrational but are aligned with personal preferences (Chernev & Hamilton, 2009). From this analysis, certain biases have been studied to further understand this decision making process. The study of peer effects, which is when peers influence decisions and relative standing, states that our choices and satisfaction are driven by the comparisons we make in relation to our peers (Pompian, 2006). The findings of this study regarding the influence of conspicuous consumption support the existing literature that implicates a strong influence from peers in financial decisions.

Prior research on peer effects, conspicuous consumption, and relative standing have all shown a strong peer influence on financial decisions of spending and saving. For example, Duflo and Saez (2002) found that when professors participated in the retirement savings programs, overall participation increased throughout the university. Moreover, the person who is teaching behavioral finance must have a strong grasp on this as well. Zuckerman (1998) found that more than half of American Nobel prize winners were taught by Nobel prize winners. This fact indicates that the quality of the teacher matters. Therefore, it is essential that those who conduct financial education sessions are also equipped to present the information and have the ability to implement it in their own financial situation. Additionally, this research demonstrates that if

behavioral scientists can get a few people to change behavior, then the peer influence can become positive in nature and facilitate positive saving attributes. Once individuals understand the process of peer influence, they can be better equipped to handle this factor and mitigate the effect so decisions can be made based on what is best for the individual and family rather than what is best to maintain an uncertain and ambiguous status with a peer group.

Financial Education Implications

Prior research suggests that those who receive financial education in high school perform worse than those who do not receive education (Mandell, 1999). Furthermore, Bernheim and Garrett (2003) indicated that workplace literacy programs did not change behavior, and Peng et al. (2007) found that high school and college literacy courses did not improve investment knowledge scores. However, more current analysis does indicate that better financial education has been shown to increase financial literacy (Kaiser & Menkhoff, 2020). Research shows a positive effect of financial education when education occurs within a close time proximity of executing a financial behavior (Kaiser & Menkhoff, 2017). For example, poor results from high school in financial education classes may not be indicative of ineffective education but rather in the disparity of time space between learning and executing the behavior. A high school student typically would not have the capacity to implement such decisions as saving in an IRA, making wise choices with a credit card, or purchasing a home with a mortgage that balances short-term and long-term goals.

Furthermore, the implications of this study in concert with prior financial education literature indicates that financial education programs may benefit from being separated into two segments. First, education should be centered on the consumer socialization behavioral segments and focus on clarifying the role of cognitive biases and the effect of parental units, mass media,

and influence of peers. Second, this education could then be complemented with broadening the understanding of the mathematical aspects of the importance of saving by clarifying the time value of money and the interrelated nature of financial decisions on an ongoing basis. This strategy of including consumer socialization in partnership with other financial strategies coincides well with the increased focus that the CFP Board has put on client psychology (Salinger, 2021).

This research highlights the role behavioral attributes such as impulsive buying tendency, self-control, conspicuous consumption, and consideration of future consequences play in saving and spending patterns based on the significant relationships in the paths between consumer socialization and retirement saving and credit card spending. Therefore, as financial literacy education matures, aspects of consumer socialization should be integrated into the process. If individuals can better understand themselves, their consumption patterns and tendencies, and increase their situational awareness, then financial literacy focused on the mathematical aspects of financial planning may be more effective.

Limitations of the Study

This study evaluated the relationships between consumer socialization, saving for retirement, and credit card spending. It was primarily an exploratory study since mediation of credit card spending had not been examined in prior studies. Various limitations were identified during this course of study and include those based on the sample (e.g., utilizing MTurk to gather data), inability to determine causality, participant intentions, data integrity, and the advertising effectiveness scale.

First, this was a primary dataset collected through Amazon Mechanical Turk (MTurk) because an appropriate secondary dataset did not include the full breadth of questions necessary

to complete the study. This platform provided an efficient and cost-effective manner to gather data in a timely manner. The tasks were accomplished by asking workers (MTurkers) to voluntarily complete Human Intelligence Tasks (HIT). While there is strong support for this platform (Goodman & Paolacci, 2017; Sheehan & Pittman, 2016), drawbacks to this process and subsequent limitations must be noted. Prior research has demonstrated that the MTurk platform underrepresents minorities and struggles to attract minority respondents (Berinsky et al., 2012; Huff & Tingley, 2015). The participants' ethnicity of this study was comprised of 79% White, and 7% each for Black, Hispanic, and "other," which reveals an important under-representation of minority groups. This is consistent with prior MTurk sample research, which found that Blacks represent approximately 6-10% of the online platform population (Burnham et al., 2018; Hitlin, 2016; Levay et al., 2016; Michel et al., 2018).The inability to attract an appropriate sample of minorities further indicates a constraint on the power of the platform to properly attract a diverse group of gender representation. This compounds the issues with already underrepresented minority groups and thus negatively influences the generalizability of results. Ideally, future studies should seek a participant sampling that is more representative of the national makeup of United States minority groups including Hispanic and Asian participants.

Second, the response integrity of self-reported data was noted as a significant limitation of the current study. Specifically, questions on credit card spending, retirement savings, net worth, investable assets, and account balances are beholden to the respondents' recollection ability and integrity for accurate responses. Prior research suggests that respondents under-report their credit card data by a factor of two (Zinman, 2009). Furthermore, the negative social-stigma of maintaining a credit card balance has impacted underreporting in the past because carrying a balance is viewed as "bad" (Durkin, 2000; Karlan & Zinman, 2008). The potential guilt of not

saving for retirement is also a limitation of the study. Individuals "know" saving for retirement is important but still may not want to disclose their situation precisely even in a private survey.

Differences and similarities were also noted between the current survey results and the 2020 Retirement Confidence Survey. This study found that 73% had determined their retirement need while the 2020 Retirement Confidence Survey revealed that only 48% of workers had calculated their retirement need. However, 21% of respondents noted that they had more than $250,000 in retirement, and the 2020 Retirement Confidence Survey stated that 30% of people had more than $250,000 in retirement savings (EBRI, 2020a). The differences between the two surveys can be attributed to the fact that this survey limited the age and income of the respondents, while the 2020 Retirement Confidence Survey had a much broader and more diverse sample set. Yet, focus must be given to the determination of retirement need. While 73% stated they have determined their retirement need, caution must be used in evaluating this number because the quality of that determination could not be assessed.

Third, the multivariate outcomes of the study were not able to determine causality due to the utilization of cross-sectional data. This study was solely focused on the present state of the participant and was not intendent or equipped to address past or future situations. Financial status of retirement saving intentions and outcomes, consumption patterns, and financial influences are not stable. Changes in family dynamics, such as the presence of additional children, bankruptcy, or watching parents struggle in retirement, may influence financial behaviors that shift the paradigm of thinking and change the consumption and saving patterns of the individual. Future longitudinal studies can help address these issues.

Fourth, the advertising effectiveness scale's apparently low contribution to what would be expected for the mass media construct measurement is a significant limitation of the study's

fidelity to the Moschis-Churchill theory (1978). Typical advertising effectiveness scales are built for corporate use to determine the effectiveness of the specific advertisement's effect on customers and are tailored toward that need (Luoh & Lo, 2012; Moriuchi & Chung, 2018; Trinh et al., 2020; Yang et al., 2016). The scale used for this study demonstrated statistically valid results in prior research that substantiated its inclusion into the study (Sachdeva, 2015). However, the results of the current study show that this was not an effective measurement for the advertising effectiveness of mass media. This should be viewed as a significant limitation to the study since prior research indicates a strong relationship between the influence of advertising and consumption based on sound theoretical foundations from the consumer socialization theory (Moschis & Churchill, 1978). Furthermore, another potential limitation of this scale may have stemmed from the fact that it was not necessarily adaptive or encompassing of the changing landscape of marketing strategies that are much more sophisticated than those in the past. Personalized ads on social media, more appealing commercials, and the ease of access to credit augmented the limitations associated with the earlier advertising effectiveness scale.

The initial inclusion of the advertising effectiveness variable was essential since prior research demonstrated a strong connection between television advertising and purchase intentions and consumption habits (Boyland & Halford, 2013; Saputro & Prihandono, 2018). Therefore, the lack of support for advertising effectiveness to be included in the model is more indicative of the instrument used than evidence for a low impact of advertising effectiveness as part of a Mass Media latent variable. Measuring advertising effectiveness seems to be more challenging than the other consumer socialization agents for the type of survey involved here.

Finally, the quantitative style of research may have been a limitation to outcomes as well. Qualitative research may be more helpful in this situation to enable follow-up questions to

important responses from the clients regarding consumption and saving. The questionnaire was limited to the questions and scales selected, and the responses were based on the respondents' interpretation of the question. For example, even with the explanation of net worth, people can be influenced by cognitive biases that influence their responses. Qualitative analysis would allow an interviewer to properly explain terms that may seem confusing or ambiguous and might enhance the quality of the responses and thus the quality of the research.

Recommendations for Future Studies

As a result of this research, a few topics have been identified that should be focused on in future research. Most importantly, research would benefit from the use of a longitudinal dataset with document validation. Prior research specifically outlines the gaps in reporting balances with credit cards (Karlan & Zinman, 2008; Zinman, 2009). The most detailed data would likely come from a mix of qualitative and quantitative studies using validated data over a longer period to see how income, credit card spending, and retirement saving develop.

The qualitative aspects would also serve to allow researchers to explain any areas that are not completely clear to the participant. Furthermore, with a more controlled environment, the integrity of the data would likely be higher and there would be an assurance that people are not arbitrarily filling in responses for the survey's reward/financial benefit. Finally, the use of longitudinal data could more conclusively convey the relationship between consumer socialization, retirement savings, and debt or credit card spending.

Second, since a mediating relationship was not confirmed in this research, future studies would benefit from replacing credit card spending with other forms of debt to determine if there are other debt instruments that may mediate retirement savings along with total debt. Specifically, research should begin with a focus on student loan debt and vehicle debt. Student

loan debt is currently the fastest growing debt in the United States (Lusardi et al., 2016). As such, a reasonable hypothesis would be that student loans are mediating retirement savings. Furthermore, the average car payment has increased to $568 in 2020 (Ward, 2020). If a married couple has two vehicles with average payments, this would mean that more than $1,100 is going out monthly to service the burden of these payments which could serve as an inhibitor to retirement saving. Finally, research could simply focus on total debt amount as a mediating variable. It is possible that the results of this study demonstrate that credit card debt is only a mediating factor for some respondents, yet because the research did not include total debt, true mediation was not recognized.

In addition to debt-type, future research should consider factors such as apathy and disinterest towards retirement savings since everyone is not similarly-minded towards wanting to save for retirement. Categorization of the respondents within the current study could also be considered in future studies to evaluate group differences between those with varying health statuses, expected age of retirement, and life expectancy. By comparing the various groups, researchers may be able to better understand the role of preferences in retirement savings and credit card usage.

Third, because this body of work was not able to find supportive results using the selected advertising effectiveness scale, future research should consider developing a valid instrument to measure modern advertising effectiveness of overt marketing messages. Current advertising effectiveness scales focus on the perspective of the corporation, and a significant opportunity exists whereby a scale focused on the consumer would be beneficial. The scale must be flexible and broad enough to cover various aspects of today's changing marketing landscape. For example, on social media sites, advertising is much more tailored to the individual and

would be expected to influence patronage. Additionally, the ease of purchases must be considered within this scale. For instance, Amazon's one-click patent, which increased sales by 5%, expired in 2017 (Pathak, 2017). This tool is now available for all retailers and has been an important instrument in shortening the sales process to consummate the sale. The starting point should be the previously validated scale used in this study (Sachdeva, 2015) and include components that address the new advertising mediums of social media, website ad placement, and the ease of consummating a sale.

Along with the development of the advertising effectiveness scale, future research should also consider a brief consumer socialization scale that encompasses all of the factors substantiated by Moschis and Churchill (1978) and the current research. Since education was not significant in the seminal work, this scale could be further enhanced to focus aspects of the study on the role of financial education as a consumer socialization agent. The research of Moschis and Churchill considered a holistic education component. In the development of a consumer socialization scale, various components of financial education could be considered to provide for a more focused aspect of the educational component within the scale. Current research has been mixed on the effectiveness of financial education, with some research showing that it is effective (Kaiser & Menkhoff, 2017) while other research demonstrated its ineffectiveness (Gudmunson & Danes, 2011). The cautionary focus should also be on the creators of the educational content. Previous research indicates that there is a strong conflict of interest when banks, credit unions, and credit card issuers are the developers of financial education material (Karger, 2015).

Moreover, future research should focus further on the antecedent dynamics of credit card debt, such as making ends meet, lack of spending control, and remaining life expectancy or health status. This may directly influence the consumer socialization factors of self-control,

conspicuous consumption, consideration of future consequences, impulsive buying tendencies, and advertising effectiveness. A hypothesis could be constructed to evaluate the role that health status and life expectancy serve to override the predisposed characteristics of consumer socialization. For example, it is reasonable to assume that poor health may override the high levels of self-control that were embodied prior to a medical diagnosis. In turn, this then affects the outcomes of credit card spending and mitigates the effects of consumer socialization.

In conclusion, future research should focus heavily on creating instruments for consumer socialization and advertising effectiveness. These scales could then be used in combination with other scales for financial literacy, retirement preparedness, and consumption patterns and habits. Likewise, harmonizing this information with other debts, such as student loan, mortgages, and automobile debt, will serve to further clarify the picture of the role that debt plays in saving for retirement. Since many workers attribute difficulties in saving for retirement to debt (EBRI, 2020b; Lown, 2008), future research would be well served to address these concerns to provide solutions that prevent younger generations from finding themselves in similar predicaments. Currently, retirement funding is one of the most important topics in financial planning. Financial planners, financial therapists, behavioral scientists, and the academic research community can provide support for clients by developing strategies that are vetted with academic rigor to unravel the issues of underfunding retirement plans.

Conclusion

The demand for individualized financial planning that considers client psychology, consumer socialization agents, and behavioral aspects in addition to the mathematical facets of financial planning continues to increase. As corporations move even more toward defined contribution plans and aggressively away from defined benefit plans, the call to focus on the

discussion of retirement saving adequacy will continue to grow. Previous research focused on theoretical models that were consumer-centric; this current exploratory research added to the existing body of work by focusing on the relationship of consumer socialization, retirement saving, and credit card usage. This research found important, statistically significant relationships between those variables and indicates that credit cards can be used in a prudent manner while saving for retirement.

The 2020 Retirement Confidence Survey found that 58% of workers and 42% of retirees acknowledged debt as a problem in their situation (EBRI, 2020b). While there was no evidence to support the principal objective of determining a mediating effect from credit card usage on the relationship between consumer socialization and retirement saving, this simply means that more robust research is needed to determine the manner in which debt is an issue that inhibits retirement saving. Furthermore, the use of SEM was essential to understanding the simultaneous and disaggregated relationship of the mediating effect. Future research will be able to use this model to replace the credit card variable with other forms of debt to better understand the impact that debt has on retirement saving.

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Appendix A - Advertising Effectiveness Scale[1]

1. Effective advertising results in exposure to the product.
2. Effective advertising arouses my curiosity about the product.
3. Effective advertising does not result in creating awareness about the product. (Reverse Coded)
4. Effective informational advertising creates the interest in the product.
5. Effective advertising motivates me to buy the product.
6. Effective advertising helps me in knowing about a new product.
7. Associating an advertisement with somebody helps me in remembering a product.
8. Effective advertising does not help me in remembering the product for a longer period of time. (Reverse Coded)
9. Effective advertising can change my attitude towards a product.
10. Effective advertising does not touch my emotions. (Reverse Coded)
11. High consumer engagement with a message results in advertising effectiveness.
12. Effective advertisements lead to the repurchase of a product.
13. Effective advertisements lead to building brand loyalty.

[1] (Sachdeva, 2015, p. 25)

Appendix B - Impulsive Buying Tendency Scale[2]

1. When I go shopping, I buy things that I had not intended to purchase.
2. I am a person who makes unplanned purchases.
3. When I see something that really interests me, I buy it without considering the consequences.
4. It is fun to buy spontaneously.
5. I avoid buying things that are not on my shopping list. (Reverse Coded)

[2] (Weun et al., 1998, p. 1133)

Appendix C - Brief Self-Control Scale[3]

1. I am good at resisting temptation.
2. I have a hard time breaking bad habits.
3. I do certain things that are bad for me, if they are fun.
4. I wish I had more self-discipline.
5. People would say that I have iron self-discipline.
6. Pleasure and fun sometimes keep me from getting work done.
7. Sometimes I can't stop myself from doing something, even if I know it is wrong.
8. I often act without thinking through all the alternatives.

(Maloney et al., 2012, p. 113)

Appendix D - Conspicuous Consumption Scale[4]

1. It says something to people around me when I buy a high-priced brand.
2. I buy some products because I want to show others that I am wealthy.
3. I would be a member in a private club if given the opportunity.
4. Given a chance, I would hang a famous painting, drawing, or rare collectable in my office.
5. I would buy an interesting and uncommon version of a product otherwise available with a plain design, to show others that I have an original taste.
6. Others wish they could match my eyes for beauty and taste.
7. By choosing a product having an exotic look and design, I show my friends that I am unique.
8. I choose products or brands to create my own style that everybody admires.
9. I always buy top-of-the-line products.
10. I often try to find a more interesting version of the run-of-the-mill products, because I want to show others that I enjoy being original.
11. I show to others that I am sophisticated.

[4] (Chaudhuri et al., 2011, p. 220)

Appendix E - Consideration of Future Consequences Scale[5]

1. Often I engage in a particular behavior in order to achieve outcomes that may not result for many years.
2. I only act to satisfy immediate concerns, figuring the future will take care of itself. (Reverse Coded)
3. My behavior is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions. (Reverse Coded)
4. My convenience is a big factor in the decisions I make or the actions I take. (Reverse Coded)
5. I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level. (Reverse Coded)
6. I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time. (Reverse Coded)
7. I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date. (Reverse Coded)
8. Since my day-to-day work has specific outcomes, it is more important to me than behavior that has distant outcomes. (Reverse Coded)

[5] (Petrocelli, 2003, p. 409; Strathman et al., 1994, p. 752)

Appendix F - Demographics and Personal Finances

1. What is your current age?
2. Are you currently employed full-time?
3. My country of residences is - ?
4. I can read, speak, and write in English fluently?
5. What is your gender?
6. If applicable, what is your spouse/partner's age?
7. What is your current marital status?
8. Which racial/ethnic group best describes how you identify?
9. Which category best describes your total household income (include wages, investment income, public assistance, etc.)?
10. Which of the following best describes your [spouse's / partner's] current employment or work status?
11. What is the highest level of school completed or the highest degree received by you?
12. What is the highest level of school completed or the highest degree received by your spouse/partner?
13. How many children do you have who are financial dependent on you or your [spouse/partner]? Please include children living at home, and step-children as well.
14. How would you describe your current health status?
15. How would you describe your spouse/partner's health status?
16. How old do you think you will live to be?
17. If we asked your (husband/wife/partner/spouse), about how old do you think (he/she) would say that (he/she) expects to live to be?

18. Do you own a home?
19. How much do you have set aside in a “rainy day” fund or emergency fund?
20. Please enter the amount of money that you have in investable assets. This is money that is either already invested or that you could invest if you wanted to. You may include money saved in investment accounts and/or retirement accounts (e.g., IRAs, 401(k), 403(b), SEP, SIMPLE, Thrift Savings Plan, etc.)
21. What is your household’s total net worth (what you own minus what you owe)?
22. Do you and your spouse manage the household’s finances together or separately?

Appendix G - Retirement Saving Questionnaire

1. Have you ever tried to determine how much you need to save for retirement?
2. Do you or your spouse/partner regularly contribute to a retirement account like a Thrift Savings Plan (TSP); 401(k); or IRA?
3. Do you (or your spouse/partner) have automatic contributions (taken directly out of paycheck / automatically invested out of checking account) into a retirement account like a Thrift Savings Plan (TSP), 401(k), or IRA?
4. What amount did you contribute to your retirement accounts in 2020 (including 401(k), Roth or Traditional IRA, 403(b), SEPP, SIMPLE, or Keogh Plans)?
5. After the last contribution was made to your retirement account, what was the total balance of these accounts (including 401(k), Roth or Traditional IRA, 403(b), SEPP, SIMPLE, or Keogh Plans)?
6. Do you have access to a retirement plan at work?
7. Does your spouse have access to a retirement savings plan at work?
8. If you have access to a retirement savings plan at work, does your employer match any part of your contribution?
9. If your spouse has access to a retirement savings plan at work, does their employer match any part of their contribution?
10. Did your employer automatically enroll you in the company's retirement plan?
11. Did your spouse's employer automatically enroll them in the company's retirement plan?
12. Thinking now of the future, at what age do you expect to stop working full-time?
13. Thinking now of the future, at what age does your husband/wife/partner expect to stop working full-time?

14. Using any number from one to five, where one equals totally inadequate and five equals very satisfactory, how would you rate the retirement income you and your spouse/partner expect to receive from all sources?
15. Do you expect your household retirement income to be more than, the same as, or less than your current household income?

Appendix H - Credit Card Questionnaire

1. How many credit cards do you (and spouse/partner) own?
2. In the past 12 months, which of the following describes your experience with credit cards?
3. After the last payments were made on your credit card accounts, what was the balance still owed on all these accounts?
4. Which of the following reasons best describes the reason for your household's credit card debt?
5. What is your credit score?
6. What is your spouse's credit score?

Appendix I - Respondent Survey Example

Informed Consent

Question 1:

Thank you for agreeing to participate in this research about financial attributes, spending, and retirement saving. The purpose of this research is to learn more about the way people make financial decisions regarding saving and spending.

This survey will be given in an online format. At the beginning of the survey, some of the questions are screener questions. After these initial questions, you will be presented with a set of survey questions associated regarding your attitudes toward saving and spending. At the end of the survey, you will be asked some additional questions including demographical information. Please note: If you do not meet certain requirements, you will be screened out of the survey and will not be compensated. While there are no tangible benefits beyond the compensation for completing the survey, it is hoped that your participation will inform us about individuals' attitudes influences financial decisions. The survey will take approximately 20-30 minutes to complete. Those who successfully complete the survey will receive $2.00.

Disclosure: This survey is a part of a research project. By taking this survey, you understand this project is research and that your participation is voluntary. We anticipate minimal risk and discomfort while engaging in this survey. If you decide to participate in this study, you may withdraw your consent at any time and stop participating at any time without explanation, penalty, or loss of benefits, to which you may otherwise be entitled. However, if you do not successfully complete the survey and place the appropriate survey code (given at the end of the survey) into MTurk, you will not be compensated. At the beginning of the survey, there are a few screener questions. There may be quality control checks built into the survey. If you do not meet

all of our survey requirements, you will not be compensated. Given the nature of surveys that are administered online, the risk of a breach of confidentiality exists. However, every attempt will be made to keep all data confidential. Your MTurk worker ID may be collected to properly administer compensation. In addition, your MTurk worker ID may be removed from your responses and the associated information used in future research and/or distributed to other researchers for future research without any additional compensation to you or any additional informed consent required from you.

Should you have any questions, you may contact Derek J. Sensenig at djsensenig@ksu.edu or Derek R. Lawson at drlawson@ksu.edu. If you have questions or wish to discuss any aspect of this research with an official of the university of the IRB, these contacts are Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224; Cheryl Doerr, Associate Vice President for Research Compliance, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66505, (785) 532-3224.

o **AGREE** - I have read the disclosure, agree to the terms, and AGREE to continue taking this survey.

o **DISAGREE** - I have read the disclosure, do not agree to the terms, and I DO NOT AGREE to continue taking the survey.

Survey Questions (Questions 2 through 6 are the screener questions):

2. What is your current age?

   35-39

   40-44

   45-49

   50-54

3. Are you currently employed full-time?

   Yes

   No

4. My country of residence is:

   Outside of the United States

   The United States

   Other

5. I can read, speak, and write in English fluently.

   Yes

   No

6. Which category best describes your total annual household income (include wages, investment income, public assistance, etc.)?

   Between $50,000 and $74,999

   Between $75,000 and $99,999

   Between $100,000 and $124,999

   Between $125,000 and $149,999

For each of the statements shown, please rate the statement as it relates to your attitude or opinion. If the statement is extremely uncharacteristic of you ("not at all like you") please select "1"; if the statement is extremely characteristic of you ("very much like you") please select "7". For questions of opinion, please select "1" for "strongly disagree" and select "7" if you "strongly agree." And, of course, use the numbers in the middle if you fall between the two extremes.

Advertising Effectiveness

7. Effective advertising results in exposure to the product.

   1 – Strongly disagree

   4 – Neither agree nor disagree

   7 – Strongly Agree

8. Effective advertising arouses my curiosity about the product.

   1 – Strongly disagree

   4 – Neither agree nor disagree

   7 – Strongly Agree

9. Effective advertising does not result in creating awareness about the product.

   1 – Strongly disagree

   4 – Neither agree nor disagree

   7 – Strongly Agree

10. Effective informational advertising creates the interest in the product.

    1 – Strongly disagree

    4 – Neither agree nor disagree

    7 – Strongly Agree

11. Effective advertising motivates me to buy the product.

1 – Strongly disagree

4 – Neither agree nor disagree

7 – Strongly Agree

12. Effective advertising helps me in knowing about a new product.

1 – Strongly disagree

4 – Neither agree nor disagree

7 – Strongly Agree

13. Associating an advertisement with somebody, helps me in remembering a product.

1 – Strongly disagree

4 – Neither agree nor disagree

7 – Strongly Agree

14. Effective advertising does not help me in remembering the product for a longer period of time. **(Reverse Coded)**

1 – Strongly disagree

4 – Neither agree nor disagree

7 – Strongly Agree

15. Effective advertising can change my attitude towards a product.

1 – Strongly disagree

4 – Neither agree nor disagree

7 – Strongly Agree

16. Effective advertising does not touch my emotions. **(Reverse Coded)**

1 – Strongly disagree

4 – Neither agree nor disagree

7 – Strongly Agree

17. High consumer engagement with a message results in advertising effectiveness.

1 – Strongly disagree

4 – Neither agree nor disagree

7 – Strongly Agree

18. Effective advertisements lead to the repurchase of a product.

1 – Strongly disagree

4 – Neither agree nor disagree

7 – Strongly Agree

19. Effective advertisements lead to building brand loyalty.

1 – Strongly disagree

4 – Neither agree nor disagree

7 – Strongly Agree

Impulsive Buying Tendency

20. When I go shopping, I buy things that I had not intended to purchase.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

21. I am a person who makes unplanned purchases.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

22. When I see something that really interests me, I buy it without considering the consequences.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

23. It is fun to buy spontaneously.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

24. I avoid buying things that are not on my shopping list. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

Self-Control

25. I am good at resisting temptation.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

26. I have a hard time breaking bad habits. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

27. I do certain things that are bad for me if they are fun. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

28. I wish I had more self-discipline. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

29. Pleasure and fun sometimes keep me from getting work done. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

30. People say that I have iron self-discipline.

1 – Not at all like me

4 – Neither like nor unlike me

7 – Very much like me

31. Sometimes I can't stop myself from doing something, even if I know it is wrong.

(Reverse Coded)

1 – Not at all like me

4 – Neither like nor unlike me

7 – Very much like me

32. I often act without thinking through all the alternatives. **(Reverse Coded)**

1 – Not at all like me

4 – Neither like nor unlike me

7 – Very much like me

Conspicuous Consumption

33. It says something to people around me when I buy a high-priced brand.

1 – Not at all like me

4 – Neither like nor unlike me

7 – Very much like me

34. I buy some products because I want to show others that I am wealthy.

1 – Not at all like me

4 – Neither like nor unlike me

7 – Very much like me

35. I would be a member in a private club if given the opportunity.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

36. Given a chance, I would hang a famous painting, drawing, or rare collectable in my office.

    1 – Not at all like me

    4 – Neither like or unlike me

    7 – Very much like me

37. I would buy an interesting and uncommon version of a product otherwise available with a plain design, to show others that I have an original taste.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

38. Others wish they could match my eyes for beauty and taste.

    1 – Not at all like me

    4 – Neither like or unlike me

    7 – Very much like me

39. By choosing a product having a different look and design, I show my friends that I am unique.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

40. I choose products or brands to create my own style that everybody admires.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

41. I always buy top-of-the-line name brand products.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

42. I often try to find a more interesting version of the run-of-the-mill products, because I want to show others that I enjoy being original.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

43. I show to others that I am sophisticated.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

Consideration of Future Consequences

44. Often I engage in a particular behavior in order to achieve outcomes that may not result for many years.

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

45. I only act to satisfy immediate concerns, figuring the future will take care of itself. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

46. My behavior is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like or unlike me

    7 – Very much like me

47. My convenience is a big factor in the decisions I make or the actions I take. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like or unlike me

    7 – Very much like me

48. I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

49. I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

50. I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

51. Since my day-to-day work has specific outcomes, it is more important to me than behavior that has distant outcomes. **(Reverse Coded)**

    1 – Not at all like me

    4 – Neither like nor unlike me

    7 – Very much like me

52. What is your gender?

    Male

    Female

53. What is your current marital status?

Currently married

Never married; in a long-term domestic partnership

Divorced

Widowed

Separated

Single

54. If applicable, what is your spouse/partner's age?

Younger than 35

35-39

40-44

45-49

50-54

55 or older

Not applicable

55. Which racial/ethnic group best describes how you identify?

Asian

Black or African American

White

Two or more races

Hispanic / Latino(a) / Latinx

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

    Employed full-time

    Employed part-time

    Not currently employed / homemaker

57. What is the highest level of school completed or the highest degree you have received?

    Less than high school

    High school

    Some college

    Bachelor's degree

    Master's degree

    Professional Degree

    Doctorate

58. What is the highest level of school completed or the highest degree received by your spouse/partner?

    Less than high school

    High school

    Some college

    Bachelor's degree

    Master's degree

    Professional Degree

    Doctorate

    Not applicable

59. How many children do you have who are financial dependent on you or your [spouse/partner]? Please include children not living at home, and step-children as well.

1

2

3

4 or more

No financially dependent children

Do not have any children

60. How would you describe your current health status?

Excellent

Good

Fair

Poor

61. How would you describe your spouse/partner's health?

Excellent

Good

Fair

Poor

Not applicable

62. How old do you think you will live to be?

Less than age 65

65 to 70

71 to 75

76 to 80

81 to 85

86 or older

63. If we asked your spouse/partner, about how old do you think he/she would say he/she expects to live to be?

Less than age 65

65 to 70

71 to 75

76 to 80

81 to 85

86 or older

Not applicable

64. Do you own a home?

Yes

No

65. How much do you have set aside for a “rainy day” fund or emergency fund?

$0 – I do not have an emergency fund

$1 - $4,999

$5,000 - $9,999

$10,000 - $14,999

More than $15,000

66. Please enter the amount of money you have in investable assets. This is money that is either already invested or that you could invest if you wanted to. You may include money saved in investment accounts and/or retirement accounts (e.g., IRAs, 401(k), 403(b), SEP, SIMPLE, Thrift Savings Plan, etc.)?

Less than $25,000

$25,000 - $49,999

$50,000 - $99,999

$100,000 - $250,000

More than $250,000

67. What is your household’s total net worth (total assets minus total liabilities)?

Less than $25,000

$25,000 - $49,999

$50,000 - $99,999

$100,000 - $250,000

More than $250,000

68. Do you and your spouse manage the household's finances together or separately?

Together/jointly

Separately

69. Have you ever tried to determine how much you need to save for retirement?

Yes

No

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

Yes

No

71. Do you (or your spouse/partner) have automatic contributions (taken directly out of paycheck / automatically invested out of checking account) into a retirement account like a Thrift Savings Plan (TSP), 401(k), or IRA?

Yes

No

72. What was the total amount you and your spouse contributed to your retirement accounts in 2020 (including 401(k), Roth or Traditional IRA, 403(b), SEPP, SIMPLE, or Keogh Plans)?

$0

$1 - $5,000

$5,001 - $10,000

More than $10,000

73. After the last contribution was made to your retirement account, what was the total balance of these accounts (including 401(k), Roth or Traditional IRA, 403(b), SEPP, SIMPLE, or Keogh Plans)?

    $1-$49,999

    $50,000 - $99,999

    $100,000 - $250,000

    More than $250,000

74. Do you have access to a retirement savings plan at work?

    Yes

    No

75. Does your spouse/partner have access to a retirement savings plan at work?

    Yes

    No

    Not applicable

76. If you have access to a retirement savings plan at work, does your employer match any part of your contribution?

    Yes

    No

77. If your spouse/partner has access to a retirement savings plan at work, does their employer match any part of their contribution?

    Yes

    No

    Not applicable

78. Did your employer automatically enroll you in the company's retirement plan?

Yes

No

79. Did your spouse's employer automatically enroll them in the company's retirement plan?

Yes

No

Not applicable

80. Thinking now of the future, at what age do you expect to stop working full-time?

Before age 65

65 to 70

71 to 75

76 to 80

Beyond age 80

Will never stop working full-time

81. Thinking now of the future, at what age does your husband/wife/partner expect to stop working full-time?

Before age 65

65 to 70

71 to 75

76 to 80

Beyond age 80

Will never stop working full-time

82. Using any number from one to five, where one equals totally inadequate and five equals very satisfactory, how would you rate the retirement income you and your spouse/partner expect to receive from all sources?

1 – totally inadequate

3 - adequate

5 – very satisfactory

83. Do you expect your household retirement income to be more than, the same as, or less than your current household income?

Less than our current household income

The same as our current household income

More than our current household income

84. How many credit cards do you (and spouse/partner) own?

More than 20

13-20

9-12

4-8

2-3

1

0

85. In the past 12 months, which of the following describes your experience with credit cards?

I always paid my credit cards in full.

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

In some months, I paid the minimum payment only

I do not own any credit cards

86. After the last payments were made on your credit card accounts, what was the balance still owed on all these accounts?

$0

$1-$4,999

$5,000 - $9,999

$10,000 - $14,999

$15,000 - $19,999

$20,000 - $24,999

$25,000 or more

87. Which of the following reasons best describes the reason for your household's credit card debt?

Enjoy spending

Health / medical expenses

Household expenses

Job change

Moving expenses

Furnishing the house

Education expenses

Day-to-day expenses

88. What is your credit score?

Below 629 (poor)

Between 630 and 689 (fair)

Between 690 and 719 (good)

Above 720 (excellent)

89. What is your spouse's credit score?

Below 629 (poor)

Between 630 and 689 (fair)

Between 690 and 719 (good)

Above 720 (excellent)

Not applicable

90. Thank you for your responses.

Please take note of the 7-digit code below:

${e://Field/Random%20ID}

Debriefing Statement:

You will enter the code into MTurk to receive credit for taking this survey. After taking note of the code, you must click the next button to submit your responses and receive credit for survey completion.

As a reminder, this survey is a part of a research project. The purpose of this survey was to learn more about the way people make financial decisions regarding saving and spending. Every attempt will be made to keep all data confidential and your responses and the associated information may be used in future research and/or distributed to other researchers for future research without any additional compensation to you or any additional informed consent required from you. Should you have any questions, you may contact Derek J. Sensenig at djsensenig@ksu.edu or Derek R. Lawson at drlawson@ksu.edu. If you have questions or wish to discuss any aspect of this research with an official of the university of the IRB, these contacts are Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224; Cheryl Doerr, Associate Vice President for Research Compliance, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66505, (785) 532-3224.

Appendix J - Standardized Factor Loading Comparisons

Table A5.1

Comparative Factor Loading - Adv. Eff.

	Advertising Effectiveness	Standardized Factor Loading		
		Current Study	Replicated Scale	
			Study 1	Study 2
1	Advertising results in my exposure to the product.	0.46	0.59	0.43
2	Advertising arouses my curiosity about the product.	0.68	0.55	0.45
3	Advertising does not result in creating awareness about the product.	-0.22	0.42	0.54
4	Informational advertising creates an interest in the product for me.	0.70	0.61	0.49
5	Advertisement motivates me to buy the product.	0.67	0.58	0.56
6	Advertisement helps me in knowing about a new product.	0.59	0.51	0.46
7	Associating an advertisement with somebody, helps me in remembering a product.	0.36	0.46	0.48
8	When I make a decision, I think about how it might affect me in the future.	0.38	0.60	0.47
9	Advertisements do not help me in remembering the product for a long period of time.	0.72	0.52	0.53
10	Advertising does not touch my emotions.	0.40	0.48	0.49
11	High Consumers engagement with a message, results in advertising effectiveness.	0.61	0.45	0.49
12	Advertisements lead to the repurchase of a product.	0.47	0.77	0.49
13	Advertisements lead to building brand loyalty.	0.59	0.52	0.59

*All factor loadings were statistically significant ($p < 0.001$)

Table A5.2

Comparative Factor Loading - IBT

	Impulse Buying Tendency	Standardized Factor Loading	
		Current Study	Replicated Scale
1	When I go shopping, I buy things that I had not intended to purchase.	0.82	0.76
2	I am a person who makes unplanned purchases	0.93	0.71
3	When I see something that really interests me, I buy it without considering the consequences.	0.64	0.73
4	It is fun to buy spontaneously.	0.57	0.77
5	I avoid buying things that are not on my shopping list.	0.49	0.77

*All factor loadings were statistically significant ($p < 0.001$)

Table A5.3

Comparative Factor Loading - Self-Control

	Brief Self-Control Scale	Standardized Factor Loading		
		Current Study	Replicated Scale	
			Sample 1*	Sample 2*
1	I am good at resisting temptation	0.49	0.60	0.49
2	I have a hard time breaking habits	0.73	0.53	0.53
3	I do certain things that are bad for me, if they are fun	0.78	0.53	0.58
4	I wish I had more self-discipline	0.63	0.67	0.66
5	Pleasure and fun sometimes keep me from getting work done	0.73	0.55	0.55
6	People would say that I have iron self-discipline	0.28	0.48	0.51
7	Sometimes I can't stop myself from doing something, even if I know it is wrong	0.84	0.67	0.66
8	I often act without thinking through all the alternatives	0.79	0.53	0.52

*All factor loadings were statistically significant ($p < 0.001$)

Table A5.4

Comparative Factor Loading - CC

	Conspicuous Consumption	Standardized Factor Loading	
		Current Study	Replicated Scale
1	It says something to people around me when I buy a high-priced brand.	0.58	0.73
2	I buy some products because I want to show others that I am wealthy.	0.72	0.56
3	I would be a member in a businessmen's posh club.	0.69	0.63
4	Given a chance, I would hang a Hussain painting or drawing my room.	0.72	0.73
5	I would buy an interesting and uncommon version of a product otherwise available with a plain design, to show others that I have an original taste.	0.79	0.81
6	Others wish they could match my eyes for beauty and taste.	0.82	0.72
7	By choosing a product having an exotic look and design, I show my friends that I am different.	0.85	0.74
8	I choose products or brands to create my own style that everybody admires.	0.87	0.72
9	I always buy top-of-the-line products.	0.74	0.59
10	I often try to find a more interesting version of the run-of-the-mill products, because I want to show others that I enjoy being original.	0.86	0.59
11	I show to others that I am sophisticated.	0.83	0.55

*All factor loadings were statistically significant ($p < 0.001$)

Table A5.5

Comparative Factor Loading - CFC

	Consideration of Future Consequences	Standardized Factor Loading	
		Current Study	Replicated Scale
1	Often I engage in a particular behavior in order to achieve outcomes that may not result for many years.	0.16	0.39
2	I only act to satisfy immediate concerns, figuring the future will take care of itself.	0.88	0.86
3	My behavior is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions.	0.90	0.63
4	My convenience is a big factor in the decisions I make or the actions I take.	0.51	0.53
5	I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level.	0.75	0.65
6	I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time.	0.82	0.63
7	I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date	0.88	0.86
8	Since my day-to-day work has specific outcomes, it is more important to me than behavior that has distant outcomes.	0.68	0.54

*All factor loadings were statistically significant ($p < 0.001$)

SAS Code

```
LIBNAME CONSOC 'C:\Users\derek\Desktop\SASData';

data consoc.recode;
set consoc.derek;

/*Gender*/
IF gender=1 then male=1; else male=0;

/*Age*/
IF age=2 then age3539=1; else age3539=0;
IF age=3 then age4044=1; else age4044=0;
IF age=4 then age4549=1; else age4549=0;
IF age=5 then age5054=1; else age5054=0;

IF age3539=1 then agecat=1;
IF age4044=1 then agecat=2;
IF age4549=1 then agecat=3;
IF age5054=1 then agecat=4;

/*Income*/
IF income=2 then inc5075=1; else inc5075=0;
IF income=3 then inc75100=1; else inc75100=0;
IF income=4 then inc100125=1; else inc100125=0;
IF income=5 then inc125150=1; else inc125150=0;

IF inc5075=1 then inccat=1;
IF inc75100=1 then inccat=2;
IF inc100125=1 then inccat=3;
IF inc125150=1 then inccat=4;

/*Marital Status*/
IF marital in (1,2) then married=1;
IF marital=3 then divorce=1;
IF marital=4 then widowed=1;
IF marital=5 then separated=1;
IF marital=6 then single=1;

IF married=1 then relcat=1;
IF divorce=1 then relcat=2;
IF widowed=1 then relcat=3;
IF separated=1 then relcat=4;
IF single=1 then relcat=5;

/*Spouse Age*/
IF spouseage=1 then y35=1;
IF spouseage=2 then age3539=1;
IF spouseage=3 then age4044=1;
IF spouseage=4 then age4549=1;
IF spouseage=5 then age5054=1;
IF spouseage=6 then age55p=1;

IF y35=1 then spagecat=1;
IF age3539=1 then spagecat=2;
```

```
IF age4044=1 then spagecat=3;
IF age4549=1 then spagecat=4;
IF age5054=1 then spagecat=5;
IF age55p=1 then spagecat=6;

/*Ethnicity*/
IF ethnicity in (1,4) then ethother=1; else ethother=0;
IF ethnicity=5 then ethlatin=1; else ethlatin=0;
IF ethnicity=2 then ethblack=1; else ethblack=0;
IF ethnicity=3 then ethwhite=1; else ethwhite=0;

IF ethother=1 then ethcat=4;
IF ethlatin=1 then ethcat=3;
IF ethblack=1 then ethcat=2;
IF ethwhite=1 then ethcat=1;

/*Spouse Employment*/
IF spouseemp=1 then spouseFT=1;
IF spouseemp=2 then spousePT=1;
IF spouseemp=3 then spouseHM=1;

IF spouseFT=1 then spworkcat=1;
IF spousePT=1 then spworkcat=2;
IF spouseHM=1 then spworkcat=3;

/*Education*/
IF educ=1 then LHS=1; else LHS=0;
IF educ=2 then HS=1; else HS=0;
IF educ=3 then SCO=1; else SCO=0;
IF educ=4 then BD=1; else BD=0;
IF educ in (5,6,7) then MSD=1; else MSD=0;

IF LHS=1 then edcat=1;
IF HS=1 then edcat=2;
IF SCO=1 then edcat=3;
IF BD=1 then edcat=4;
IF MSD=1 then edcat=5;

/*Spouse Education*/
IF spouseeduc=1 then SPLHS=1;
IF spouseeduc=2 then SPHS=1;
IF spouseeduc=3 then SPSC=1;
IF spouseeduc=4 then SPBD=1;
IF spouseeduc in (5,6,7) then SPMSD=1;

IF SPLHS=1 then spedcat=1;
IF SPHS=1 then spedcat=2;
IF SPSC=1 then spedcat=3;
IF SPBD=1 then spedcat=4;
IF SPMSD=1 then spedcat=5;

/*Dependent Children*/
IF depchild=1 then depone=1;
IF depchild=2 then deptwo=1;
IF depchild=3 then depthree=1;
If depchild=4 then depfour=1;
IF depchild in (5,6) then depzero=1;
```

```
IF depzero=1 then childcat=1;
IF depone=1 then childcat=2;
IF deptwo=1 then childcat=3;
If depthree=1 then childcat=4;
IF depfour=1 then childcat=5;

/*Health Status*/
IF health=1 then statusexc=1; else statusexc=0;
IF health=2 then statusgood=1; else statusgood=0;
IF health=3 then statusfair=1; else statusfair=0;
If health=4 then statuspoor=1; else statuspoor=0;

IF statusexc=1 then healthcat=1;
IF statusgood=1 then healthcat=2;
IF statusfair=1 then healthcat=3;
If statuspoor=1 then healthcat=4;

/*Spouse Health*/
IF spousehealth=1 then SPstatusexc=1; else SPstatusexc=0;
IF spousehealth=2 then SPstatusgood=1; else SPstatusgood=0;
IF spousehealth=3 then SPstatusfair=1; else SPstatusfair=0;
If spousehealth=4 then SPstatuspoor=1; else SPstatuspoor=0;

IF SPstatusexc=1 then sphealthcat=1;
IF SPstatusgood=1 then sphealthcat=2;
IF SPstatusfair=1 then sphealthcat=3;
IF SPstatuspoor=1 then sphealthcat=4;

/*Age of Death*/
IF death=1 then under65=1;
IF death=2 then death6570=1;
IF death=3 then death7175=1;
IF death=4 then death7680=1;
IF death=5 then death8185=1;
IF death=6 then death86=1;

IF under65=1 then diecat=1;
IF death6570=1 then diecat=2;
IF death7175=1 then diecat=3;
IF death7680=1 then diecat=4;
IF death8185=1 then diecat=5;
IF death86=1 then diecat=6;

/*Age of Spouse Death*/
IF spousedeath=1 then SPunder65=1;
IF spousedeath=2 then SPdeath6570=1;
IF spousedeath=3 then SPdeath7175=1;
IF spousedeath=4 then SPdeath7680=1;
IF spousedeath=5 then SPdeath8185=1;
IF spousedeath=6 then SPdeath86=1;
```

```
IF SPunder65=1 then spdiecat=1;
IF SPdeath6570=1 then spdiecat=2;
IF SPdeath7175=1 then spdiecat=3;
IF SPdeath7680=1 then spdiecat=4;
IF SPdeath8185=1 then spdiecat=5;
IF SPdeath86=1 then spdiecat=6;

/*Home Ownership*/
IF ownhome=1 then yeshome=1; else yeshome=0;

/*Emergency Fund*/
IF emergfund=1 then noEF=1;
IF emergfund=2 then EF5k=1;
IF emergfund=3 then EF510=1;
IF emergfund=4 then EF1015=1;
IF emergfund=5 then EF15plus=1;

IF noEF=1 then efcat=1;
IF EF5k=1 then efcat=2;
IF EF510=1 then efcat=3;
IF EF1015=1 then efcat=4;
IF EF15plus=1 then efcat=5;

/*Investable Assets*/
IF investable=1 then assets25=1;
IF investable=2 then assets2550=1;
IF investable=3 then assets5099=1;
IF investable=4 then assets100250=1;
IF investable=5 then assets250p=1;

IF assets25=1 then invcat=1;
IF assets2550=1 then invcat=2;
IF assets5099=1 then invcat=3;
IF assets100250=1 then invcat=4;
IF assets250p=1 then invcat=5;

/*Net Worth*/
IF networth=1 then NW25=1;
IF networth=2 then NW2550=1;
IF networth=3 then NW5099=1;
IF networth=4 then NW100250=1;
IF networth=5 then NW250p=1;

IF NW25=1 then nwcat=1;
IF NW2550=1 then nwcat=2;
IF NW5099=1 then nwcat=3;
IF NW100250=1 then nwcat=4;
IF NW250p=1 then nwcat=5;

/*HH Money Management*/
If manage=1 then together=1; else together=0;

/*Determine Retirement Need*/
IF detretmt=1 then determined=1; else determined=0;

/*Make regular contributions to retirement*/
IF regcont=1 then regyes=1; else regyes=0;
```

```
/*Make automatic contributions to retirement*/
IF autoretmt=1 then autoyes=1; else autoyes=0;

/*2020 Contributions to Retirement*/
IF contr2020=1 then no2020contr=1; else no2020contr=0;
IF contr2020=2 then contr5k=1; else contr5k=0;
IF contr2020=3 then contr10k=1; else contr10k=0;
IF contr2020=4 then c10kplus=1; else c10kplus=0;

IF no2020contr=1 then concat=1;
IF contr5k=1 then concat=2;
IF contr10k=1 then concat=3;
IF c10kplus=1 then concat=4;

/*Retirement Balance*/
IF retmtbal=1 then retbal50k=1;
IF retmtbal=2 then retbal100k=1;
IF retmtbal=3 then retbal250k=1;
IF retmtbal=4 then retbalover250=1;

IF retbal50k=1 then retbalcat=1;
IF retbal100k=1 then retbalcat=2;
IF retbal250k=1 then retbalcat=3;
IF retbalover250=1 then retbalcat=4;

/*Retirement Plan Access*/
If retmtaccess=1 then access=1; else access=0;

/*Spousal Retirement Plan Access*/
If spouseaccess=1 then SPaccess=1; else SPaccess=0;

/*Match*/
IF match=1 then yesmatch=1; else yesmatch=0;

/*Spouse Match*/
IF spousematch=1 then SPyesmatch=1; else SPyesmatch=0;

/*Auto enroll in Retirement Plan*/
IF autoenroll=1 then yesautoenroll=1; else yesautoentroll=0;

/*Auto enroll in Retirement Plan*/
IF spouseautoentroll=1 then SPyesauto=1; else SPyesauto=0;

/*Stop working Full-time*/
IF retmtage=1 then retire65=1;
IF retmtage=2 then retire6570=1;
IF retmtage=3 then retire7175=1;
IF retmtage=4 then retire7680=1;
IF retmtage=5 then retire80=1;
IF retmtage=6 then neverretire=1;
```

```
IF retire65=1 then ftcat=1;
IF retire6570=1 then ftcat=2;
IF retire7175=1 then ftcat=3;
IF retire7680=1 then ftcat=4;
IF retire80=1 then ftcat=5;
IF neverretire=1 then ftcat=6;

/*Spouse Stop working Full-time*/
IF spouseretmtage=1 then SPretire65=1; else SPretire65=0;
IF spouseretmtage=2 then SPretire6570=1; else SPretire6570=0;
IF spouseretmtage=3 then SPretire7175=1; else SPretire7175=0;
IF spouseretmtage=4 then SPretire7680=1; else SPretire7680=0;
IF spouseretmtage=5 then SPretire80=1; else SPretire80=0;
IF spouseretmtage=6 then SPneverretire=1; else SPneverretire=0;

IF SPretire65=1 then spftcat=1;
IF SPretire6570=1 then spftcat=2;
IF SPretire7175=1 then spftcat=3;
IF SPretire7680=1 then spftcat=4;
IF SPretire80=1 then spftcat=5;
IF SPneverretire=1 then spftcat=6;

/*Retirement Satisfaction*/
IF retmtsat=1 then satisfaction=1;
IF retmtsat=2 then satisfaction=2;
IF retmtsat=3 then satisfaction=3;
IF retmtsat=4 then satisfaction=4;
IF retmtsat=5 then satisfaction=5;

/*Retirement Income Adequacy*/
IF retmtinc=1 then lessinc=1;
IF retmtinc=2 then sameinc=1;
IF retmtinc=3 then moreinc=1;

IF lessinc=1 then adequcat=1;
IF sameinc=1 then adequcat=2;
IF moreinc=1 then adequcat=3;

/*CC Number*/
IF ccnum=1 then cc20=1;
IF ccnum=2 then cc13=1;
IF ccnum=3 then cc912=1;
IF ccnum=4 then cc48=1;
IF ccnum=5 then cc23=1;
IF ccnum=6 then cc1=1;
IF ccnum=7 then cczero=1;

IF cc20=1 then ccnumcat=7;
IF cc13=1 then ccnumcat=6;
IF cc912=1 then ccnumcat=5;
IF cc48=1 then ccnumcat=4;
IF cc23=1 then ccnumcat=3;
IF cc1=1 then ccnumcat=2;
IF cczero=1 then ccnumcat=1;
```

```
/*CC User Type*/
IF ccpay=1 then conv=1; else conv=0;
IF ccpay in (2,3) then rev=1; else rev=0;
IF ccpay=4 then null=1; else null=0;

IF conv=1 then usercat=1;
IF rev=1 then usercat=2;
IF null=1 then usercat=3;

/*CC Balances*/
IF ccbal=1 then nobal=1;
IF ccbal=2 then ccbal5k=1;
IF ccbal=3 then ccbal10k=1;
IF ccbal=4 then ccbal15k=1;
IF ccbal=5 then ccbal20k=1;
IF ccbal=6 then ccbal25k=1;
IF ccbal=7 then ccbal25kplus=1;

IF nobal=1 then ccbalcat=1;
IF ccbal5k=1 then ccbalcat=2;
IF ccbal10k=1 then ccbalcat=3;
IF ccbal15k=1 then ccbalcat=4;
IF ccbal20k=1 then ccbalcat=5;
IF ccbal25k=1 then ccbalcat=6;
IF ccbal25kplus=1 then ccbalcat=7;

/*CC Debt Reason*/
IF reason=1 then enjoyspending=1;
IF reason=2 then health=1;
IF reason=3 then HHExp=1;
IF reason=4 then job=1;
IF reason=5 then moving=1;
IF reason=6 then furnishing=1;
IF reason=7 then education=1;
IF reason=8 then expenses=1;

IF enjoyspending=1 then reascat=1;
IF health=1 then reascat=2;
IF HHExp=1 then reascat=3;
IF job=1 then reascat=4;
IF moving=1 then reascat=5;
IF furnishing=1 then reascat=6;
IF education=1 then reascat=7;
IF expenses=1 then reascat=8;

/*Credit Score*/
IF score=1 then poor=1;
IF score=2 then fair=1;
IF score=3 then good=1;
IF score=4 then excellent=1;

IF poor=1 then scorecat=4;
IF fair=1 then scorecat=3;
IF good=1 then scorecat=2;
IF excellent=1 then scorecat=1;
```

```
/*Spouse Credit Score*/
IF spousescore=1 then spousepoor=1;
IF spousescore=2 then spousefair=1;
IF spousescore=3 then spousegood=1;
IF spousescore=4 then spouseexcellent=1;

IF spousepoor=1 then spscorecat=4;
IF spousefair=1 then spscorecat=3;
IF spousegood=1 then spscorecat=2;
IF spouseexcellent=1 then spscorecat=1;

/*Advertising Effectiveness Scale*/
IF AE8=1 then AE8RC=7;
IF AE8=2 then AE8RC=6;
IF AE8=3 then AE8RC=5;
IF AE8=4 then AE8RC=4;
IF AE8=5 then AE8RC=3;
IF AE8=6 then AE8RC=2;
IF AE8=7 then AE8RC=1;

IF AE10=1 then AE10RC=7;
IF AE10=2 then AE10RC=6;
IF AE10=3 then AE10RC=5;
IF AE10=4 then AE10RC=4;
IF AE10=5 then AE10RC=3;
IF AE10=6 then AE10RC=2;
IF AE10=7 then AE10RC=1;

AES = ((AE1 + AE2 + AE3 + AE4 + AE5 + AE6 + AE7 + AE8RC + AE9 + AE10RC + AE11
+ AE12 + AE13)/13);

/*IBT Scale*/
IF IBT5A=1 then IBT5ARC=7;
IF IBT5A=2 then IBT5ARC=6;
IF IBT5A=3 then IBT5ARC=5;
IF IBT5A=4 then IBT5ARC=4;
IF IBT5A=5 then IBT5ARC=3;
IF IBT5A=6 then IBT5ARC=2;
IF IBT5A=7 then IBT5ARC=1;

IBTS = ((IBT1A + IBT2A + IBT3A + IBT4A + IBT5ARC)/5);

/*Self-Control Scale*/
IF SC2=1 then SC2RC=7;
IF SC2=2 then SC2RC=6;
IF SC2=3 then SC2RC=5;
IF SC2=4 then SC2RC=4;
IF SC2=5 then SC2RC=3;
IF SC2=6 then SC2RC=2;
IF SC2=7 then SC2RC=1;
```

```
IF SC3=1 then SC3RC=7;
IF SC3=2 then SC3RC=6;
IF SC3=3 then SC3RC=5;
IF SC3=4 then SC3RC=4;
IF SC3=5 then SC3RC=3;
IF SC3=6 then SC3RC=2;
IF SC3=7 then SC3RC=1;

IF SC4=1 then SC4RC=7;
IF SC4=2 then SC4RC=6;
IF SC4=3 then SC4RC=5;
IF SC4=4 then SC4RC=4;
IF SC4=5 then SC4RC=3;
IF SC4=6 then SC4RC=2;
IF SC4=7 then SC4RC=1;

IF SC5=1 then SC5RC=7;
IF SC5=2 then SC5RC=6;
IF SC5=3 then SC5RC=5;
IF SC5=4 then SC5RC=4;
IF SC5=5 then SC5RC=3;
IF SC5=6 then SC5RC=2;
IF SC5=7 then SC5RC=1;

IF SC7=1 then SC7RC=7;
IF SC7=2 then SC7RC=6;
IF SC7=3 then SC7RC=5;
IF SC7=4 then SC7RC=4;
IF SC7=5 then SC7RC=3;
IF SC7=6 then SC7RC=2;
IF SC7=7 then SC7RC=1;

IF SC8=1 then SC8RC=7;
IF SC8=2 then SC8RC=6;
IF SC8=3 then SC8RC=5;
IF SC8=4 then SC8RC=4;
IF SC8=5 then SC8RC=3;
IF SC8=6 then SC8RC=2;
IF SC8=7 then SC8RC=1;

SC = ((SC1 + SC2RC + SC3RC + SC4RC + SC5RC + SC6 + SC7RC + SC8RC)/8);

/*Conspicuous Consumption Scale*/
ConspCon = ((CC1 + CC2 + CC3 + CC4 + CC5 + CC6 + CC7 + CC8 +CC9 + CC10 +
CC11)/11);

/*CFC Scale*/
IF CFC2=1 then CFC2RC=7;
IF CFC2=2 then CFC2RC=6;
IF CFC2=3 then CFC2RC=5;
IF CFC2=4 then CFC2RC=4;
IF CFC2=5 then CFC2RC=3;
IF CFC2=6 then CFC2RC=2;
IF CFC2=7 then CFC2RC=1;
```

```
IF CFC3=1 then CFC3RC=7;
IF CFC3=2 then CFC3RC=6;
IF CFC3=3 then CFC3RC=5;
IF CFC3=4 then CFC3RC=4;
IF CFC3=5 then CFC3RC=3;
IF CFC3=6 then CFC3RC=2;
IF CFC3=7 then CFC3RC=1;

IF CFC4=1 then CFC4RC=7;
IF CFC4=2 then CFC4RC=6;
IF CFC4=3 then CFC4RC=5;
IF CFC4=4 then CFC4RC=4;
IF CFC4=5 then CFC4RC=3;
IF CFC4=6 then CFC4RC=2;
IF CFC4=7 then CFC4RC=1;

IF CFC5=1 then CFC5RC=7;
IF CFC5=2 then CFC5RC=6;
IF CFC5=3 then CFC5RC=5;
IF CFC5=4 then CFC5RC=4;
IF CFC5=5 then CFC5RC=3;
IF CFC5=6 then CFC5RC=2;
IF CFC5=7 then CFC5RC=1;

IF CFC6=1 then CFC6RC=7;
IF CFC6=2 then CFC6RC=6;
IF CFC6=3 then CFC6RC=5;
IF CFC6=4 then CFC6RC=4;
IF CFC6=5 then CFC6RC=3;
IF CFC6=6 then CFC6RC=2;
IF CFC6=7 then CFC6RC=1;

IF CFC7=1 then CFC7RC=7;
IF CFC7=2 then CFC7RC=6;
IF CFC7=3 then CFC7RC=5;
IF CFC7=4 then CFC7RC=4;
IF CFC7=5 then CFC7RC=3;
IF CFC7=6 then CFC7RC=2;
IF CFC7=7 then CFC7RC=1;

IF CFC8=1 then CFC8RC=7;
IF CFC8=2 then CFC8RC=6;
IF CFC8=3 then CFC8RC=5;
IF CFC8=4 then CFC8RC=4;
IF CFC8=5 then CFC8RC=3;
IF CFC8=6 then CFC8RC=2;
IF CFC8=7 then CFC8RC=1;

CFC = ((CFC1 + CFC2RC + CFC3RC + CFC4RC + CFC5RC + CFC6RC + CFC7RC +
CFC8RC)/8);

/*Full Consumer Socialization Scale*/
ConSocSc = (AES + IBTS + SC + ConspCon + CFC);

/*NO AES Consumer Socialization Scale*/
CS = (IBTS + SC + ConspCon + CFC);
run;
```

```
/*Category Sample Demographic Frequency*/
proc freq data=consoc.recode;
table male inccat agecat relcat spagecat ethcat spworkcat edcat spedcat
childcat healthcat sphealthcat diecat spdiecat yeshome efcat invcat
nwcat together determined regyes autoyes concat retbalcat
access spaccess yesmatch spyesmatch yesautoenroll spyesauto
ftcat spftcat satisfaction adequcat ccnumcat usercat ccbalcat reascat
scorecat spscorecat;
run;
QUIT;

/*Variable Sample Demographic Frequency*/
proc freq data=consoc.recode;
table male female age3539 age4044 age4549 age5054
inc5075 inc75100 inc100125 inc125150
married divorce widowed separated single
y35 age3539 age4044 age4549 age5054 age55p
ethother ethblack ethwhite ethlatin
spouseFT spousePT spouseHM
LHS HS SCO BD MSD SPLHS SPHS SPSC SPBD SPMSD
depzero depone deptwo depthree depfour
statusexc statusgood statusfair statuspoor
SPstatusexc SPstatusgood SPstatusfair SPstatuspoor
under65 death6570 death7175 death7680 death8185 death86
SPunder65 SPdeath6570 SPdeath7175 SPdeath7680 SPdeath8185 SPdeath86
yeshome nohome
noEF EF5k EF510 EF1015 EF15plus
assets25 assets2550 assets5099 assets100250 assets250p
NW25 NW2550 NW5099 NW100250 NW250p
together;
run;
Quit;

/*Retirement Variable Frequency*/
proc freq data=consoc.recode;
table determined regyes autoyes concat retbalcat
access spaccess yesmatch spyesmatch yesautoenroll spyesauto
ftcat spftcat satisfaction adequcat;
run;
Quit;

/*Credit Card Variable Frequency*/
proc freq data=consoc.recode;
table ccnumcat usercat ccbalcat reascat
scorecat spscorecat;
run;
Quit;

/*Scale Means Data*/
proc means data=consoc.recode n std mean median mode min max range;
var AES IBTS SC ConspCon CFC;
run;
```

```
/*Scale Results by User Type = CONV*/
Proc means data=consoc.recode N std mean median mode min max range;
where usercat=1;
var AES IBTS SC ConspCon CFC;
run;
quit;

/*Scale Results by User Type = REV*/
Proc means data=consoc.recode N std mean median mode min max range;
where usercat=2;
var AES IBTS SC ConspCon CFC;
run;
quit;

/*Scale Results by User Type = NULL*/
Proc means data=consoc.recode N std mean median mode min max range;
where usercat=3;
var AES IBTS SC ConspCon CFC;
run;
quit;

/*Scale Correlation Matrix*/
proc corr data=consoc.recode alpha nomiss;
var AES IBTS SC ConspCon CFC;
run;
Quit;

/*Continuous Variable Statistics - Retirement Savings*/
proc means data=consoc.recode N std mean median mode min max range;
where usercat=1;
var retbalcat;
RUN;

proc means data=consoc.recode N std mean median mode min max range;
where usercat=2;
var retbalcat;
RUN;

proc means data=consoc.recode N std mean median mode min max range;
where usercat=3;
var retbalcat;
RUN;

proc means data=consoc.recode N std mean median mode min max range;
var retbalcat;
RUN;
QUIT;

/*Continuous Variable Statistics - Credit Card Balance*/
proc means data=consoc.recode N std mean median mode min max range;
where usercat=1;
var ccbalcat;
RUN;
```

```
proc means data=consoc.recode N std mean median mode min max range;
where usercat=2;
var ccbalcat;
RUN;

proc means data=consoc.recode N std mean median mode min max range;
where usercat=3;
var ccbalcat;
RUN;

proc means data=consoc.recode N std mean median mode min max range;
var ccbalcat;
RUN;
QUIT;

/*Descriptive Analysis AES */
proc ANOVA data=consoc.recode;
class male;
model AES=male;
means male;
RUN;

proc ANOVA data=consoc.recode;
class agecat;
model AES=agecat;
means agecat;
RUN;

proc ANOVA data=consoc.recode;
class relcat;
model AES=relcat;
means relcat;
RUN;

proc ANOVA data=consoc.recode;
class ethcat;
model AES=ethcat;
means ethcat;
RUN;

proc ANOVA data=consoc.recode;
class childcat;
model AES=childcat;
means childcat;
RUN;

proc ANOVA data=consoc.recode;
class edcat;
model AES=edcat;
means edcat;
RUN;

proc ANOVA data=consoc.recode;
class yeshome;
model AES=yeshome;
means yeshome;
RUN;
```

```
proc ANOVA data=consoc.recode;
class efcat;
model AES=efcat;
means efcat;
RUN;

proc ANOVA data=consoc.recode;
class inccat;
model AES=inccat;
means inccat;
RUN;

proc ANOVA data=consoc.recode;
class nwcat;
model AES=nwcat;
means nwcat;
RUN;

proc ANOVA data=consoc.recode;
class healthcat;
model AES=healthcat;
means healthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model AES=diecat;
means diecat;
RUN;

/*CC and Ret Variable Differences - AES*/
proc ANOVA data=consoc.recode;
class usercat;
model AES=usercat;
means usercat;
RUN;

proc ANOVA data=consoc.recode;
class ccnumcat;
model AES=ccnumcat;
means ccnumcat;
RUN;

proc ANOVA data=consoc.recode;
class scorecat;
model AES=scorecat;
means scorecat;
RUN;

proc ANOVA data=consoc.recode;
class determined;
model AES=determined;
means determined;
RUN;
```

```
proc ANOVA data=consoc.recode;
class concat;
model AES=concat;
means concat;
RUN;

proc ANOVA data=consoc.recode;
class access;
model AES=access;
means access;
RUN;

proc ANOVA data=consoc.recode;
class autoyes;
model AES=autoyes;
means autoyes;
RUN;

proc ANOVA data=consoc.recode;
class yesmatch;
model AES=yesmatch;
means yesmatch;
RUN;

proc ANOVA data=consoc.recode;
class ftcat;
model AES=ftcat;
means ftcat;
RUN;

proc ANOVA data=consoc.recode;
class satisfaction;
model AES=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model AES=adequcat;
means adequcat;
RUN;

proc ANOVA data=consoc.recode;
class spagecat;
model AES=spagecat;
means spagecat;
RUN;

proc ANOVA data=consoc.recode;
class spworkcat;
model AES=spworkcat;
means spworkcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class spedcat;
model AES=spedcat;
means spedcat;
RUN;

proc ANOVA data=consoc.recode;
class sphealthcat;
model AES=sphealthcat;
means sphealthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model AES=diecat;
means diecat;
RUN;

proc ANOVA data=consoc.recode;
class spdiecat;
model AES=spdiecat;
means spdiecat;
RUN;

proc ANOVA data=consoc.recode;
class invcat;
model AES=invcat;
means invcat;
RUN;

proc ANOVA data=consoc.recode;
class retbalcat;
model AES=retbalcat;
means retbalcat;
RUN;

proc ANOVA data=consoc.recode;
class spftcat;
model AES=spftcat;
means spftcat;
RUN;

proc ANOVA data=consoc.recode;
class ccbalcat;
model AES=ccbalcat;
means ccbalcat;
RUN;

proc ANOVA data=consoc.recode;
class ccbalcat;
model AES=ccbalcat;
means ccbalcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class reascat;
model AES=reascat;
means reascat;
RUN;

proc ANOVA data=consoc.recode;
class satisfaction;
model AES=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model AES=adequcat;
means adequcat;
RUN;

proc ANOVA data=consoc.recode;
class spscorecat;
model AES=spscorecat;
means spscorecat;
RUN;

/*Descriptive Analysis IBTS*/
proc ANOVA data=consoc.recode;
class male;
model IBTS=male;
means male;
RUN;

proc ANOVA data=consoc.recode;
class agecat;
model IBTS=agecat;
means agecat;
RUN;

proc ANOVA data=consoc.recode;
class relcat;
model IBTS=relcat;
means relcat;
RUN;

proc ANOVA data=consoc.recode;
class ethcat;
model IBTS=ethcat;
means ethcat;
RUN;

proc ANOVA data=consoc.recode;
class childcat;
model IBTS=childcat;
means childcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class edcat;
model IBTS=edcat;
means edcat;
RUN;

proc ANOVA data=consoc.recode;
class yeshome;
model IBTS=yeshome;
means yeshome;
RUN;

proc ANOVA data=consoc.recode;
class efcat;
model IBTS=efcat;
means efcat;
RUN;

proc ANOVA data=consoc.recode;
class inccat;
model IBTS=inccat;
means inccat;
RUN;

proc ANOVA data=consoc.recode;
class nwcat;
model IBTS=nwcat;
means nwcat;
RUN;

proc ANOVA data=consoc.recode;
class healthcat;
model IBTS=healthcat;
means healthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model IBTS=diecat;
means diecat;
RUN;

/*CC and Ret Variable Differences - IBTS*/
proc ANOVA data=consoc.recode;
class usercat;
model IBTS=usercat;
means usercat;
RUN;

proc ANOVA data=consoc.recode;
class ccnumcat;
model IBTS=ccnumcat;
means ccnumcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class scorecat;
model IBTS=scorecat;
means scorecat;
RUN;

proc ANOVA data=consoc.recode;
class determined;
model IBTS=determined;
means determined;
RUN;

proc ANOVA data=consoc.recode;
class concat;
model IBTS=concat;
means concat;
RUN;

proc ANOVA data=consoc.recode;
class access;
model IBTS=access;
means access;
RUN;

proc ANOVA data=consoc.recode;
class autoyes;
model IBTS=autoyes;
means autoyes;
RUN;

proc ANOVA data=consoc.recode;
class yesmatch;
model IBTS=yesmatch;
means yesmatch;
RUN;

proc ANOVA data=consoc.recode;
class ftcat;
model IBTS=ftcat;
means ftcat;
RUN;

proc ANOVA data=consoc.recode;
class satisfaction;
model IBTS=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model IBTS=adequcat;
means adequcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class spagecat;
model IBTS=spagecat;
means spagecat;
RUN;

proc ANOVA data=consoc.recode;
class spworkcat;
model IBTS=spworkcat;
means spworkcat;
RUN;

proc ANOVA data=consoc.recode;
class spedcat;
model IBTS=spedcat;
means spedcat;
RUN;

proc ANOVA data=consoc.recode;
class sphealthcat;
model IBTS=sphealthcat;
means sphealthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model IBTS=diecat;
means diecat;
RUN;

proc ANOVA data=consoc.recode;
class spdiecat;
model IBTS=spdiecat;
means spdiecat;
RUN;

proc ANOVA data=consoc.recode;
class invcat;
model IBTS=invcat;
means invcat;
RUN;

proc ANOVA data=consoc.recode;
class retbalcat;
model IBTS=retbalcat;
means retbalcat;
RUN;

proc ANOVA data=consoc.recode;
class spftcat;
model IBTS=spftcat;
means spftcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class ccbalcat;
model IBTS=ccbalcat;
means ccbalcat;
RUN;

proc ANOVA data=consoc.recode;
class ccbalcat;
model IBTS=ccbalcat;
means ccbalcat;
RUN;

proc ANOVA data=consoc.recode;
class reascat;
model IBTS=reascat;
means reascat;
RUN;

proc ANOVA data=consoc.recode;
class satisfaction;
model IBTS=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model IBTS=adequcat;
means adequcat;
RUN;

proc ANOVA data=consoc.recode;
class spscorecat;
model IBTS=spscorecat;
means spscorecat;
RUN;

/*Descriptive Analysis SC*/
proc ANOVA data=consoc.recode;
class male;
model SC=male;
means male;
RUN;

proc ANOVA data=consoc.recode;
class agecat;
model SC=agecat;
means agecat;
RUN;

proc ANOVA data=consoc.recode;
class relcat;
model SC=relcat;
means relcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class ethcat;
model SC=ethcat;
means ethcat;
RUN;

proc ANOVA data=consoc.recode;
class childcat;
model SC=childcat;
means childcat;
RUN;

proc ANOVA data=consoc.recode;
class edcat;
model SC=edcat;
means edcat;
RUN;

proc ANOVA data=consoc.recode;
class yeshome;
model SC=yeshome;
means yeshome;
RUN;

proc ANOVA data=consoc.recode;
class efcat;
model SC=efcat;
means efcat;
RUN;

proc ANOVA data=consoc.recode;
class inccat;
model SC=inccat;
means inccat;
RUN;

proc ANOVA data=consoc.recode;
class nwcat;
model SC=nwcat;
means nwcat;
RUN;

proc ANOVA data=consoc.recode;
class healthcat;
model SC=healthcat;
means healthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model SC=diecat;
means diecat;
RUN;
```

```
/*CC and Ret Variable Differences - SC*/
proc ANOVA data=consoc.recode;
class usercat;
model SC=usercat;
means usercat;
RUN;

proc ANOVA data=consoc.recode;
class ccnumcat;
model SC=ccnumcat;
means ccnumcat;
RUN;

proc ANOVA data=consoc.recode;
class scorecat;
model SC=scorecat;
means scorecat;
RUN;

proc ANOVA data=consoc.recode;
class determined;
model SC=determined;
means determined;
RUN;

proc ANOVA data=consoc.recode;
class concat;
model SC=concat;
means concat;
RUN;

proc ANOVA data=consoc.recode;
class access;
model SC=access;
means access;
RUN;

proc ANOVA data=consoc.recode;
class autoyes;
model SC=autoyes;
means autoyes;
RUN;

proc ANOVA data=consoc.recode;
class yesmatch;
model SC=yesmatch;
means yesmatch;
RUN;

proc ANOVA data=consoc.recode;
class ftcat;
model SC=ftcat;
means ftcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class satisfaction;
model SC=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model SC=adequcat;
means adequcat;
RUN;

proc ANOVA data=consoc.recode;
class spagecat;
model SC=spagecat;
means spagecat;
RUN;

proc ANOVA data=consoc.recode;
class spworkcat;
model SC=spworkcat;
means spworkcat;
RUN;

proc ANOVA data=consoc.recode;
class spedcat;
model SC=spedcat;
means spedcat;
RUN;

proc ANOVA data=consoc.recode;
class sphealthcat;
model SC=sphealthcat;
means sphealthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model SC=diecat;
means diecat;
RUN;

proc ANOVA data=consoc.recode;
class spdiecat;
model SC=spdiecat;
means spdiecat;
RUN;

proc ANOVA data=consoc.recode;
class invcat;
model SC=invcat;
means invcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class retbalcat;
model SC=retbalcat;
means retbalcat;
RUN;

proc ANOVA data=consoc.recode;
class spftcat;
model SC=spftcat;
means spftcat;
RUN;

proc ANOVA data=consoc.recode;
class ccbalcat;
model SC=ccbalcat;
means ccbalcat;
RUN;

proc ANOVA data=consoc.recode;
class ccbalcat;
model SC=ccbalcat;
means ccbalcat;
RUN;

proc ANOVA data=consoc.recode;
class reascat;
model SC=reascat;
means reascat;
RUN;

proc ANOVA data=consoc.recode;
class satisfaction;
model SC=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model SC=adequcat;
means adequcat;
RUN;

proc ANOVA data=consoc.recode;
class spscorecat;
model SC=spscorecat;
means spscorecat;
RUN;

/*Descriptive Analysis Consp Consumption*/
proc ANOVA data=consoc.recode;
class male;
model ConspCon=male;
means male;
RUN;
```

```
proc ANOVA data=consoc.recode;
class agecat;
model ConspCon=agecat;
means agecat;
RUN;

proc ANOVA data=consoc.recode;
class relcat;
model ConspCon=relcat;
means relcat;
RUN;

proc ANOVA data=consoc.recode;
class ethcat;
model ConspCon=ethcat;
means ethcat;
RUN;

proc ANOVA data=consoc.recode;
class childcat;
model ConspCon=childcat;
means childcat;
RUN;

proc ANOVA data=consoc.recode;
class edcat;
model ConspCon=edcat;
means edcat;
RUN;

proc ANOVA data=consoc.recode;
class yeshome;
model ConspCon=yeshome;
means yeshome;
RUN;

proc ANOVA data=consoc.recode;
class efcat;
model ConspCon=efcat;
means efcat;
RUN;

proc ANOVA data=consoc.recode;
class inccat;
model ConspCon=inccat;
means inccat;
RUN;

proc ANOVA data=consoc.recode;
class nwcat;
model ConspCon=nwcat;
means nwcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class healthcat;
model ConspCon=healthcat;
means healthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model ConspCon=diecat;
means diecat;
RUN;

/*CC and Ret Variable Differences - ConspCon*/
proc ANOVA data=consoc.recode;
class usercat;
model ConspCon=usercat;
means usercat;
RUN;

proc ANOVA data=consoc.recode;
class ccnumcat;
model ConspCon=ccnumcat;
means ccnumcat;
RUN;

proc ANOVA data=consoc.recode;
class scorecat;
model ConspCon=scorecat;
means scorecat;
RUN;

proc ANOVA data=consoc.recode;
class determined;
model ConspCon=determined;
means determined;
RUN;

proc ANOVA data=consoc.recode;
class concat;
model ConspCon=concat;
means concat;
RUN;

proc ANOVA data=consoc.recode;
class access;
model ConspCon=access;
means access;
RUN;

proc ANOVA data=consoc.recode;
class autoyes;
model ConspCon=autoyes;
means autoyes;
RUN;
```

```
proc ANOVA data=consoc.recode;
class yesmatch;
model ConspCon=yesmatch;
means yesmatch;
RUN;

proc ANOVA data=consoc.recode;
class ftcat;
model ConspCon=ftcat;
means ftcat;
RUN;

proc ANOVA data=consoc.recode;
class satisfaction;
model ConspCon=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model ConspCon=adequcat;
means adequcat;
RUN;

proc ANOVA data=consoc.recode;
class spagecat;
model ConspCon=spagecat;
means spagecat;
RUN;

proc ANOVA data=consoc.recode;
class spworkcat;
model ConspCon=spworkcat;
means spworkcat;
RUN;

proc ANOVA data=consoc.recode;
class spedcat;
model ConspCon=spedcat;
means spedcat;
RUN;

proc ANOVA data=consoc.recode;
class sphealthcat;
model ConspCon=sphealthcat;
means sphealthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model ConspCon=diecat;
means diecat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class spdiecat;
model ConspCon=spdiecat;
means spdiecat;
RUN;

proc ANOVA data=consoc.recode;
class invcat;
model ConspCon=invcat;
means invcat;
RUN;

proc ANOVA data=consoc.recode;
class retbalcat;
model ConspCon=retbalcat;
means retbalcat;
RUN;

proc ANOVA data=consoc.recode;
class spftcat;
model ConspCon=spftcat;
means spftcat;
RUN;

proc ANOVA data=consoc.recode;
class ccbalcat;
model ConspCon=ccbalcat;
means ccbalcat;
RUN;

proc ANOVA data=consoc.recode;
class ccbalcat;
model ConspCon=ccbalcat;
means ccbalcat;
RUN;

proc ANOVA data=consoc.recode;
class reascat;
model ConspCon=reascat;
means reascat;
RUN;

proc ANOVA data=consoc.recode;
class satisfaction;
model ConspCon=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model ConspCon=adequcat;
means adequcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class spscorecat;
model ConspCon=spscorecat;
means spscorecat;
RUN;

/*Descriptive Analysis CFC*/
proc ANOVA data=consoc.recode;
class male;
model CFC=male;
means male;
RUN;

proc ANOVA data=consoc.recode;
class agecat;
model CFC=agecat;
means agecat;
RUN;

proc ANOVA data=consoc.recode;
class relcat;
model CFC=relcat;
means relcat;
RUN;

proc ANOVA data=consoc.recode;
class ethcat;
model CFC=ethcat;
means ethcat;
RUN;

proc ANOVA data=consoc.recode;
class childcat;
model CFC=childcat;
means childcat;
RUN;

proc ANOVA data=consoc.recode;
class edcat;
model CFC=edcat;
means edcat;
RUN;

proc ANOVA data=consoc.recode;
class yeshome;
model CFC=yeshome;
means yeshome;
RUN;

proc ANOVA data=consoc.recode;
class efcat;
model CFC=efcat;
means efcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class inccat;
model CFC=inccat;
means inccat;
RUN;

proc ANOVA data=consoc.recode;
class nwcat;
model CFC=nwcat;
means nwcat;
RUN;

proc ANOVA data=consoc.recode;
class healthcat;
model CFC=healthcat;
means healthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model CFC=diecat;
means diecat;
RUN;

/*CC and Ret Variable Differences - CFC*/
proc ANOVA data=consoc.recode;
class usercat;
model CFC=usercat;
means usercat;
RUN;

proc ANOVA data=consoc.recode;
class ccnumcat;
model CFC=ccnumcat;
means ccnumcat;
RUN;

proc ANOVA data=consoc.recode;
class scorecat;
model CFC=scorecat;
means scorecat;
RUN;

proc ANOVA data=consoc.recode;
class determined;
model CFC=determined;
means determined;
RUN;

proc ANOVA data=consoc.recode;
class concat;
model CFC=concat;
means concat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class access;
model CFC=access;
means access;
RUN;

proc ANOVA data=consoc.recode;
class autoyes;
model CFC=autoyes;
means autoyes;
RUN;

proc ANOVA data=consoc.recode;
class yesmatch;
model CFC=yesmatch;
means yesmatch;
RUN;

proc ANOVA data=consoc.recode;
class ftcat;
model CFC=ftcat;
means ftcat;
RUN;

proc ANOVA data=consoc.recode;
class satisfaction;
model CFC=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model CFC=adequcat;
means adequcat;
RUN;

proc ANOVA data=consoc.recode;
class spagecat;
model CFC=spagecat;
means spagecat;
RUN;

proc ANOVA data=consoc.recode;
class spworkcat;
model CFC=spworkcat;
means spworkcat;
RUN;

proc ANOVA data=consoc.recode;
class spedcat;
model CFC=spedcat;
means spedcat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class sphealthcat;
model CFC=sphealthcat;
means sphealthcat;
RUN;

proc ANOVA data=consoc.recode;
class diecat;
model CFC=diecat;
means diecat;
RUN;

proc ANOVA data=consoc.recode;
class spdiecat;
model CFC=spdiecat;
means spdiecat;
RUN;

proc ANOVA data=consoc.recode;
class invcat;
model CFC=invcat;
means invcat;
RUN;

proc ANOVA data=consoc.recode;
class retbalcat;
model CFC=retbalcat;
means retbalcat;
RUN;

proc ANOVA data=consoc.recode;
class spftcat;
model CFC=spftcat;
means spftcat;
RUN;

proc ANOVA data=consoc.recode;
class ccbalcat;
model CFC=ccbalcat;
means ccbalcat;
RUN;

proc ANOVA data=consoc.recode;
class ccbalcat;
model CFC=ccbalcat;
means ccbalcat;
RUN;

proc ANOVA data=consoc.recode;
class reascat;
model CFC=reascat;
means reascat;
RUN;
```

```
proc ANOVA data=consoc.recode;
class satisfaction;
model CFC=satisfaction;
means satisfaction;
RUN;

proc ANOVA data=consoc.recode;
class adequcat;
model CFC=adequcat;
means adequcat;
RUN;

proc ANOVA data=consoc.recode;
class spscorecat;
model CFC=spscorecat;
means spscorecat;
RUN;

/*Alpha Scale Results*/
proc corr data=consoc.recode alpha nomiss;
var AE1 AE2 AE3 AE4 AE5 AE6 AE7 AE8RC AE9 AE10RC AE11 AE12 AE13;
run;

proc corr data=consoc.recode alpha nomiss;
var IBT1A IBT2A IBT3A IBT4A IBT5ARC;
run;

proc corr data=consoc.recode alpha nomiss;
var SC1 SC2RC SC3RC SC4RC SC5RC SC6 SC7RC SC8RC;
run;

proc corr data=consoc.recode alpha nomiss;
var CC1 CC2 CC3 CC4 CC5 CC6 CC7 CC8 CC9 CC10 CC11;
run;

proc corr data=consoc.recode alpha nomiss;
var CFC1 CFC2RC CFC3RC CFC4RC CFC5RC CFC6RC CFC7RC CFC8RC;
run;

proc corr data=consoc.recode alpha nomiss;
var AE1 AE2 AE3 AE4 AE5 AE6 AE7 AE8RC AE9 AE10RC AE11 AE12 AE13 IBT1A IBT2A
IBT3A IBT4A IBT5ARC;
run;

proc corr data=consoc.recode alpha nomiss;
var SC1 SC2RC SC3RC SC4RC SC5RC SC6 SC7RC SC8RC CC1 CC2 CC3 CC4 CC5 CC6 CC7
CC8 CC9 CC10 CC11
CFC1 CFC2RC CFC3RC CFC4RC CFC5RC CFC6RC CFC7RC CFC8RC;
run;

proc corr data=consoc.recode alpha nomiss;
var SC1 SC2RC SC3RC SC4RC SC5RC SC6 SC7RC SC8RC CC1 CC2 CC3 CC4 CC5 CC6 CC7
CC8 CC9 CC10 CC11
CFC1 CFC2RC CFC3RC CFC4RC CFC5RC CFC6RC CFC7RC CFC8RC;
run;
```

```
proc corr data=consoc.recode alpha nomiss;
var AE1 AE2 AE3 AE4 AE5 AE6 AE7 AE8RC AE9 AE10RC AE11 AE12 AE13 IBT1A IBT2A
IBT3A IBT4A IBT5ARC
SC1 SC2RC SC3RC SC4RC SC5RC SC6 SC7RC SC8RC CC1 CC2 CC3 CC4 CC5 CC6 CC7 CC8
CC9 CC10 CC11
CFC1 CFC2RC CFC3RC CFC4RC CFC5RC CFC6RC CFC7RC CFC8RC;
run;

proc corr data=consoc.recode alpha nomiss;
var IBT1A IBT2A IBT3A IBT4A IBT5ARC
SC1 SC2RC SC3RC SC4RC SC5RC SC6 SC7RC SC8RC
CC1 CC2 CC3 CC4 CC5 CC6 CC7 CC8 CC9 CC10 CC11
CFC1 CFC2RC CFC3RC CFC4RC CFC5RC CFC6RC CFC7RC CFC8RC;
run;

PROC EXPORT DATA=consoc.recode
OUTFILE= 'sensenigSEMdissertation.xslx'replace
DBMS=xlsx;
RUN;
```