8-7-2020

The effect of minority, low-income, and first-generation status on the financial capabilities of students at Mississippi State University

Cecilia Brooks

The effect of minority, low-income, and first-generation status on the financial capabilities of students at Mississippi State University

By

Cecilia Brooks

Approved by:

Brandan Wheeler (Director of Dissertation)
Alisha M. Hardman
Becky Smith
Tommy M. Phillips (Committee Member/Graduate Coordinator)
Scott T. Willard (Dean, College of Agriculture and Life Sciences)

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Human Development and Family Sciences
in the Department of Human Sciences

Mississippi State, Mississippi

August 2020

Name: Cecilia Brooks

Date of Degree: August 7, 2020

Institution: Mississippi State University

Major Field: Human Development and Family Sciences

Major Professors: Brandan Wheeler, Tommy M. Phillips

Title of Study: The effect of minority, low-income, and first-generation status on the financial capabilities of students at Mississippi State University

Pages in Study 210

Candidate for Degree of Doctor of Philosophy

Using data collected from undergraduate students attending a southeastern United States University, the current dissertation includes two manuscripts examining the relationships between personal characteristics, financial socialization, financial capability and financial well-being among college students. These relationships were also compared between a focal group of students identifying as minority, low-income, and first-generation students to a comparison group not identifying as minority, low-income, or first-generation students. The first study used structural equation modeling to explore the relationships between personal characteristics (i.e., attachment, locus of control, and self-esteem), financial socialization, and the four dimensions of financial capability (financial knowledge, access to financial resources, attitudes, and actions). Findings suggest financial socialization partially mediated the relationships between personal characteristics and financial attitudes and financial actions. These findings suggest that parents continue to play a role in the development of financial attitudes and behaviors of college students. The second study used regression analysis to examine how financial knowledge and skills (i.e., applied knowledge), materialistic attitudes, compulsive spending behaviors, and access to financial resources (i.e., number of bank accounts, credit cards, and alternative financial services) are related to students' financial well-being. Findings suggest greater financial skills and less materialistic views and are related to greater financial well-being. However, among those *not* identifying as minority, low-income, or first-generation college students less compulsive spending behaviors and greater credit card use were positively related to financial well-being; among minority, low-income, *or* first-generation college students, alternative financial services usage was related negatively to financial well-being.

DEDICATION

I would like to dedicate this to my loving husband, for all of his support, encouragement, and patience throughout this journey.

ACKNOWLEDGEMENTS

My gratitude goes out to all who were involved in this study. Specifically, I would like to thank Dr. Brandan E. Wheeler for his guidance, support, and encouragement throughout this process.

I would also like to thank my committee, Drs. Tommy M. Phillips, Becky Smith, and Alisha M. Hardman, for their assistance, time, and support.

I would like to thank the faculty, staff, and administrators who assisted in the distribution of my survey as without their help, this study would not have been possible.

Finally, I would like to acknowledge my husband, whose love and encouragement gave me the courage I needed throughout this journey, and my Dad, Mr. Jesus G. Pacheco, who even after his death, his love continues to motivate me.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Background

Research has shown that the ability to manage finances effectively is an important component to successful adulthood (Shim et al., 2010). Unfortunately, the increasing cost of a college education and increasing educational debt have created challenges for young adults. Some of these challenges include obtaining a loan for auto or home purchases and planning for retirement (CFPB, 2019). These challenges have generated increased interest in helping to prepare college students for their financial future, including the promotion of on-campus financial education efforts to better understand financial aid options available to students (U.S. Department of Education, 2015) and to help prepare them post-college, including student loan repayment and basic financial knowledge (CFPB, 2016a).

While many colleges and universities aim to support the enrollment of minority, low-income, and first-generation college students, including engagement in financial aid programs, these same students are at greater risk of not completing a bachelor's degree by the age of 24 or within six years (U.S. Department of Education, 2015). The most commonly cited reason for abandoning a college program is financial issues (Johnson et al, 2009). Some financial issues among college students can be attributed to the day-to-day living expenses associated with college attendance, while other issues may be due to a lack of access to financial resources. The Consumer Financial Protection Bureau (2018) noted a person's financial well-being is defined by their ability to meet regular expenses, having savings, and having good credit standing, which can impact their ability to maintain continual enrollment in a college program.

The financial preparedness of minority, low-income, or first-generation college students may be distinct from others due to access to financial resources, such as a 529 college savings plan. For example, Sherraden (2013) noted having access to financial resources (e.g., bank accounts, access to loans, or savings) allows students to both manage their day-to-day financial situation and provides an opportunity to make sound financial decisions and to pursue personal goals, such as college attendance. However, Sherraden (2013) also noted job status (e.g., un- or under-employment, working part-time) and a reliance on cash transactions can negatively impact an individual's ability to maintain a bank account that can be used to build credit and finance a college education. Barr (2008) also noted some minority and low-income households experience greater financial vulnerability to income shocks when medical emergencies or a car repair upset their already fragile financial stability. These income shocks and the resources people have may be more influential than the financial management skills people have (Fitzpatrick, 2017). Financial management skills without access to adequate financial resources can only help someone for so long, even among college students (Sherraden, 2013).

Some college students may lack financial knowledge or the financial confidence that is gained through experience with managing finances. On average, college students' financial knowledge has been shown to increase with each additional year of college education (Mandell, 2008). However, the link between financial knowledge and financial behaviors among college students is inconsistent. For example, financial knowledge does not always lead to financial behaviors. Most people, including college students, know they should save money consistently, yet few save money on a consistent basis. Despite this inconsistency, some research indicates experiential learning, such as earning an allowance and working for wages, is positively related to financial attitudes and actions (LeBaron et al., 2018; Mandell & Klein, 2009). Sherraden (2013) also noted the ability *and* opportunity to act on financial knowledge is necessary for the application of financial knowledge and the development of financial skills. For example, full-time college students not earning wages may lack experience and confidence in managing their personal finances (Mandell & Klein, 2009). Other college students may rely on and allow their parents to make financial decisions for them because their parents are the primary financial sponsors of their college education (Hamilton, 2013). In many cases, parents may maintain control over their students' financial decision-making, such as parents filling out financial aid forms on behalf of their child, parents are billed directly for college expenses, or parents do not allow their college-aged students access to their own bank accounts. These parents may simply monitor their students' account balances and add money as needed.

Statement of Problem

Over the last decade, the financial capability of young adults has become an area of research interest due to increasing financial demands that individuals and families face (Lusardi & Scheresberg, 2013). Having a college degree can be a way to improve financial well-being by providing income stability and protection against unemployment (U.S. Department of Education, 2015). Yet, some young adults fail to complete their college education due to financial issues (Johnson et al., 2009). Some financial issues may be due to poor money management behaviors, while others may be due to a lack of knowledge or access to financial services to conduct financial transactions (Sherraden, 2013). When young adults lack knowledge and the resources to make financial decisions that can improve their financial well-being, they may begin to acquire unnecessary debt. For example, college students receiving Pell Grants are also more likely to acquire more student loan debt than students never receiving Pell Grants (TICAS, 2018). Furthermore, among minority and first-generation college students, researchers have noted that a lack of understanding of financial aid programs and inexperience managing debt are related to higher student loan default rates after graduation (TICAS, 2018).

To remedy these issues, researchers have focused on improving financial well-being and financial capability by examining the role of the financial socialization process (e.g., CFPB, 2016b, Jorgensen & Savla, 2010; Jorgensen et al., 2016). A range of studies on young adults have examined personal characteristics, such as secure attachment and locus of control, and the financial socialization process (e.g., Danes & Yang, 2014; Gudmunson & Danes, 2011; Johnson & Sherraden, 2007; Jorgensen & Savla, 2010; Jorgensen et al., 2016) as a precursor to the development of financial knowledge, attitudes, and actions. Others have looked at the financial capability (i.e., knowledge, access to financial resources, attitudes, and behaviors) of college students as a precursor to their financial well-being (e.g., CFPB, 2018; Johnson & Sherraden, 2007; Serido, Mishra, & Tang, 2010; Shim et al., 2009). However, the role of self-esteem on financial capability and group comparisons between minority, low-income, and first-generation college students (i.e., focal group) and their more affluent peers (i.e., comparison group) have yet to be examined.

To examine these relationships, the first study combined Gudmunson and Danes' (2011) model of family financial socialization (Figure 1) with a multi-dimensional outcome of financial capability (Olive, 2013; Figure 3) which included access to financial resources per Sherraden's (2013) recommended approach (Figure 2). The first study thus explored whether the financial socialization process mediated the relationships between personal characteristics (i.e., attachment, locus of control, and self-esteem) and financial capability (financial knowledge, access to financial resources, attitudes, and behaviors). This study thus focused on a newly developed conceptual financial socialization model (Figure 4).

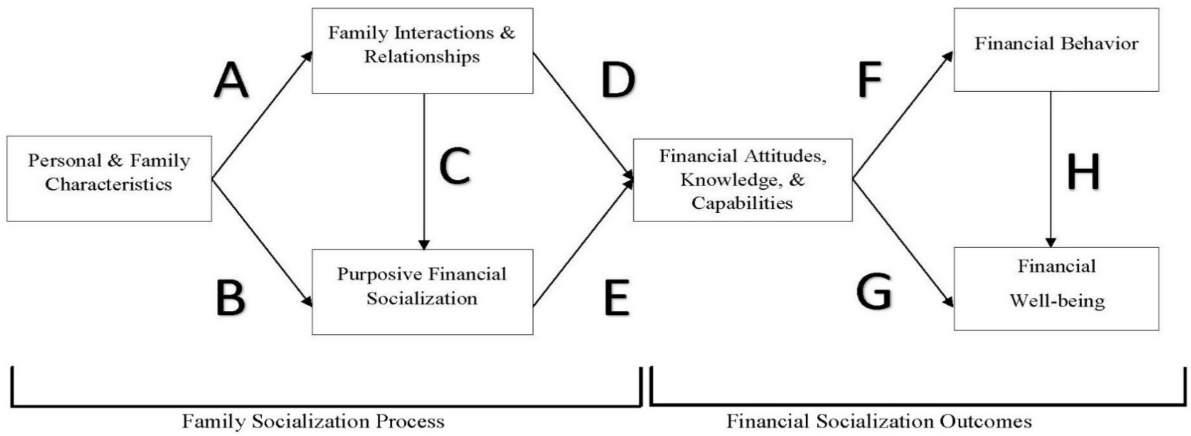

Figure 1 Conceptual Model of Family Socialization (Gudmunson & Danes, 2011).

This illustration represents the relationships between personal and family characteristics, family socialization processes, financial capabilities, and financial well-being.

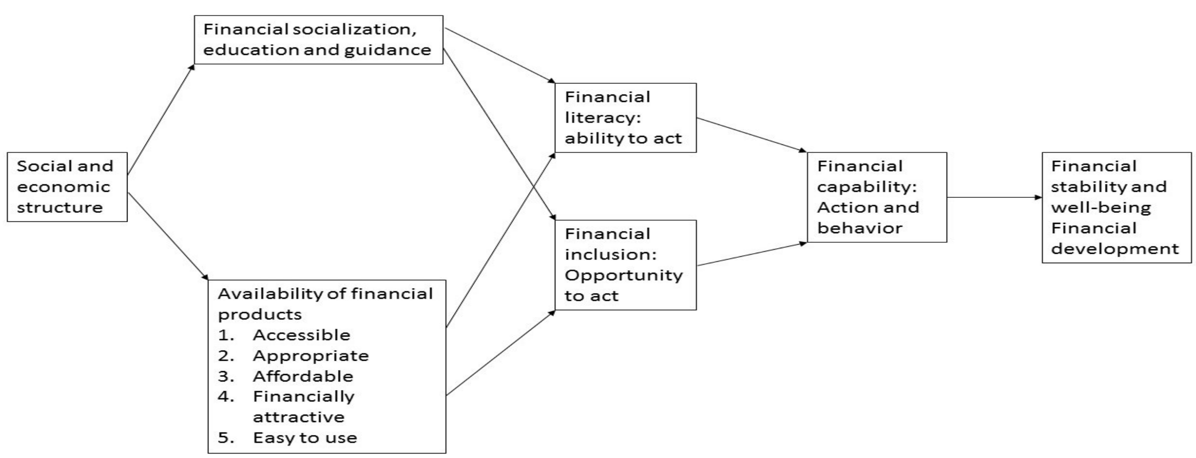

Figure 2 Sherraden's (2013) Financial Capability Model

This model illustrates the necessity of including access to financial resources in promoting an individual's financial well-being.

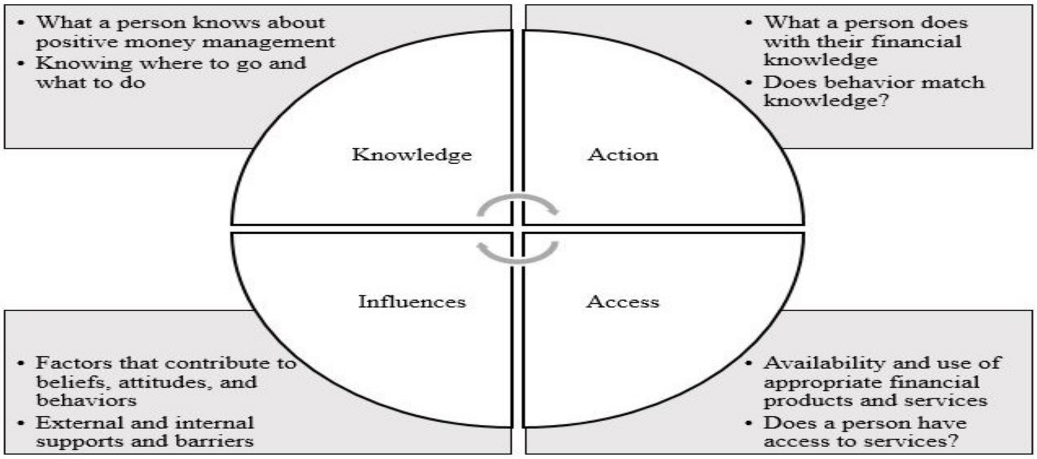

Figure 3 Four Dimensions of Financial Capability (Olive, 2013)

This illustration demonstrates the multi-dimensional financial capability outcome proposed by Olive (2013). Note the inclusion of access to financial resources per Johnson and Sherraden's (2007) recommended approach.

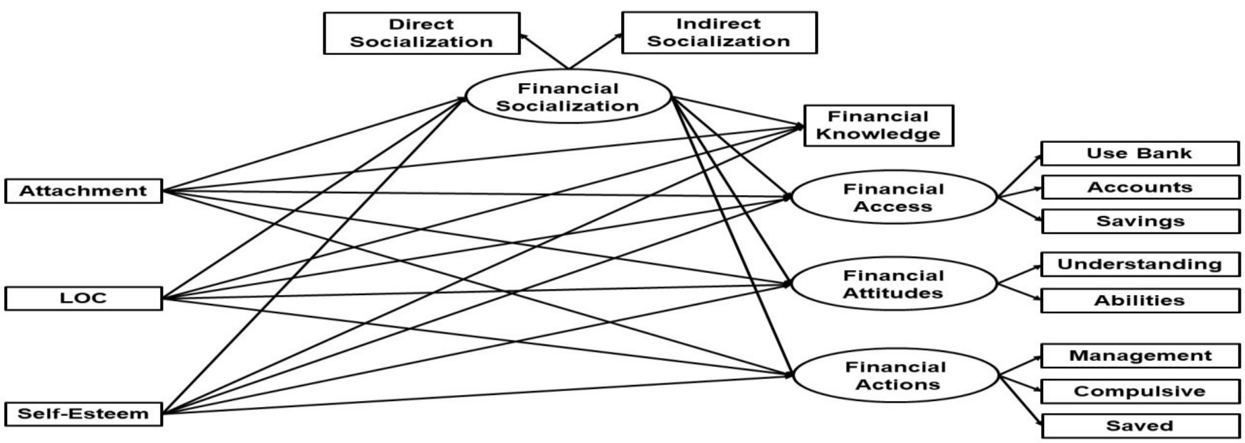

Figure 4 Proposed Conceptual Financial Socialization Model

This conceptual financial socialization model combined the Gudmunson and Danes' (2011) conceptual model of family socialization and Sherraden's (2013) financial capability model with a multidimensional financial capability model (Olive, 2013). This model illustrates the potential mediating effect of financial socialization on the relationships between personal characteristics and financial capability.

The second study combined the Consumer Financial Protection Bureau's (2018) model of financial capability factors and financial well-being (Figure 5) with Sherraden's (2013) financial capability model (Figure 2) and examined how financial capability and usage of alternative financial services influenced the financial well-being of college students.

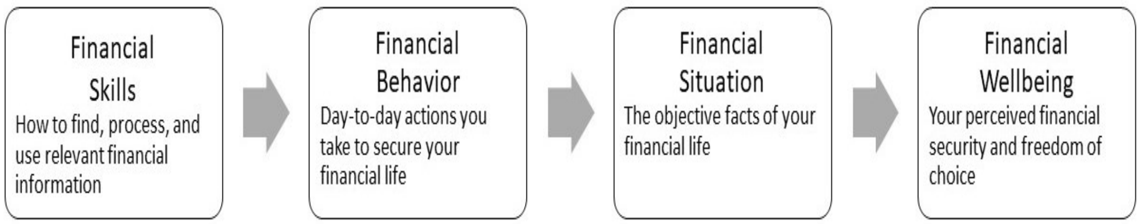

Figure 5 Model of Financial Capability Factors and Financial Well-being (Consumer Financial Protection Bureau, 2018)

Through this research, it is hoped that insights will be found that can be used to guide on-campus financial resource centers in meeting the needs of their college students.

Background of the Current Study

Danes (1994) recognized the important role family plays in how children and adolescents learn about finances. Danes identified this development as a learning process, referred to as financial socialization, and defined it as, "the process of acquiring and developing values, attitudes, standards, norms, knowledge, and behaviors that contribute to the financial viability and well-being of the individual" (p. 128). Parents can financially socialize their children in three ways: directly (i.e., parental instruction), indirectly (i.e., observation and mimicking), and through parental monitoring of financial transactions (Allen, 2008; CFPB, 2017a; Kim & Chatterjee, 2013).

Direct financial socialization takes place in the family through day-to-day family interactions that focus on explicitly discussing financial transactions (Jorgensen & Savla, 2010). Parents can explicitly or directly talk to their children about financial topics, such as how to open and operate a checking account, how to use and manage a credit card, or how to create a budget to control spending and save money for emergencies (Danes, 1994; Danes & Yang, 2014; Jorgensen et al., 2016).

Parents may indirectly teach their children about financial topics as parents act as role models of financial behaviors (Danes, 1994). For example, children can learn about bank loans by observing their parents acquire a loan to purchase a vehicle or to use alternative financial services instead of traditional banking. The family's financial situation may also influence the indirect financial socialization of children. For example, among low-income households, limited income and access to health insurance may hinder a family's ability to seek medical attention outside of government sponsored programs or low-cost clinics, thus providing examples of how to address financial situations (Garasky, Nielson, & Fletcher, 2008). College students may further observe these behaviors and mimic them when trying to meet their own instrumental needs, such as how they use loans for school, psychological needs, such as delaying gratification, or emotional needs, such as buying things with a credit card when they feel depressed or lonely (Klontz et al., 2008).

Parental monitoring is a mechanism by which parents help children to understand rules and expectations about financial practices. Parents may monitor their children's choices about managing their money through the use of rules, expectations, and consequences to influence the financial behaviors of their children (Kim & Torquati, 2019). For example, parents may use self-control and delayed gratification to guide the financial behaviors of spending, saving, and long-term financial planning (Kim, LaTaillade, & Kim, 2019; Kim & Torquati, 2019). Parents may also monitor college-aged children's bank accounts or credit card usage to verify they are not mismanaging their money or overspending.

Through this financial socialization process, families help children and adolescents to develop their financial knowledge, attitudes, and behaviors, which ultimately influence their financial well-being. Gudmunson and Danes (2011) conceptualized this progression from financial socialization to financial well-being in their conceptual model of financial socialization. Researchers, such as Jorgensen et al. (2016; 2017), have tested various aspects of this conceptual model, but research on young adults and college-student populations has yet to explore the influence of this financial socialization process on financial capability through a multi-dimensional approach which includes financial knowledge, access to financial resources, financial attitudes, and financial behaviors. Furthermore, overall financial well-being may be perceived differently when individuals lack financial resources or opportunities to apply acquired financial knowledge to choose financial services that can improve their financial well-being (Barr, 2008; Johnson & Sherraden, 2007).

Purpose of the Current Study

The current dissertation research followed an exploratory cross-sectional research design with a multi-manuscript presentation. Both manuscripts of this research focused on three important paradigms: (a) the financial socialization process, (b) the interrelated and multi-dimensional nature of financial capability (i.e., financial knowledge, access to financial resources, attitudes, and actions) and (c) the comparison of financial capability and well-being of minority, low-income, or first-generation college students to their more affluent peers, which comparison may reveal distinct similarities or differences between these two groups of students.

The current study defined financial capability as the financial knowledge, access to financial resources, attitudes, and actions students need to manage their personal finances (Atkinson et al., 2007; Johnson & Sherraden, 2007; University of Wisconsin, 2013). By examining financial capability as a multi-dimensional outcome of the financial socialization process, instead of the step-by-step process proposed by Gudmunson and Danes' (2011) model, this study includes the opportunity *and* ability to apply financial knowledge (Sherraden, 2013). The current study also explored how the personal characteristics of attachment, locus of control, and self-esteem and the financial socialization process influence the development of financial capability among college students (CFPB, 2016b).

Previous studies have established a link between financial socialization and the financial capability among emerging adults (CFPB, 2016b; Danes, 1994; Danes, & Yang, 2014; Jorgensen, & Savla, 2010; Jorgensen et al., 2016). For example, Jorgensen and colleagues (2016) found direct and indirect parental financial socialization were related positively to college students' general financial, cash, and credit management behaviors and their accumulation of capital. Furthermore, Jorgensen et al. (2016) found both financial socialization and locus of control mediated the relationships between attachment and financial behaviors. Shim and colleagues (2010) also noted the financial socialization process was related to more favorable attitudes towards tracking expenses, saving money, and investing, and a perceived behavioral control over financial decisions and Lee and Mortimer (2009) found direct financial communication between parents and their children foster greater development of financial capabilities among youth. However, it is important to note that college students can acquire financial knowledge through education or paid work (Mandell & Klein, 2009) and as they transition away from the supervision and monitoring of their parents (Durband & Britt, 2012; Jorgensen, & Savla, 2010; Jorgensen et al., 2016).

Additionally, researchers have shown that personal characteristics of attachment, locus of control, and self-esteem influence the interactions college students have with their parents and their development of financial capability. For example, Jorgensen and colleagues (2016) found college students with a secure attachment style, meaning those college students who trust in their relationships with their sources of social support such as their parents, were more likely to follow the financial instruction their parents gave them. College students may also develop better financial behaviors, such as money management skills, when they trust the information provided by their parents will be beneficial (Jorgensen & Savla, 2010). Furthermore, when college students believe they have more control over their financial situation (i.e., internal locus of control), they tend to exhibit better financial behaviors related to credit and cash management (Britt et al., 2013; Jorgensen et al., 2016). Finally, Tang and Baker (2016) found that students' self-esteem was directly related to their financial knowledge and their financial behaviors.

However, these findings include college students who are predominantly White, middle-class college students and have not differentiated between minority, low-income, and first-generation college students and their more affluent peers (e.g., Jorgensen & Savla 2010; Britt et al., 2013; Britt et al., 2015; Jorgensen et al., 2016). Therefore, the purpose of the first dissertation study was to explore (1) how personal characteristics (i.e., attachment, locus of control, and self-esteem) influence the multiple domains of financial capability (i.e., financial knowledge, access to financial resources, attitudes, and actions), (2) how these personal characteristics influence the financial socialization process, (3) how financial socialization influences the domains of financial capability, (4) whether financial socialization mediates the relationships between personal characteristics and financial capability, and (5) how these patterns of results compare between minority, low-income, or first-generation students (i.e., focal group) and their more affluent peers (i.e., comparison group).

The second dissertation study explored financial well-being among college students. A range of factors, including economic opportunities in the community, quality education, employment benefits, income potential, and access to affordable financial services, contribute to the financial well-being for individuals and families (CFPB, 2016a). The Consumer Financial Protection Bureau (2015; 2018) proposed that financial knowledge, financial behavior, and the financial situation all influenced a person's financial well-being. However, the ability to manage money is also influenced by a person's access to financial resources (Atkinson et al., 2016; Sherraden, 2013). Some college students may have greater perceived financial well-being due to their familiarity and experience with financial resources such as credit cards. Danes (1994) noted that parents can provide young adults with the opportunity to engage in financial transactions. However, during college, some parents remain instrumental in the financial decisions and behaviors of their college students because they provide the money for expenses or monitor their children's financial transactions, while other parents may not be able to do so or are not as involved in their children's financial decisions (Tran, Lam, & Legg, 2018). Improving college students' financial capability (i.e., knowledge, access to financial resources, attitudes, and behaviors) and their satisfaction with and perceptions of control over their financial situation are likely to also improve their financial well-being (Heckman, Lim, & Montalto, 2014).

Many young adults, and specifically college students, lack financial experience, knowledge, or resources to manage their finances. When in financial need, some young adults may turn to alternative financial services, such as payday loans, check cashing, and pawn shops, for help in managing their financial situation. Researchers have found that use of alternative financial services is more common among low-income areas and used by those who are un- or under-banked or lack adequate credit to manage their personal finances in more traditional ways (Burhouse, et al., 2015; Fowler, et al., 2014; Prager, 2009). As part of the financial socialization process, some students, particularly those with minority, low-income, and first-generation status, may have observed their parents using such services and consider them viable options for themselves and their financial situation. However, these students may not recognize the potential harm such alternative financial services may inflict upon their long-term financial well-being. Hamilton (2013) also noted that parents with a college degree are more likely to plan for their own children's college education by making necessary financial decisions to help their children succeed in college while avoiding student loan debt. Unfortunately, not all parents are in a financial position to pay for their children's education, placing these students at risk for taking on student loan debt. Therefore, it is likely college students with limited financial knowledge and abilities; more materialistic views or compulsive spending behaviors; or a lack access to financial resources may experience lower levels of financial well-being than students not exhibiting these characteristics.

Therefore, the second study integrated the Consumer Financial Protection Bureau's (2018) financial well-being model with Sherraden's (2013) financial capability model to explore the relationships between financial well-being, financial knowledge and skills (i.e., applied knowledge), financial attitudes (i.e., materialistic views), compulsive spending behaviors, and access to financial resources (i.e., number of traditional bank accounts, credit card usage, and alternative financial services usage). This study also explored whether these relationships differed among college students identifying as minority, low-income, or first-generation students, as compared to those not identifying with these characteristics.

Definitions

To ensure continuity throughout each of the two manuscripts described below, the following terms and definitions were used within this dissertation research.

Access to financial resources: Access to financial resources was defined as usage of traditional banking systems, such as acquiring, possessing, or maintaining a financial service (i.e., checking or savings account, credit card, student loan), which services provide individuals with opportunities to make financial decisions (Burhouse et al., 2015).

Alternative financial services: Alternative financial services are services provided outside of traditional banking institutions (which institutions are usually insured by the Federal Deposit Insurance Corporation). These services may include payday loan providers, who use the next paycheck as collateral to advance cash to a customer; check cashing services, who charge a percentage or flat fee for cashing a check; and pawn shops, which allow individuals to surrender personal property as collateral in exchange for cash (Burhouse et al., 2015; Fowler et al., 2014; Prager, 2009).

Financial actions: Financial actions represented the financial behaviors engaged in by college students, such as budgeting, saving, or managing credit (Gudmunson & Danes, 2011). Specifically, the current dissertation research examined financial management behaviors, compulsive spending behaviors, and the amount of money saved.

Financial attitudes: Financial attitudes were defined as the subjective perception of people's financial situation and the feelings and emotions they have regarding money and its usage (Borden et al., 2008). These financial attitudes also represented personally held beliefs about the importance of money, its management, and the financial decision-making process (Atkinson, 2006; Olive, 2013). The current dissertation research examined financial attitudes as a reflection of participants' perceived understanding of their financial knowledge (i.e., a subjective assessment of one's financial knowledge; Xiao, Serido, & Shim, 2012), their perceived financial management abilities, and their materialistic views (i.e., the importance of acquiring material goods and their meaning; Richins & Dawson, 1992).

Financial capability: Financial capability was defined as the knowledge of how to best manage money, a favorable attitude towards putting that knowledge into practice, and having the means (i.e., financial access) to perform financial actions (i.e., financial behaviors) that enable a person to achieve their financial goals (Atkinson et al., 2006).

Financial inclusion: Financial inclusion was defined as access to financial products and services that are "appropriate, accessible, affordable, financially attractive, easy to use, flexible, secure, and reliable" (Sherraden, 2013, p. 14). These products and services are usually offered within the realm of traditional banking services as opposed to alternative financial services.

Financial socialization: Financial socialization represented the transmission of financial values, attitudes, standards, norms, knowledge, and behaviors through parent-child interactions that contributed to the financial well-being of college students (Danes, 1994). This socialization was measured by direct and indirect means.

Financial knowledge: Financial knowledge was defined as a general understanding of financial concepts (e.g., savings, credit, insurance and taxes) and the ability to recall these concepts (Gudmunson & Danes, 2011; Mandell & Klein, 2009). It also represented an objective measure of financial knowledge, in which participants either demonstrated the correct understanding of a financial concept or they did not.

Financial well-being: Using the definition used by the Consumer Financial Protection Bureau (2015), financial well-being was defined as control over finances, the capability to absorb a financial shock, having the ability to meet financial goals, and having the financial freedom to make the choices that allow individuals to enjoy life.

Research Questions and Objectives

The overall purpose of this dissertation study was to explore whether the relationships between personal characteristics (i.e., attachment, locus of control, and self-esteem), financial socialization, the dimensions of financial capability (i.e., financial knowledge, access to financial resources, attitudes, and action), and financial well-being differed among college students self-identifying as minority, low-income, or first-generation (i.e., focal group), as compared to those who do not (i.e., comparison group). These relationships were explored through the execution of two studies. The purpose of study one was to investigate whether financial socialization mediated the relationships between personal characteristics and a multi-dimensional construct of financial capability among college students. The purpose of study two was to explore the influence of financial capability and usage of alternative financial services on the financial well-being of college students. To do so, a comprehensive review of the literature is presented in the following chapter (chapter two), followed by each research study presented as Manuscript One (chapter three) and Manuscript Two (chapter four). Following these two manuscripts, a conclusion of the overall dissertation study, implications, limitations, and directions for future research are presented (chapter five).

The first manuscript (chapter three) built upon and expanded existing research of financial socialization by exploring five key research questions:

(1) How do personal characteristics (i.e., attachment, locus of control, and self-esteem) influence multiple dimensions college students' financial capability (i.e., knowledge, access to financial resources, attitudes, and actions)?

(2) How do personal characteristics of college students influence the financial socialization process?

(3) How does the financial socialization process influence multiple dimensions of college students' financial capability?

(4) Does the financial socialization process mediate the relationships between personal characteristics and financial capability?

(5) How do these relationships between personal characteristics, financial socialization, and financial capability differ for minority, low-income, or first-generation college students as compared to their more affluent peers?

The second manuscript (chapter four) built upon and expanded existing research on the financial well-being of college students by addressing two key questions:

(1) What are the relationships between financial well-being, financial knowledge and skills (i.e., applied knowledge), financial attitudes (i.e., materialistic views), compulsive spending behaviors, and access to financial resources (i.e., number of traditional bank accounts, credit card usage, and alternative financial services usage)?

(2) How do these associations differ among college students *not* identifying as minority, low-income, or first-generation students, those identifying as minority, low-income, *or* first-generation college students, and those identifying as minority, low-income, *and* first-generation college students?

Significance of the Current Dissertation Study

The two studies in this dissertation research contribute to the body of existing knowledge by examining financial capability through the financial socialization process (study one) and the role of financial capability and alternative financial services on the financial well-being of college students (study two). The novel approach in both studies is the comparison of minority, low-income, or first-generation student status to students not identifying with these characteristics and the influence of this status on college students' financial capability and financial well-being. It is hoped this information can help colleges and universities to better meet the needs of their students by incorporating these findings into financial education programs, classroom programs, apps, seminars, workshops, and individual and peer counseling services already available on many campuses (Durband & Britt, 2012; Eichelberger et al., 2017).

Financial education programs can also benefit from a greater understanding of how parents play a role in the development of financial capability and well-being. These programs can then use this understanding to develop parent education programs that can assist parents in teaching their children about finances. Through family focused financial education, parents can build their own and their children's financial knowledge and acquire best financial management practices relevant to their circumstances (Serido & Shim, 2014; 2017). When children and young adults learn about finances by observing and then mimicking their parents' financial behaviors, they may lack an understanding of the *whys* behind these behaviors. Without understanding the reason for why such behaviors are beneficial, they may unintentionally develop poor financial management behaviors (Jorgensen & Savla, 2010; Jorgensen et al., 2016), and ultimately negatively impact their financial well-being. With this knowledge, parent financial education programs can assist parents in identifying financial strategies that help them to teach their children more directly about finances and financial behaviors. When parents understand the development of healthy positive financial management behaviors begins in early childhood and financial conversations in the home need to be ongoing (Danes, 1994), they may be more inclined to take an active role in teaching their children. Parents can build the financial capability of young adults through the financial socialization process when they exhibit behaviors such as seeking reliable sources of financial assistance when they lack understanding or are unsure of how to proceed in a financial situation. Parents who view and demonstrate that their financial situation is manageable can influence the attitudes and behaviors of their children when they are willing to seek help themselves in order to avoid financial pit-falls (Jorgensen et al., 2016). Children and young adults can also build positive self-esteem and confidence in addressing their personal finances that can carry over into later financial situations that may arise.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

College is a time of transition for many young adults. It is also the first-time many college students will have been away from home and the financial supervision of their parents. During this time, students will begin to explore how they will manage their finances beyond college. While many college students successfully manage their personal finances, other students may not be able to keep up with their financial obligations and are at greater risk of misusing credit cards or student loans (Shim et al., 2009). For some college students, financial inexperience, lack of financial education, or social pressure may influence their financial behaviors, including maxing out credit cards and over-spending (Roberts & Jones, 2001).

Most college students' basic understanding of finances, their abilities to develop and accomplish financial goals, and to make financial decisions are influenced by their parents and how their parents communicated about finances in the home, through what is referred to as the financial socialization process (Jorgensen et al, 2016). Because many college students are developing the skills needed to manage their financial situation, many rely on the financial behaviors they learned and observed in the home in determining how to manage similar financial situations (Jorgensen & Savla, 2010). Jorgensen and Savla (2010) found how parents communicated about finances in the home was related to college students' financial attitudes and behaviors, specifically, parental influence had an effect on the financial behaviors and financial attitudes of college students. However, some college students may not have experienced financial socialization in the home. Some college students may be unsure as to how to conduct financial transactions that can help them during college or may lack the financial knowledge and skills needed to manage their financial situation.

The Consumer Financial Protection Bureau (2018), suggested financial actions require financial knowledge so individuals can select and utilize their financial resources in ways that support their financial goals. For example, if someone believes having the latest or most goods will provide them with status, they may develop materialistic attitudes towards goods they believe are important or may overextend their finances to acquire goods (Richins & Dawson, 1992). The ability to act on knowledge also requires the opportunity to act or financial inclusion, which Sherraden (2013) describes as access to financial products and services that are "appropriate, accessible, affordable, financially attractive, easy to use, flexible, secure, and reliable" (p. 14). Thus, managing one's finances is a complex task that requires a multi-dimensional approach that examines the interrelated nature of financial knowledge, access to financial resources, financial attitudes, and financial actions. As such, within this study, this multi-dimensional concept is referred to as financial capability (Atkinson et al., 2006).

Financial Capability

The terms financial knowledge, financial literacy, and financial capability have been used interchangeably in existing research studies (e.g., Atkinson, et al., 2007; Jorgensen & Savla, 2010; Sherraden, 2013). Financial knowledge generally refers to an objective measure of financial concepts (e.g., savings, credit, insurance and taxes) and the ability to recall those concepts (Gudmunson & Danes, 2011; Mandell & Klein, 2009). However, research findings have shown high school and college students' financial knowledge to be lacking, with scores ranging between 45% and 60% of questions answered correctly (Butters, Asarta, & McCoy, 2012; Mandell, 2008). The term financial literacy thus emerged as a concept which could explain why some youth and young adults possess greater financial knowledge than others.

Financial literacy was defined in the Jump$tart Coalition's 2008 survey as the ability to use knowledge to manage financial resources (Mandell, 2008). Other financial educators adopted the term financial literacy as a tool for determining changes in financial knowledge and how this financial knowledge was applied to financial decisions (Durband & Britt, 2012; Johnson & Sherraden, 2007). However, increasing someone's financial knowledge without the ability to apply the information may not improve financial management behaviors. For example, the Jump$tart Coalition's survey revealed college seniors possess higher levels of financial knowledge than freshman college students (65% *vs*. 59%), yet some of these students continued to engage in risky financial behaviors, such as never balancing a checkbook (32.8%), having inadequate savings (27%), and increasing their credit card use (increased from 14.2% to 17.4%) after their first-year in college (Mandell, 2008). College students may understand the terms and conditions of a credit card (i.e., financial knowledge), but they may still make purchases they cannot afford (i.e., financial behaviors). While making the monthly payments on time and in full can be considered a responsible personal money management behavior (CFPB, 2016a), the misuse of credit cards among college students may become a risky and costly financial behavior over time (Hancock, Jorgensen, & Swanson, 2013).

Because financial knowledge and literacy do not always lead to better financial management behaviors, the term financial capability emerged in the literature to better reflect the interconnected nature between financial knowledge, application of that knowledge, and financial behaviors (Atkinson et al., 2006). Furthermore, engaging in financial behaviors may require an individual to have a favorable attitude towards a financial practice that may be new to them. Therefore, Peng et al. (2007) described financial capability as the financial knowledge, practical financial experience, and favorable attitudes needed to conduct financial transactions.

While financial knowledge and attitudes influence someone's financial behaviors, the ability to manage finances (Mandell, 2008) also includes an element of control over the financial decision-making process (Johnson & Sherraden, 2007). Unfortunately, some financial behaviors may be hindered in the absence of access to financial resources, which could result in riskier money management behaviors, such as using cash advance loans for quick cash, not realizing they may involve high interest rates. Atkinson and colleagues (2006) noted this need for control over financial decision-making and access to financial resources when they defined financial capability as the ability to manage money (i.e., keep track and live within their means), plan ahead, choose financial products, and stay informed. Therefore, access to financial resources is also an important consideration when thinking about the concept of financial capability (Johnson & Sherraden, 2007). Based on earlier research findings and these conceptualizations of financial capability (Atkinson et al., 2006; Johnson & Sherraden, 2007; Mandell, 2008, Peng et al., 2007), financial capability is best conceptualized in the current dissertation study as a multidimensional and interdependent construct including financial knowledge, access to financial resources, attitudes, and actions (Olive, 2013). As such, this study examines financial knowledge as the financial terms a person can recall, whereas financial capability reflects the multi-dimensional approach suggested by Olive (2013).

Theoretical Framework

The current dissertation research investigated the way in which college students' personal characteristics (i.e., attachment, locus of control, and self-esteem) and the financial socialization process influenced their financial capability (i.e., financial knowledge, access to financial resources, attitudes, and actions; Manuscript 1). Furthermore, this dissertation research explored how financial capability and usage of alternative financial services influenced college students' financial well-being (Manuscript 2). To conduct this research, several frameworks, including the Gudmunson and Danes' (2011) conceptual family financial socialization framework (Figure 1), Sherraden's (2013) financial capability model (Figure 2), and Olive's (2013) multi-dimensional financial capability model (Figure 3) were combined to develop and test a new conceptual financial socialization model (Figure 4).

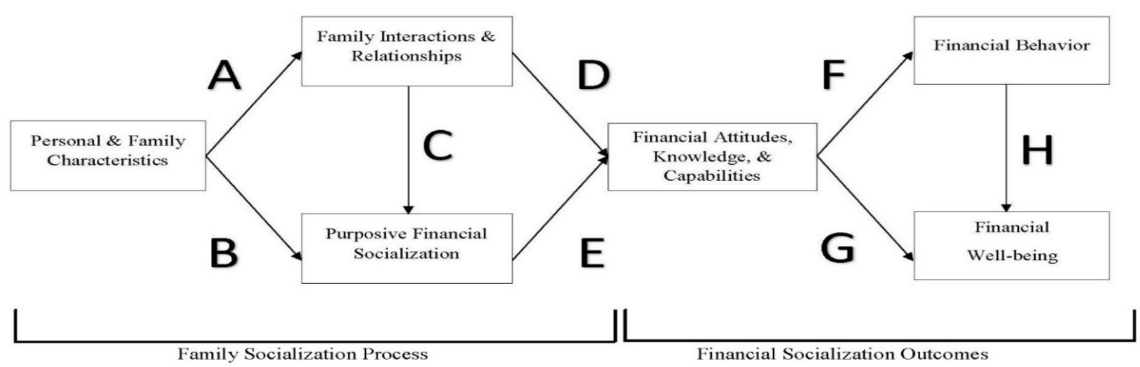

Figure 1 Conceptual Model of Family Socialization (Gudmunson & Danes, 2011).

This illustration represents the relationships between personal and family characteristics, family socialization processes, financial capabilities, and financial well-being.

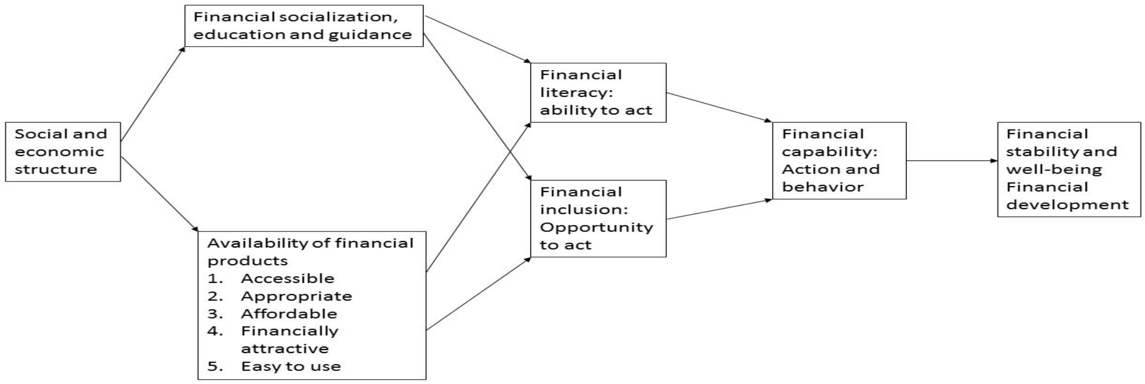

Figure 2 Sherraden's (2013) Financial Capability Model

This schematic illustrates the necessity of including access to financial resources in promoting an individual's financial well-being.

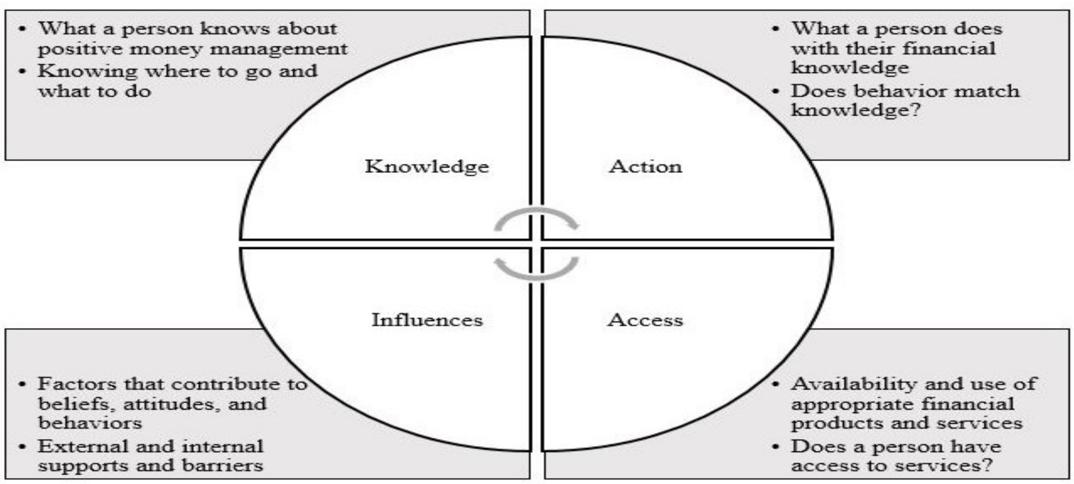

Figure 3 Four Dimensions of Financial Capability (Olive, 2013)

This illustration demonstrates the multi-dimensional financial capability outcome proposed by Olive (2013). Note the inclusion of access to financial resources per Johnson and Sherraden's (2007) recommended approach.

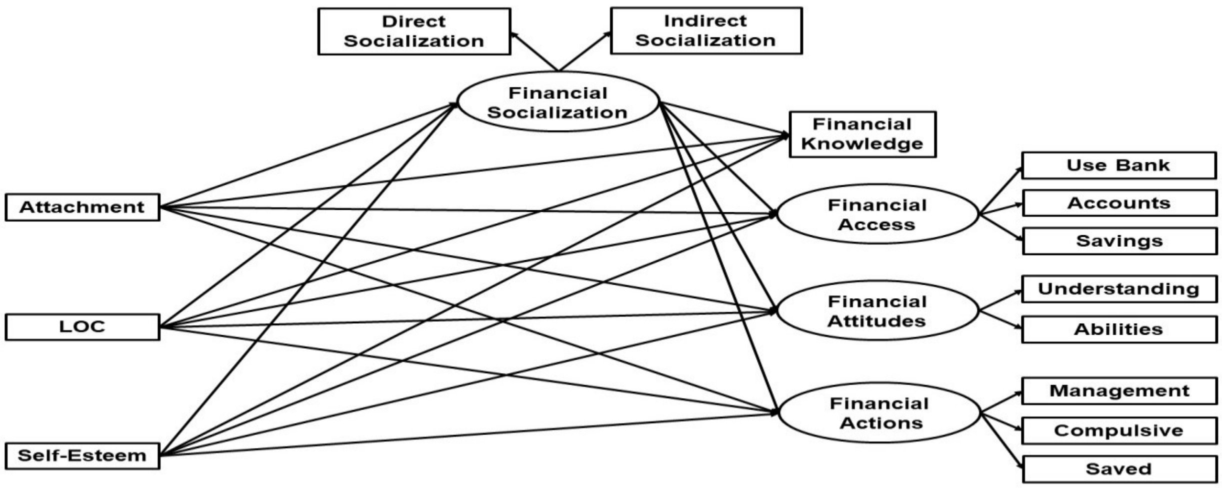

Figure 4 Proposed Conceptual Financial Socialization Model

Development of the new conceptual financial socialization model

Gudmunson and Danes' (2011) conceptual model of family financial socialization illustrates financial behaviors and well-being as outcomes of financial socialization. Specifically, this model depicts that personal and family characteristics influence the types and quality of interactions and relationships within the family and the financial socialization process. These factors then influence the financial knowledge and attitudes of individuals, which influence their financial behaviors and their overall financial well-being.

However, this conceptual model does not consider access to financial services. Sherraden (2013) contended that without access to financial resources, financial behaviors are severely limited, which limitations threaten an individual's financial stability and financial well-being. For example, individuals may have financial knowledge, such as understanding how compound interest works, but if they do not have a bank account or resources to invest, their opportunities to take advantage of compound interest is limited. It is for this reason that Johnson and

Sherraden (2013) suggested that financial capability needs to include the ability to act on available financial knowledge *and* the opportunity to act with access to financial services.

Olive (2013) also recognized the importance of including access to financial resources within the concept of financial capability. However, Olive (2013) also disputed that financial knowledge, attitudes, or access to financial resources predicted any single outcome (e.g., financial behaviors, stability, well-being) within a step-by-step process. Rather, Olive argued these factors were all interrelated and that a multi-dimensional concept of financial capability was needed to explore how financial capability can be developed.

To explore the relationships between financial knowledge, attitudes, and behaviors, Jorgensen and Savla (2010) examined the role of parents, and found that through the financial socialization process, parents transmit their own financial values, attitudes, standards, norms, knowledge, and behaviors to children. Their findings revealed that through parent-child interactions, some of the financial knowledge, attitudes, and behaviors of college students were influenced by the quality of parent-child financial interactions and their own outlook on their financial situation (Jorgensen & Savla, 2010). Following Gudmunson and Danes' (2011) conceptual model (Figure 1), the current research proposed a new conceptual model of financial socialization which included Sherraden's (2013) inclusion of access to financial resources (Figure 2) within a multi-dimensional outcome of financial capability (Figure 3), as proposed by Olive (2013). The current dissertation research used this new conceptual model (Figure 4) to explore whether the financial socialization process by parents mediated the relationships between personal characteristics and the multi-dimensional conceptualization of financial capability among college students.

Personal Characteristics

Personal characteristics (i.e., attachment, locus of control, and self-esteem) of college students influence the development of financial capability through the financial socialization process in the family of origin. Studies have demonstrated the benefits of utilizing preventive and proactive problem-solving strategies for improved financial competence and well-being among emerging adults. For example, young adults receiving financial information from their parents are more likely to save and budget (Serido et al., 2010). Furthermore, when emerging adults, such as college students, perceive they can talk with their parents about financial topics, they tend to exhibit higher levels of financial competence (Jorgensen et al., 2016; Serido et al., 2010; Shim et al., 2010). The ability of college students to engage in open and supportive financial discussions with their parents may be influenced by the trust (i.e., attachment) these students developed through parent-child financial interactions, their feelings of control they have over their financial situation, and their level of self-esteem.

Attachment

Ainsworth (1978) and Bowlby (1982) described attachment as the bond that develops between infants and their primary caregiver. This bond represents the first and most influential interpersonal relationship developed in a child's early life and remains influential throughout childhood and into adulthood. This bond is developed based on the warmth and responsiveness of the caregiver to an infant's (and later child's) needs. For example, when an infant cries, it is experiencing discomfort of some kind and is seeking the security and comfort of the caregiver. When the caregiver responds with warmth and is engaged with the infant, the infant begins developing an expectation of similar responses over time. With repeated warmth and responsiveness in meeting an infant's needs, a secure attachment, or a positive parent-child relationship, is developed, which carries into later childhood as social competence and self-control (Richters & Waters, 1991). However, when the infant cries and the caregiver does not respond or responds with a lack of warmth and engagement, or an inconsistent manner, the infant develops an expectation of uncertainty, which reflects an insecure attachment, or a less-positive parent-child relationship, characterized by greater levels of anxiety and antisocial behaviors (Bartholomew & Shaver, 1998). Throughout childhood, this early attachment influences interactions with other people. In childhood, securely attached children exhibit more pro-social characteristics, such as the ability to share with, being sociable and attentive towards peers and adults (Richters & Walters, 1991). On the other hand, children with insecure attachment exhibit greater anxiety and antisocial behaviors, as they may become anxious towards others or push them away (Richters & Waters, 1991).

These early childhood attachments with parents also influence attachment patterns in adult relationships (Bartholomew & Shaver, 1998). Bowlby (1982) suggested that from this early attachment, people develop “scripts” or expectations about interactions within other relationships. A secure person is more likely to believe that when he or she seeks help from someone else, that person will be there to help (Fraley, 2018). As a result, this person is more likely to seek out relationships and reach out when help is needed. An insecure person is more likely to believe he or she cannot rely on other people or may feel uncomfortable when having to rely on people (Fraley, 2018). Under these circumstances, an insecure person may forego relationships or may seek alternative sources of social support (Bartholomew & Shaver, 1998).

Within the realm of financial socialization, Jorgensen and colleagues (2016) noted this parent-child bond is the most important influence on financial socialization efforts. Following Jorgensen et al.’s (2016) lead, attachment is used in the current study as an indicator of the parent-child relationship as well as a proxy measure for willingness to seek out support when dealing with financial problems. Seeking social support in the form of financial advice from parents, peers, or academic programs may suggest college students have a secure attachment and are likely engaging in more proactive problem-solving behaviors when dealing with current financial problems or to prevent future financial problems (Serido et al., 2010). Students characterized as securely attached may recognize they have a trusted and comforting source they can turn to for support when needed, and that source can help guide them through financial issues (Hamilton, 2013). On the other hand, those without secure attachment may engage in more passive problem-solving behaviors (Jorgensen et al., 2016; Serido et al., 2010). College students without secure attachment may not seek financial advice and support from parents, peers, or campus financial resource centers, despite those resources being available (Britt et al., 2011). For example, Jorgensen et al. (2016) found students with an insecure attachment engaged in less financial communication than students with secure attachment. For some college students, if they do not feel supported or know their parents are not in a position to help, they may not bother to address financial issues, despite a need for help (Luhr, 2018).

Locus of control

An individual with more financial literacy is more likely to use that knowledge to make sound financial decisions (Huston, 2010). However, the ability to recall this knowledge and to translate it into positive problem-solving financial strategies can be influenced by the perceived control individuals have over a financial situation. Rotter (1975) conceptualized locus of control along two dimensions, internal and external. According to Rotter (1975), internal locus of control refers to an individual's perception that they have control over their situation, while external locus of control is a perception that the situation is outside of one's control. Boss (2002) noted when people perceive control over a situation, they tend to be more pro-active about addressing that issue, in the context of finances that may include seeking out financial advice from parents. People with an internal locus of control feel that their efforts will result in a positive outcome despite the circumstances. However, when people perceive no (or little) control over a situation, they tend to develop a more helpless or hopeless perspective of the issue, meaning they may accept the outcome, whatever it may be. Those with an external locus of control may adopt passive coping strategies, in the context of finances this may include ignoring bank statements, making only minimum payments, or past due notices.

Financial skills, including budgeting, saving, and controlling one's spending, can also be influenced by an individual's perceived control over their financial outcomes (Perry & Morris, 2005). Among college students, those who are internally driven believe they have control over their finances, while those who are externally driven believe their finances are influenced by luck, chance, fate, or others (Britt et al., 2013; Jorgensen et al., 2016). College students with an internal locus of control are more likely to develop financial knowledge and skills and use such knowledge and skills to improve their financial situation (Perry & Morris, 2005), such as limiting the amount of student loan debt they acquire during college and paying off that debt as quickly as possible. On the other hand, college students with an external locus of control may view debt as a necessity to pay for school and not worry about the amount of debt they are carrying or how to pay that debt off in the future (Britt et al., 2013).

Self-esteem

This study includes self-esteem as a variable of interest because having a positive view of oneself may be essential for individuals when managing their finances (Tang & Baker, 2015). Rosenberg (1965) defined self-esteem as "a positive or a negative attitude towards the self" (p.

30), where individuals think of themselves as a good person or better at certain tasks or activities compared to others. According to Rosenberg (1965), those with high self-esteem respect themselves, recognize their imperfections, and seek to strengthen their imperfections, while those with low self-esteem experience dissatisfaction, self-contempt, and rejection from others by whom the individual values or seeks acceptance.

Positive or negative attitudes towards self may also influence a college student's ability to manage life events (i.e., graduating high school, going to college) and transitions (i.e., being away from home, forming new peer groups). Pearlin et al., (1981) further noted that life events and stress can have a negative effect on self-esteem because it may cause the individual to doubt themselves, but social support and coping strategies can reduce these negative feelings. Self-esteem can further influence the decision to seek out additional sources of social support or financial information (i.e., knowledge), which can be used to make better financial decisions. Tang and Baker (2015) found that college students with positive self-esteem sought financial knowledge and were more likely to adopt positive financial management behaviors. On the other hand, those with negative self-esteem were less likely to be involved in their finances and did not actively engage in saving (Tang & Baker, 2015). Additionally, those with negative self-esteem have also been found to be more likely to engage in compulsive buying behaviors (Yurchisn & Johnson, 2009).

Self-esteem is therefore an important factor to consider when examining the development of financial capability among college students. Yet, self-esteem within the context of financial socialization of college students has not yet been examined. Self-esteem can influence the acquisition of financial knowledge, financial attitudes towards saving, financial management behaviors, and whether students seek out support when needed (Tang & Baker, 2015; Yurchisn

& Johnson, 2009). Because parents are common sources of social support and financial knowledge, they can become important resources for financial decision-making during college. However, students' levels of self-esteem and previous experiences with their family may influence whether they approach their parents when needing help. Baumrind (1991) suggested when adolescents perceive their parents loved, cared for, and supported them, they developed higher self-esteem and were more likely to possess an internal locus of control. Furthermore, when students believe parental support and involvement reflect approval and trust, they develop further positive self-esteem and a willingness to seek their support (Whitbeck et al., 1991).

Financial socialization

Not only do parent-child interactions help children and adolescents to develop a positive self-esteem and an internal locus of control (Baumrind, 1991; Whitbeck et al., 1991), but they also help children and adolescents to learn about finances. Children acquire financial knowledge, attitudes, beliefs, and practices from their parents, reflecting the financial socialization process (Danes, 1994). Parents also function as gatekeepers for the financial information they determine is necessary for their children to have and the timing for when their children are ready to acquire this knowledge (Danes, 1994; Danes & Dunrud, 1993; Perry & Morris, 2005). Some parents are proactive in the financial socialization process, believing the early development of important money management practices (e.g., budgeting, education loans, credit, and taxes) will help prepare their children for the "real world" (Jorgensen et al., 2016). However, other parents may delay until children attend college, believing they do not need this information prior to this point.

On today's college campuses, some parents remain heavily involved and integral in the decision-making processes of their college student's finances and academic careers (Durband & Britt, 2012). However, other parents remain less involved. The presence or absence of parental support during the college years can influence a young adult's ability to settle into their adult roles, especially the achievement of financial independence from their parents (Arnett, 2000). Furthermore, existing research has also shown inexperience in or an inability with managing multiple responsibilities, such as social, academic, and financial demands, can negatively impact academic performance (Britt et al., 2011; Britt et al., 2013). Yet, early involvement in family financial decision-making is important in the development of financial independence from parents (Durband & Britt, 2012).

Financial independence from parents has been identified as an important marker of adulthood (Arnett, 2000), yet many parents fully support their children's college education. By financially supporting young adults during college, some parents may believe they are sparing their college students the financial burden and stress associated with paying for a college education or subsequent student loans (Durband & Britt, 2012). However, these parents may be inadvertently hindering their academic achievement and development of financial capability. Hamilton (2013) further observed parental financial support can create an educational disincentive, as students may be willing to accept a lower grade point average or take longer to complete a college degree. Freeing college students from financial responsibilities may also lead some college students to not monitor their spending and not save money on a consistent basis, which may lead to overspending and acquiring unnecessary debt while in college (Hamilton, 2013). Serido and colleagues (2010) demonstrated that the presence of financial resources in the family-of-origin can reduce financial distress, but it can also delay the development of financial competence among emerging adults.

Although parent's function as financial gatekeepers for their children (Danes, 1994; Perry & Morris, 2005), college students consume products and services as social beings (Hayhoe, 2000; Jorgensen & Savla, 2010; Jorgensen et al., 2016; Pinto, Parente, & Mansfield, 2005). The decision-making process to consume can be initiated by social triggers (Solomon, 2015), such as the pressure to fit-in, to achieve higher status, or to maintain a specific image while in college. Even parents may feel pressured to subsidize a specific lifestyle in the hopes that the additional financial investments in academics and extracurricular activities (e.g., study abroad, Greek life, and social clubs) will provide additional career opportunities to their children (Hamilton, 2010).

Dimensions of financial capability

Johnson and Sherraden (2007) described financial capability as the ability and opportunity to act as individuals need both financial knowledge and adequate access to financial resources to conduct transactions that can influence their financial well-being. Financial capability is conceptualized in the current dissertation research as a multidimensional and interdependent construct including financial knowledge, access to financial resources, attitudes, and actions (Figure 3 & Figure 4; Olive, 2013).

Financial knowledge

The first dimension of financial capability is financial knowledge. In the current study, financial knowledge was defined as a general understanding of financial concepts, such as savings, credit, insurance, and taxes, and the ability to recall these concepts (Gudmunson & Danes, 2011; Mandell & Klein, 2009). This general understanding is measured as an objective measure of financial knowledge, responses are either correct or incorrect (Xiao, Serido, & Shim, 2012). Researchers have demonstrated that high school and college students possess relatively low levels of objective measures of financial knowledge (Butters, Asarta, & McCoy, 2012; Jorgensen et al., 2016; Mandell, 2008; Mandell & Kelin, 2009). However, despite these relatively low levels of objective financial knowledge (scores ranging from 45% to 60%), improving students' financial knowledge remains a primary focus of financial education efforts (Mandell & Klein, 2009), as this knowledge can influence the financial decision-making process.

Access to Financial Resources

The second dimension of financial capability is access to financial resources. The completion of a college degree is influenced by students' financial knowledge, their decision-making ability regarding managing living and educational expenses, and access to financial resources to pay for their expenses (Eichelberger, Mattioli, & Foxhoven, 2017; Johnson & Sherraden, 2007). Familiarity with the language used in complex financial aid forms, knowledge regarding federal, state, or university financial aid programs, and understanding terms and conditions in educational loans may prevent risky financial behaviors, such overspending and excess borrowing (Durband & Britt, 2012). As such, students, especially first-generation college students, may need additional help navigating the financial aid process when their parents or peers are also unfamiliar with them or when they are unfamiliar with sources of financial knowledge (Durband & Britt, 2012; Eichelberger, Mattioli, & Foxhoven, 2017).

When financial resources are limited, access to financial institutions and their services are needed to secure enough resources to provide a pathway to higher education. Sherraden (2013) noted inexperience with financial services can impact underrepresented populations due to misconceptions about college costs and affordability. The ability to borrow and manage personal finances during college may require access to financial services, such as sharing a bank account or credit card with a parent or guardian (Durband & Britt, 2012). Studies have noted that some individuals use different combinations of strategies, including a mixture of conventional banking services (e.g., bank accounts, credit cards) with alternative financial services (e.g., payday loans) to achieve their financial goals (Barr, 2008). Some people may also rely on alternative financial services to meet their cash management and credit needs. For example, some people may rely on cash-only transactions that do not warrant usage of traditional banking (Birkenmaier & Fu, 2016). For others, alternative financial services are the only credit they can access, due to lacking adequate credit worthiness (Birkenmaier, Curley, & Kelley, 2011). Finally, cultural aversion to debt among minority and low-income populations may prompt them to avoid traditional banking and rely on alternative financial services (Eichelberger, Mattioli, & Foxhoven, 2017). Some research has shown alternative financial services are more common among un- and under-banked populations and within low-income areas, especially where traditional banking services are limited (Burhouse et al., 2015; Fowler et al., 2014; Prager, 2009). Whether banking services are traditional, such as checking accounts and savings accounts, or non-traditional, such as alternative financial services (i.e., payday loan providers), these services can assist people, especially college students in managing their personal finances (Barr, 2008). However, if someone does not understand the terms and conditions of these services, they may unintentionally harm their financial situation and overall financial well-being.

Financial attitudes

The third dimension of financial capability is financial attitudes. In the current study, financial attitudes represented people's subjective perceptions of their financial situation and the feelings and emotions they have regarding money and its usage (Borden et al., 2008). Financial attitudes also represent personally held beliefs about the importance of money, its management, and the financial decision-making process (Atkinson, 2006; Olive, 2013). Jorgensen and Savla (2010) found the financial attitudes of college students mediated the relationship between financial knowledge and behaviors, such that, college students are more likely to utilize information they consider to be important to them. The importance students place on financial knowledge may be influenced on how familiar they are with these concepts and whether or not they consider this information to be pertinent to their financial situation (CFPB, 2015; 2018).

Using previous research findings (e.g., Gudmunson & Danes, 2011; Jorgensen et al., 2016), the current dissertation research examined financial attitudes as a reflection of participants' perceived (i.e., subjective) understanding of their financial knowledge, their perceived financial abilities, and their materialistic views.

Perceived Understanding of Financial Knowledge

The current study relied on an objective measure of financial knowledge, which measured a general understanding of financial concepts (e.g., savings or credit) and the ability to recall these concepts (Gudmunson & Danes, 2011; Mandell & Klein, 2009) and participants' *perceived* understanding of financial knowledge. The inclusion of a subjective measure of financial knowledge follows the findings from Xiao and colleagues (2012) where college students may evaluate their subjective financial knowledge as being higher than their objective financial knowledge. Young adults may believe they have more objective financial knowledge because they have life experiences from earning wages (Mandell, 2008), experience from balancing their expenses to meet their financial obligations (Financial Literacy and Education Commission, 2015), parents who instruct them on how to manage their finances (Danes, 1994), or college coursework that teaches them how to make financial transactions (Durband & Britt, 2012). On the other hand, parents monitoring or controlling their college student's personal finances may limit their understanding of why financial transactions are important (Jorgensen et al., 2016). Having a higher perceived financial knowledge may provide students with greater feelings of control over their financial situation as well as greater confidence in managing their financial responsibilities currently and in the future. However, if students overestimate their level of financial knowledge, they may not believe they need to learn more, which may lead them to make poor financial decisions because they did not fully understand what they were doing.

Perceived Financial Abilities

The attitudes someone has towards a financial behavior will often influence whether that person engages in the behavior and the level of satisfaction they perceive from engaging in the behavior. For example, Mandell (2008) noted some students may not be accustomed to keeping a budget or come from households where budgeting was not practiced. As a result, they may not engage in this behavior because they do not understand the need or value of creating a budget and tracking expenses. Furthermore, these students may become uncomfortable when called upon to create and follow a budget. On the other hand, Serido and colleagues (2010) noted when college students understand money management practices, such as budgeting, as being important, they are more likely to spend within the budget parameters and actively save money.

Personal and family financial management preferences may also provide meaning and purpose to financial decisions (CFPB, 2015). For example, some students may continue to rely on their parents to manage their day-to-day finances and make financial decisions for them (Pinto, Parente, & Mansfield, 2005). These students may become very uncomfortable when required to make their own financial decisions and experience anxiety when thinking about having to manage their own finances in the future (Ehrbar, 2019). The level of financial dependence or independence young adults have from their parents is related to their perceived ability to manage their finances in the future. A recent study from The Ascent (2019), a financial news and product analysis company, reported financially *independent* millennials were far more confident in their ability to manage all aspects of their finances, less stressed about finances, felt more mature, and felt more driven than financially *dependent* millennials. When parents do not allow their children to manage their finances, they may inadvertently harm their children's financial confidence, perceived abilities, and overall financial well-being moving forward.

Materialistic Views

Some college students may seek possessions, such as clothing or lifestyle choices, that are recognized as symbols of success, wealth, and overall status to develop and advance their identities (Loulakis & Hill, 2010). Richins (2004) defines this need as materialism or "the importance a person ascribes to the ownership and the acquisition of material goods to achieve a desired state" (p. 210). Those with higher materialistic views place a greater emphasis on objects and possessions that create and convey an image about themselves to others (Pinto, Parente, & Palmer, 2000). Other college students may act without realizing they hold materialistic views because they often turn to their parents when they need additional money to acquire goods or services (Hamilton, 2013; Kim & Chatterjee, 2013). Students may begin to overspend because of these materialistic views, and parents may be strengthening these materialistic views if they do not require their children to account for this extra spending.

Taken together, perceived understanding of financial knowledge, perceived financial abilities, and materialistic views reflect several attitudes college students may have towards finances. Parents play an integral, through the financial socialization process, in how these financial attitudes are developed (Jorgensen et al., 2017). Furthermore, the attitudes one holds towards finances influence their financial actions and behaviors (Jorgensen & Savla, 2010).

Financial actions

The fourth dimension of financial capability is financial actions. In the current study, financial actions referred to the financial behaviors in which college students engage. These actions included their financial management behaviors, such as controlling their spending and paying their bills on-time, and their compulsive spending behaviors.

Financial Management Behaviors

Gudmunson and Danes' (2011) family financial socialization model and researchers (e.g., CFPB, 2018; Jorgensen et al., 2016; Shim et al., 2010) have suggested financial knowledge and financial attitudes influence financial behaviors and financial well-being. Findings from studies conducted on financial management among college students demonstrate that improved financial knowledge and changes in financial attitudes are related to behavioral changes (Jorgensen & Savla, 2010; Mandell & Klein, 2009). One possible reason is that in order for college students to improve their financial situation, they may seek to better manage their finances through strategies that include creating budgets, tracking their spending, and controlling their spending (Pham, Yap, & Dowling, 2011). Effectively managing one's money involves both "living within one's means" and managing one's income to cover all expenses (CFPB, 2015). However, managing income and expenses can become complicated for many college students because their income may not be stable and their expenses may not be fixed (Durband & Britt, 2012). With more controlled spending, these students can better work with their limited income and fluctuating expenses to prioritize saving on a more consistent basis (Tang, 2016), thus establishing an emergency fund or finding extra money to save or invest for long-term goals. As students engage in these positive financial management behaviors, they will be improving not only their current financial situation, but also their financial well-being moving forward. These financial management behaviors may also reflect a level of applied knowledge, or what the Consumer Financial Protection Bureau (2018) refers to as financial skills. For example, in order to follow a budget, a person will need to know what a budget is and its purpose (i.e., financial knowledge) as well as how to create this budget and adapt it to that person's financial situation (i.e., financial skills). However, as this person follows this budget over time and refines it along the way to better fit that person's financial situation (i.e., financial behavior), that person will become more adept at the financial skill of budgeting.

Compulsive Spending Behaviors

Just as positively managing one's money can improve students' financial situation and well-being, compulsive spending behaviors can harm their financial well-being. Compulsive spending refers to the need to acquire (purchase) goods or services that alter an individual's negative mood (Pham, Yap, & Dowling, 2011). Researchers have suggested compulsive spending emerges during adolescence and early adulthood because during this time of transition, young adults have access to money along with less parental monitoring and control, thus creating an opportunity to use money to relieve negative feelings (Koran et al., 2006). Adolescents and young adults may be inexperienced in making financial decisions and take a short-term perspective regarding finances rather than a long-term perspective (Pinto, Parente, & Mansfield, 2005). These students may not realize that small purchases add up over time, leading to overspending. Furthermore, when spending money on things, they may be creating opportunity costs that limit their ability to purchase something else now or in the future. Finally, some adolescents and young adults may use money and shopping as tools to promote prestige, status, or to handle their emotions (Durband & Britt, 2012; Hanley & Wilhelm, 1992; Roberts & Jones, 2001). For example, Hanley and Wilhelm (1992) suggested some college students may spend money as a way to enhance their status and to promote peer acceptance. Some campus financial education programs have found that some college students may engage in compulsive spending when experiencing depression, anxiety, and low self-esteem (Durband & Britt, 2012). These students may engage in “retail therapy” in the hopes that buying themselves something or treating themselves will help them to feel better. However, such behaviors may lead to greater unhappiness and indebtedness, which may create additional emotional and financial problems moving forward. Fortunately, Roberts and Jones (2011) found that college students’ patterns of consumption can be altered so that new values (e.g., attitudes) and actions (i.e., behaviors) can be established. Such malleability can help to promote financial capability among college students.

Ethnic Minority, Low-Income, and First-Generation Students

Among minority, low-income, and first-generation college students, the transition to higher education and the influence of social groups may lead them to engage in consumption behaviors they hope will bring more acceptance, but may also lead to unnecessary debt (Bearden, Netemeyer, & Teel, 1989; Kropp, Lavack, & Silvera, 2005; Netemeyer, Bearden, & Teel, 1992). Some students may turn to alternative financial services, such as payday loans, pawn shops, or rent-to-own products, due to pressing financial situations (McNair et al., 2016). Minority, low-income and first-generation college students may view alternative financial services as a source of credit and viable short-term financial relief (Schuyler et al., 2018), even though such practices may lead to further debt problems (Lin et al., 2016). College students may not realize the harm of using alternative financial services due to their presence in their communities-of-origin and by observing family members use these services. As a result, they may develop accepting attitudes towards alternative financial services providers and view these services as convenient ways to manage their finances (Barr, 2008). The adoption of these attitudes may represent a pivotal role of the financial socialization experienced in the family-of-origin, which may further lead to financial behaviors that will prompt how they seek out access to financial resources among traditional banking services (e.g., bank accounts) and alternative financial services, which will influence their long-term financial well-being.

Campus financial resource centers may need to be aware of needs unique to specific groups of students, including ethnic minority, low-income, or first-generation college students, as their needs may be different from their more affluent peers. For example, cultural aversion to debt among minority and low-income populations may prompt negative feelings towards financial institutions and their services (Eichelberger, Mattioli, & Foxhoven, 2017). Inexperience in navigating higher education may also prompt the acquisition of unnecessary debt, which may become especially problematic among minority, low-income, and first-generation college students with limited financial resources to repay such debt (Lin et al., 2016). These problems are particularly pertinent to college and university campus financial resource centers as some researchers have suggested minority and low-income students are more likely to default on their student loans upon leaving school (TICAS, 2018). The more these resource centers can adapt their programming to address these specific needs, the better prepared these students will be to manage their own finances and to promote their own financial well-being moving forward.

Summary

While college programs seek to prepare college students for their professional future, there is a need to provide financial education programs to promote healthy financial management behaviors, such as budgeting, saving, and controlling spending, that can help college graduates prepare for their financial future and well-being (Durband & Britt, 2012). Several theoretical frameworks have been developed to explain how financial capability is developed (e.g., Gudmunson & Danes, 2008; Sherraden, 2013; Olive, 2013). However, to the author's knowledge, no research to date has focused specifically on comparing personal characteristics, the financial socialization process, and financial capability between ethnic minority, low-income, and first-generation college students and their more affluent peers. The current study aimed to address this gap. This gap is important to consider due to the changing demographics of college student populations, which includes a sizable increase in minority, low-income, and first-generation college students (TICAS, 2018). These students may face unique challenges that are not observable in research among student populations often consisting of While middle-class college students. Furthermore, minority, low-income, and first-generation college students may have different experiences learning about finances, including the processes used in their families-of-origin to financially socialize them. As such, examining this financial socialization process may be a significant factor in understanding the development of the dimensions of financial capability among these college students, as well as their financial well-being.

From this perspective, the current dissertation research, sought to combine several of these existing theoretical perspectives, including Gudmunson and Danes' (2011) model of family financial socialization, Sherraden's (2013) emphasis on access to financial resources, and Olive's (2013) multidimensional concept of financial capability, to explore whether the financial socialization process mediated the relationships between personal characteristics (i.e., attachment, locus of control, and self-esteem) and financial capability (i.e., financial knowledge, access to financial resources, financial attitudes, and financial access) among college students (Manuscript 1). This research also examined whether these relationships differed among minority, low-income, or first-generation college students as compared to their more affluent peers. The second manuscript (Manuscript 2) explored how financial capability and the usage of credit cards and alternative financial services influenced the financial well-being among college students. It also explored potential differences based on minority, low-income, or first-generation student status.

CHAPTER III

MANUSCRIPT ONE

Abstract

The purpose of this study was to examine whether personal characteristics (i.e., attachment, locus of control, and self-esteem) were related to the financial capability (i.e., financial knowledge, access to financial resources, financial attitudes, and financial actions) of college students and whether these relationships were mediated by the financial socialization process. Data from 851 college students from a single university in the Southeastern U.S. was used to examine whether the proposed relationships varied among college students identifying as minority, low-income, or first-generation students (focal group; *n* = 548) and those who did not (comparison group *n* = 303). Structural equation modeling was used to examine these direct and indirect relationships. Results from this study suggested among the full sample, financial socialization fully mediated the relationship between self-esteem and access to financial services, and financial socialization partially mediated the relationships between self-esteem and financial attitudes and actions. Among the focal and comparison groups, financial socialization partially mediated the relationships between self-esteem and financial attitudes and actions. Among the comparison group, financial socialization also partially mediated the relationships between locus of control and financial attitudes and actions. Findings suggests parents, through the financial socialization process, continue to play a role in the financial attitudes and actions of their college-aged children.

Introduction

The transition to adulthood has been associated with milestones, such as completing a college degree, starting a career, marriage, and home ownership (Arnett, 2000). For emerging adults (ages 18-25), many of these milestones include financial decisions, such as attending college or seeking employment, pursuing paid or unpaid internships, or paying for educational expenses. While some college bound and current college students rely on their parents for such financial decisions, others may be making financial decisions with limited or no guidance, such as filling out the Free Application for Federal Student Aid (FAFSA) forms, determining their student loan amount, or applying for an apartment lease. Factors, such as being an ethnic minority, growing up in a low-income household, or being the first in the family to attend college, may influence how college students make these financial decisions and the level of support they receive from their parents and others. Parents with knowledge of the FAFSA process may guide or fill-out their students' forms to maximize students' financial awards. Unfortunately, parents of students from minority or low-income homes, especially when parents did not attend college, may not be familiar with these processes, thus limiting the assistance they can provide their children. Inexperience or a lack of confidence with financial transactions, such as the FAFSA process, may influence how parents financially socialize their children, such as teaching their children directly about finances or shying away from such efforts. This financial socialization can influence the financial capability of their college-aged children (CFPB, 2016b).

How children and adolescents learn about finances is at the heart of the financial socialization process (Deenanath, Danes, & Jang, 2019), which represents how young adults learn how to interact with money (Jorgensen & Savla, 2010). Danes (1994) defined financial socialization as the transmission of financial values, attitudes, standards, norms, knowledge, and behaviors through parent-child interactions by parents that contribute to the financial well-being of their children (Danes, 1994). The Consumer Financial Protection Bureau (2016a) and multiple researchers have explored the role parents play in the development of financial capability among college student populations (Gudmunson & Danes, 2010; LeBaron et al., 2018; Jorgensen & Savla 2010; Serido et al., 2010). Parents are college students' most influential source of financial information, and most college students (70%) noted they routinely engage in "family chats" regarding finances (Cude et al., 2006). Researchers also suggest children are socialized through parents' modeling of financial behaviors, discussions about money, and experiential learning (LeBaron et al., 2018). Although some parents may shield their children from financial decision-making and family financial conversations, the vast majority of parents believe it is their responsibility to teach their children about finances (Romo, 2011; Rothman et al., 2011).

However, when parents lack their own financial knowledge, they may be hesitant to teach their children about financial matters (Romo, 2011). These parents may rely on or hope schools will administer financial education to their children (CFPB, 2016b). According to the Council for Economic Education (2018), only 22 states require a course related to personal finance to be offered, 17 states require students to take a course related to personal finance, and only 7 states require standardized testing on personal financial education within their High School standards. These state requirements suggest many adolescents are not getting the financial education they need at school, thus demonstrating added importance in the role parents play in teaching their children about finances and financial processes.

Even during college, parents and the financial socialization process continue to influence the development of financial capability among college students. As such, the current study was guided by Gudmunson and Danes' (2011) family financial socialization model and a multi-dimensional model of financial capability (Olive, 2013) to explore four dimensions of financial capability (i.e., financial knowledge, access to financial resources, financial attitudes, and financial actions) among college students. Previous research by Jorgensen and colleagues (2016) has shown secure attachment, an internal locus of control, and financial communication in the home influence the financial behaviors of young adults. However, these relationships where not examined among college students from ethnic and lower-income backgrounds or first-generation college status compared to students without these factors. Therefore, the current study explored whether financial socialization mediated the relationships between personal characteristics (i.e., attachment, locus of control, and self-esteem) and multiple dimensions of financial capability and whether these relationships differed for minority, low-income, or first-generation students and their more affluent peers. By identifying potential relationships between personal characteristics, the financial socialization process, and the multi-dimensional financial capability, findings may be used to guide financial education strategies aimed at improving financial well-being among all college students (CFPB, 2016b). College-based financial education programs and counseling centers can incorporate these findings into programs aimed at developing the financial capability of college students, which may lead to improved financial well-being.

Financial Socialization

Within the financial socialization process, Danes (1994) noted that parents act as gatekeepers to the financial information children and young adults receive through the parent-child interactions. Examples of this financial information may include disclosing information based on the perceived level of maturity needed to conduct specific financial transactions (e.g., opening a bank account, obtaining a credit card) and assisting young adults in shaping their financial attitudes and behaviors (Danes, 1994). Allen (2008) identified three potential techniques for socializing children about finances, including indirect financial socialization (i.e., modeling; observation or mimicking), direct financial socialization (i.e., intentionally delivered lessons), and rule-making (i.e., monitoring children's behaviors).

Indirect financial socialization processes involve parents modeling financial behaviors that children observe and mimic, such as children replicating their parent's bill paying and credit card behaviors (Jorgensen et al., 2016), although children may not fully understand why these behaviors are used. Direct financial socialization involves parents using intentionally delivered financial lessons, such as teaching children how to budget their money or actively seeking out books and popular media to teach their children about finances (CFPB, 2016b). Finally, rule-making involves parents making money rules children are expected to follow, such as how children will earn and spend allowance money or directing children to save by monitoring that children follow these money rules (Hamilton, 2010). As with much of the existing research on financial socialization (e.g., Gudmunson & Danes, 2011; Jorgensen et al., 2016; Luhr, 2018; Serido et al., 2010; Shim et al., 2010), the current study focuses on the indirect and direct financial socialization processes to explore how financial interactions in the home influenced financial capability among college students.

Theoretical Background

Gudmunson and Danes' (2011) conceptual model of family socialization

As suggested by Bandura (1986), children learn from parents indirectly and directly. Children also learn about finances indirectly through observing and mimicking parent's behaviors with money and directly through intentionally delivered financial lessons (Allen, 2008). Financial socialization reflects this learning process by focusing on the social interactions among family members, specifically parents and their children, that influence the transfer of financial knowledge, the development of financial attitudes, and children's ability to engage in financial behaviors (Gudmunson & Danes, 2011). Family processes, such as how families communicate about financial topics, can lead to specific financial outcomes (e.g., financial knowledge, attitudes, and behaviors). To illustrate this financial socialization process, Gudmunson and Danes (2011) developed a conceptual model (Figure 1) to theorize how personal characteristics were related to family interactions and the financial socialization process and how these factors influence a person's financial knowledge, attitudes, and actions, which ultimately influenced that person's financial well-being. Gudmunson and Danes (2011) contended this financial socialization process and subsequent financial outcomes were contingent upon the quality of the family interactions and the relationships between family members, particularly children and their parents.

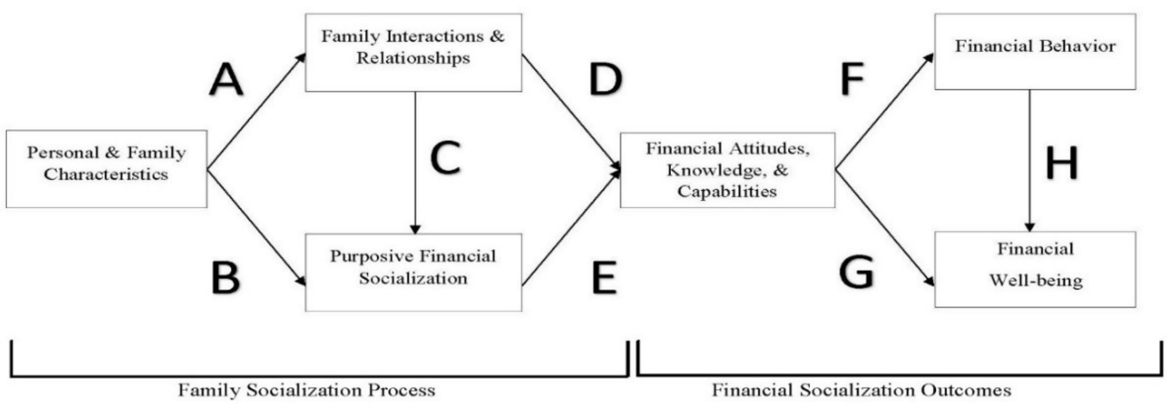

Figure 1 Gudmunson and Danes' (2011) Conceptual Model of Family Socialization.

Multi-dimensional financial capability

Gudmunson and Danes' (2011) model emphasized that financial attitudes, knowledge, and capabilities influenced financial behaviors and ultimately financial well-being in a step-by-step manner. However, existing research on young adult and college-student populations tend to use the terms financial literacy and financial capability interchangeably to describe the ability to manage financial resources (Johnson & Sherraden, 2007; Mandell, 2008). Although financial literacy may denote the level of financial knowledge someone has, financial literacy does not necessarily predict someone's ability to apply this knowledge, which is what financial capability promotes (Atkinson et al., 2006). Furthermore, Gudmunson and Danes (2011) used the term of financial capability as the ability to achieve a financial goal. Yet, financial attitudes, knowledge, and ability may not be enough to achieve a financial goal because for those who face monetary limitations, such as not having sufficient money to open or maintain a bank account. Barriers or limited access to financial services can prevent someone from reaching their goals (Barr, 2008).

This lack of access to financial resources may become a limiting factor in developing financial capability and financial well-being, as defined by Gudmunson and Danes (2011). Sherraden (2013; Figure 2) noted this potential limitation by suggesting the concept of financial capability also requires financial inclusion, such as access to financial services. Without adequate access to financial services, individuals may not be able to conduct financial transactions needed to achieve financial goals. Olive (2013) built upon this concept of financial capability further by also describing financial capability as a multidimensional construct (Figure 3), in which each dimension of financial capability (i.e., knowledge, access to financial resources, attitudes, and actions) can be examined concurrently as an outcome of the financial socialization process.

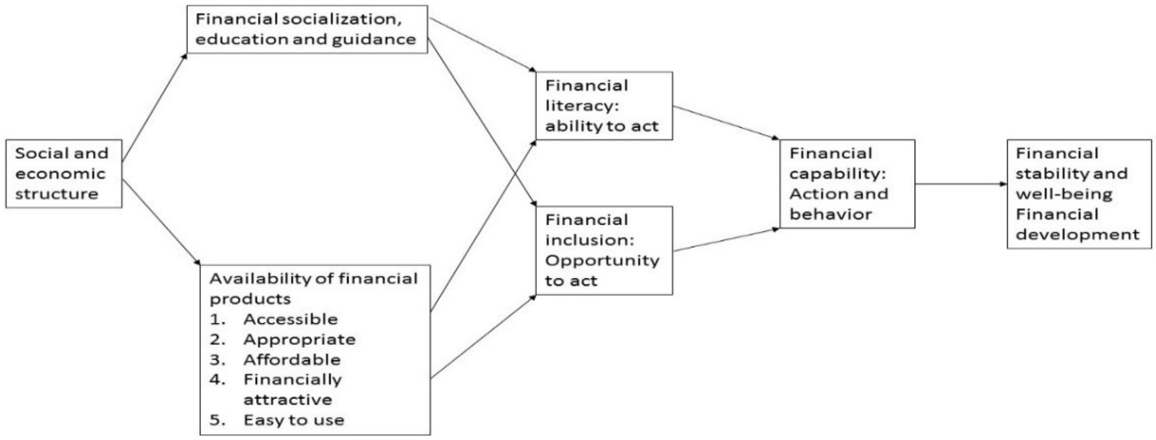

Figure 2 Sherraden's (2013) Financial Capability Model

This schematic illustrates the necessity of including access to financial resources in promoting an individual's financial well-being.

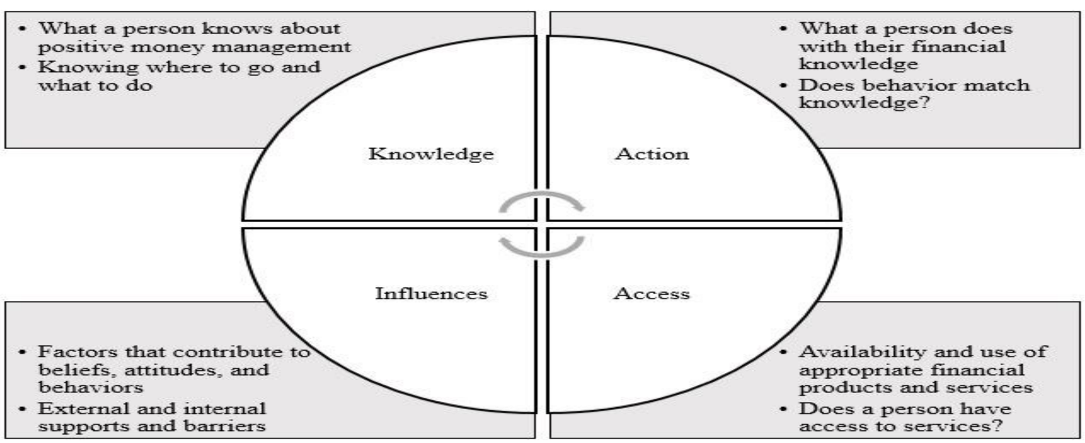

Figure 3 Four Dimensions of Financial Capability

Olive (2013). University of Wisconsin cooperative extension family living program: The role of helping professionals in building financial capability.

Based on these theoretical perspectives, the current study defined financial capability as the interrelated nature of financial knowledge, access to financial services, attitudes, and actions (i.e., behaviors) needed to manage personal finances (Atkinson et al., 2007; Johnson & Sherraden, 2007; Olive, 2013). The current study also modified Gudmunson and Danes' (2011) conceptual model of family socialization to include this multi-dimensional concept of financial capability (i.e., knowledge, access to financial resources, attitudes, and actions) as an inter-related outcome, rather than as a step-by-step progression towards financial well-being (Figure 4). Furthermore, this model explored how each dimension of financial capability was influenced by family and personal characteristics and the financial socialization process.

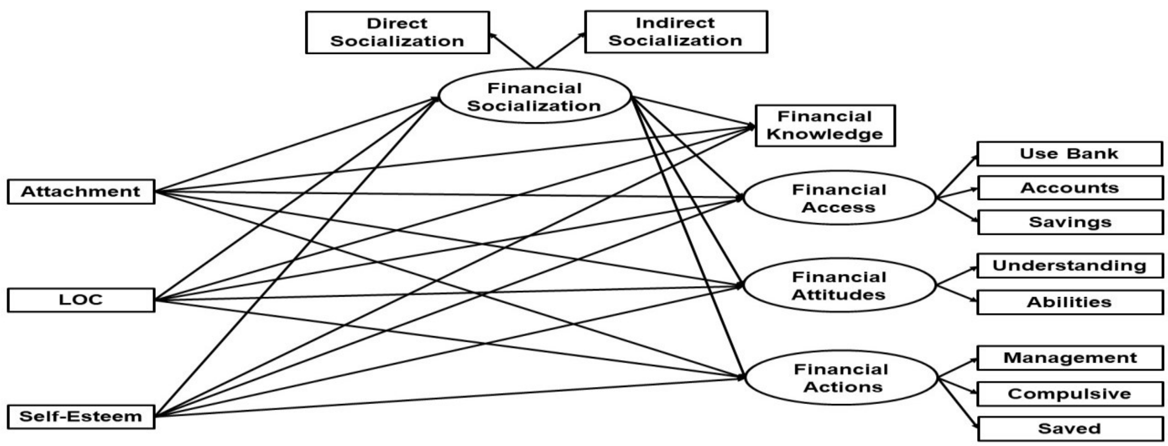

Figure 4 Proposed Conceptual Financial Socialization Model

This illustration represents the proposed financial socialization model that combined the Gudmunson and Danes' (2011) conceptual model of family socialization with Olive's (2013) multi-dimensional concept of financial capability.

Family Characteristics

Although research has not explored specific differences in the financial socialization process between students from an ethnic or low-income background or first-generation college status and their more affluent peers, some research has noted potential differences may exist, such as differences in financial knowledge. Findings from the Jump$tart Coalition's (2008) survey revealed White college students had a significantly higher (63.3%) mean financial literacy score when compared to African American college students (56.3%). Financial decisions, such as tracking and saving money, are often influenced by one's financial knowledge and the ability to practice financial transactions (CFPB, 2016b; Johnson & Sherraden, 2007), As a result, African American students may differ in their level of financial knowledge, but also in the financial decisions and ultimately financial capability, when compared to White students.

Parents are valuable resources in providing young adults with tools (e.g., financial knowledge and skills) to help them succeed financially (Schuyler et al., 2018). However, some parents may lack the confidence or ability in teaching their children about finances. They may be lacking in their own financial knowledge, practice inconsistent financial behaviors, or lack self-awareness of how their financial habits and behaviors are observed and modeled by their young adult children (CFPB, 2016b). The financial information children receive from their parents can also vary as a parent can determine the what, how, and when their children need financial information or can make financial decisions, such as learning how to budget, having a plan to payback student loans, or starting a savings plan for a mortgage (Durband & Britt, 2012).

Furthermore, as noted by Sherraden (2013), the ability and opportunity to act through financial actions and behaviors are made possible by both financial knowledge and access to financial resources. Unfortunately, some research has suggested that African Americans are more likely to be unbanked or underbanked than their White counterparts (Barr, 2008). Minority, low-income, or first-generation college students may lack financial inclusion in traditional banking services (e.g., having bank accounts) because of the types of services available from financial institutions in their community (Eichelberger, Mattioli, & Foxhoven, 2017). For example, alternative financial services tend to be more common within low-income and minority communities (Burhouse et al., 2015; Fowler et al., 2014; Prager, 2009), where a lack of access to traditional banking services may impede the development of financial capability.

Personal Characteristics

Within the context of the family, early childhood experiences, such as the development of a secure attachment, feelings of perceived control over problems and situations, and self-esteem play a role in the parent-child interactions associated with the financial socialization process and the development of college students' financial capability. The willingness of college students to seek advice from their parents or to address a financial situation may be influenced by these early parent-child financial interactions. Parents, who are warm, responsive, and available to their children, tend to have children with a secure attachment and an overall positive sense of self (Bowlby, 1982). These children tend to have more trust in their parents compared to children with insecure attachment. When children know they can trust their parents and that their parents will be there when help is needed, these children may feel more perceived control over their financial situations and have more self-esteem to address situations when they arise.

Attachment

Attachment, according to Ainsworth (1978) and Bowlby (1982), describes the bond that develops between infants and their primary caregiver. This bond is developed as caregivers demonstrate warmth and responsiveness to the infant when the infant experiences discomfort or is in need (Bowlby, 1982). When a caregiver responds consistently with warmth, the infant develops a secure attachment, or a positive parent-child relationship. When a caregiver does not respond with warmth or is inconsistent in his or her response, the infant develops an insecure attachment, or a less-positive parent-child relationship.

These early experiences between infants and their caregivers can influence social and emotional development from infancy throughout childhood and adolescence and into adulthood (Bartholomew & Shaver, 1998). Children with a secure attachment tend to demonstrate more self-control and social competence through their ability to share with others or being sociable towards others, whereas children with an insecure attachment tend to push others away or demonstrate more anxiety and anti-social behaviors (Richters & Walters, 1991). Even in adulthood, adults with a secure attachment tend to exhibit prosocial behaviors that allow them to develop close relationships with others and prompt them to seek sources of social support during times of distress (Bartholomew & Shaver, 1998). On the other hand, adults with an insecure attachment tend to struggle developing trust with others, causing them to experience greater anxiety and distress, and perceiving a lack of sources for social support (Bartholomew & Shaver, 1998). Whereas a person with a secure attachment can trust others will be there to support them when needed, a person with an insecure attachment may feel he or she cannot rely on other people when help is needed (Fraley, 2018).

Attachment is relevant to the financial socialization process as Jorgensen and colleagues (2016) found attachment, or the quality of the parent-child relationship, was the most important influence on financial socialization among college students. Furthermore, they found that students with an insecure attachment engaged in less financial communication with their parents and that this financial communication mediated the relationship between insecure attachment and financial behaviors of college students. Finally, having secured attachment is related to engaging in more proactive problem-solving behaviors when problems arise (Serido et al., 2010), and students need a trusted source they can turn to for support when help is needed (Hamilton, 2013). When students feel they are supported, they are more likely to seek help. However, when students do not feel supported, they may not reach out for help, even though sources of support may be available (Britt et al., 2011; Luhr, 2018).

Locus of control

Rotter (1966; 1975) conceptualized locus of control along two dimensions, internal and external. According to Rotter (1966; 1975), an internal locus of control refers to people's perception that they have control over their situation, while an external locus of control reflects people's perception that the situation is outside of their control. This concept can be applied to financial outcomes, as well. For example, college students can approach their financial situation with optimism or pessimism depending on their locus of control. When students have an internal locus of control, they may recognize that improving their financial situation will require a change in their financial behaviors, such as living within a budget or reducing spending. College students possessing an internal locus of control believe they have control over their financial situation and are motivated to engage in positive financial management behaviors (Britt et al., 2013; Jorgensen et al., 2016). Students with an internal locus of control are also more likely to budget their money (Kidwell, Brinberg, & Turrisi, 2003) and are less likely to incur unnecessary debt (Shim et al., 2010). However, students with an external locus of control may believe that nothing they can do will improve their financial situation. College students with an external locus of control believe their financial situation is beyond their control so they are less engaged in their personal finances and tend to accumulate greater student loan debt (Tokunaga, 1993).

Self-esteem

Rosenberg (1965) defined self-esteem as a person's self-assessment of their worthiness to change their situation. Rosenberg (1965) also noted that those with lower self-esteem are less likely to attempt to change their situation because of feelings of rejection, dissatisfaction, and self-contempt. A person's level of self-esteem may be influenced by parent-child interactions. For example, children's self-worth may increase or decrease due to the quality of parental interactions in the family (Gross & Thompson, 2007). Some researchers have suggested experiencing family economic hardship (e.g., high levels of debt, low-income, and employment instability) can lead to harsh parenting behaviors during parent-child interactions, thus lowering their child's perceptions of self-worth (Whitbeck et al., 1991), and those feelings can influence whether they view themselves as capable of change and whether they view their parents as potential resources when help is needed (Gross & Thompson, 2007).

According to Britt et al., (2015), within the context of financial capability, those with higher self-esteem report greater perceived mastery over their financial abilities and more self-awareness of their limitations. Recognizing limitations in one's financial capability may prompt someone to seek help, but a person with low self-esteem may not seek this help despite recognizing the help is needed. Additionally, those with lower self-esteem may then be less inclined to make changes to their financial behaviors and may not consider the long-term consequences of their actions (Baumeister et al., 2003).

Research Questions

The current study was guided by Gudmunson and Danes' (2011) family financial socialization model, but it also modified this model by including a multi-dimensional concept of financial capability (Olive, 2013) that included access to financial services (Johnson &

Sherraden, 2007; Sherraden, 2013). The current study also built upon Jorgensen et al.'s (2016) study by exploring whether financial socialization mediated the relationships between personal characteristics (i.e., attachment, locus of control, and self-esteem) and this multi-dimensional concept of financial capability. Finally, the current study also explored whether these relationships differed among minority, low-income, and first-generation college students (i.e., focal group), as compared to their more affluent peers (i.e., comparison group). This study was guided by the following research questions:

(1) How do personal characteristics (i.e., attachment, locus of control, and self-esteem) influence multiple dimensions college students' financial capability (i.e., knowledge, access to financial resources, attitudes, and actions)?

(2) How do personal characteristics of college students influence the financial socialization process?

(3) How does the financial socialization process influence multiple dimensions of college students' financial capability?

(4) Does the financial socialization process mediate the relationships between personal characteristics and financial capability?

(5) How do these relationships between personal characteristics, financial socialization, and financial capability differ for minority, low-income, or first-generation college students as compared to their more affluent peers?

Methods

Participant Recruitment

Undergraduate students, aged 18 and older and attending a university in the Southeastern United States, were invited to participate in the current study. Following notice of approval for human research by the Institutional Review Board (IRB) in August 2017, the 283-item questionnaire was distributed online via Qualtrics. The researcher sent out personal email invitations to instructors and administrators in late August 2017. Instructors were invited to promote the survey and to consider offering extra credit to students for participation in the study. The University Information Technology Services department also released a survey invitation via a campus-wide listserv email in late September 2017. The email provided an anonymous link to complete the survey (see APPENDIX B for the email recruiting script). The opening screen provided participants with the informed consent and IRB protocol information (see APPENDIX B for verbiage). Upon completion of the questionnaire, participants were given the opportunity to enter a drawing for one of four $25 gift cards by providing a current email address.

In order to run a comparative analysis, students with the selected factors (i.e., minority, low-income, and first-generation status) were oversampled through a non-random campus-wide email solicitation. This solicitation effort included invitations distributed through the University listserv system and emails to specific faculty and administrators requesting their assistance in recruiting participants. These faculty and administrators oversaw classes and campus-wide programs geared specifically to students with the selected factors. The questionnaire was available for a total of seven months. During the Fall 2017, over 600 responses were collected with a reminder email distributed in late January 2018 to seek additional responses throughout the Spring 2018 term. A total of 892 responses were collected over these two semesters.

Sample

Responses to an online survey were collected from 892 students. Questionnaires completed by graduate students and those with missing responses (n = 41) were removed prior to data analysis. Of the 851 valid responses, 548 of the participants (64%) self-identified as having at least one of the focal characteristics of minority, low-income, or first-generation college student status, and 572 (67%) of the participants were female.

Measures

This 283-item survey (see APPENDIX C) measured personal and family characteristics (i.e., demographic questions; attachment, locus of control, self-esteem), financial socialization processes, compulsive spending, and the four financial capability domains (i.e., financial knowledge, access to financial resources, attitudes, and actions).

Ethnic Minority, Low-Income, First-Generation College Student Status

Demographic questions were used to classify whether students met the focal characteristics of being a minority, low-income, or first-generation student. Ethnic minority status was measured by responses to Census race and ethnic classifications (APPENDIX C, Q1 & Q2). Low-income status was measured by participation in the Pell Grant financial aid program (APPENDIX C, Q3) and usage of government-sponsored health care programs during their youth (APPENDIX C, Q27). Finally, first-generation student status was determined by participants providing the parental level of educational attainment in the home (APPENDIX C, Q74 & Q75) and by self-identifying as the first from their family to attend or complete a four-year college degree (APPENDIX C, Q4 & Q5). Participants identifying as minority, low-income, or first-generation college students were coded as 1 (i.e., focal group), while those participants not identifying with these factors were coded as 0 (i.e., comparison group).

Personal characteristics

Three domains of personal characteristics were also measured, namely attachment, locus of control, and self-esteem.

Attachment

Attachment was measured with the Revised Adult Attachment Scale for Close Relationships Scale (AAS; Collins, 1996), a free and publicly available measure. The AAS was used in this study because it focuses on adult interpersonal relationships, which can include a parent, romantic partner, peers, and others participants consider to be a source of social support and to whom they trust during times of need. This scale can also be used to categorize secure or insecure attachment patterns within these close adult relationships The scale consisted of 18 statements (APPENDIX C, Q22), in which participants noted their level of *disagreement/ agreement* (0 to 4) on three subscales: close, depend, and anxiety. The close subscale ($\alpha = 0.71$) consisted of the mean average of the responses to 6 statements (a, f, h, l [reverse coded], m [reverse coded] and q), and included such statements as “I find it relatively easy to get close to people” and “I don’t worry about people getting too close to me.” The depend subscale ($\alpha = 0.77$) consisted of the mean average of the responses to 6 statements (b [reverse coded], e [reverse coded], g [reverse coded], n, p [reverse coded], and r [reverse coded]), and included such statements as “I find it difficult to allow myself to depend on others” and “I am comfortable depending on others.” The anxiety subscale ($\alpha = 0.88$) consisted of the mean average of the responses to 6 statements (c, d, i, j, k, and o), and included statements such as “I often worry that other people don’t really love me” and “I find that others are reluctant to get as close as I would like.” In the current study, secure attachment (coded as 1) was categorized by mean scores above 3.00 on the close and depend subscales and mean scores below 3.00 on the anxiety subscale, while all other mean score combinations were coded insecure attachment (0).

Locus of control

The Locus of Control scale, developed by Rotter (1966; 1975), measured people's beliefs they are in control of an outcome. People with an internal locus of control believe their own actions determine the rewards they obtain, while those with an external locus of control believe rewards are outside their behaviors and control. In the current study, locus of control was measured with the seven-item abbreviated scale developed by Pearlin and colleagues (1981), a free and publicly available measure (APPENDIX C, Q66). The scale included statements, such as "There is really no way I can solve some of my problems" and "I am being pushed around in life." In this study, responses for each statement ranged from 0 (*Almost never*) to 4 (*Almost always*). Statements a, b, c, f, and g were reverse coded so that higher scores on all items represented an internal locus of control. Items d and e were removed from the locus of control scale due to concerns about multicollinearity with the self-esteem measure. Reliability following removal of these two items remained good ($\alpha = 0.87$). A cumulative score for locus of control was calculated with scores ranging from 5 to 20, where higher scores indicated greater internal locus of control and lower scores indicated greater external locus of control.

Self-esteem

The 10-item Rosenberg (1965) Self-Esteem scale (APPENDIX C, Q65), a free and publicly available measure, was used to measure participants' self-esteem. Responses were assessed on a 4-point scale, from 1 (*Strongly disagree*) to 4 (*Strongly agree*). To avoid potential multicollinearity with the locus of control scale, this study utilized only the self-confidence subscale (items a, c, d, g, and j; $\alpha = 0.85$) as a measure of self-esteem. Example statements included: "On the whole, I am satisfied with myself" and "At times I think I am no good at all."

A composite score ranged from 5 to 20 with higher scores for the self-confidence subscale indicating more positive self-esteem.

Financial socialization

The financial socialization latent variable consisted of two factors, which included the direct financial socialization process (i.e., the extent to which parents taught their college students intentionally about financial behaviors) and the indirect financial socialization process (i.e., the extent to which college students observed and mimicked their parents' financial behaviors). All questions were taken from the Financial Capability of Emerging Adults (EAFCS) survey (Jorgensen et al., 2016).

Direct financial socialization

Direct financial socialization in the family measured how much parents taught participants directly about 10 financial topics: budgeting, bank accounts, taxes, building good credit, insurance, loans, savings, charity, work, and distinguishing between needs and wants (APPENDIX C, Q13). Participants' responses ranged from 0 (*Never*) to 3 (*Always*). A total combined score was calculated ($\alpha = 0.90$), ranging from 0 to 30, where higher scores represented higher levels of direct financial socialization.

Indirect financial socialization

Indirect financial socialization in the family measured how much participants learned by observing their parents' financial behaviors regarding 10 financial topics: budgeting, bank accounts, taxes, building good credit, insurance, loans, savings, charity, work, and distinguishing between needs and wants (APPENDIX C, Q14). Participants' responses ranged from 0 (Never) to 3 (Always). A total combined score was calculated (α = 0.93), ranging from 0 to 30, where higher scores represented higher levels of indirect financial socialization.

Financial capability

Financial Capability included 1 observed variable (i.e., financial knowledge) and 3 latent constructs (i.e., access to financial resources, financial attitudes, and financial actions).

Financial Knowledge

An objective measure of financial knowledge consisted of seven multiple-choice questions taken from the EAFCS survey (Jorgensen et al., 2016; APPENDIX C) regarding savings (1-item; i.e., "How long will it take [David] to accumulate savings of $600?"), credit and debt (3-items; e.g., "If a consumer fails to pay personal debts, a creditor is allowed to do all of the following except…"), insurance (1-item; i.e., "Many young people receive health insurance benefits from their parents. Which of the following statements is true about health insurance coverage?"), and taxes (2-items; e.g., "Your take home pay from your job is less than the total amount you earn. Which of the following best describes what is taken out of your total pay?"). The scale exhibited adequate reliability (α = .70). Responses were scored as correct (1) or incorrect (0), with a composite score ranging from 0 to 7.

Access to Financial Resources

The access to financial resources (financial access) latent variable was measured by participants' access to financial resources and services and included three items (i.e., use of banking services, number or type of bank accounts, amount in savings) taken from the EAFCS (Jorgensen et al., 2016).

To determine usage of banking services (APPENDIX C, Q24), participants responded to the following question: “Which of the following services have you used in the past 12 months?” Participants were given an option to select from 8 possible financial transactions, including “Checked bank account balance online” and “Transferred funds between my savings and checking account using online or mobile electronic funds transfer.” Each type of financial transaction selected was coded as 1, and those not selected were coded as 0. In this study, the Usage of Banking Services exhibited low reliability ($\alpha = .62$) and the score ranged from 0 to 8, where higher scores represented higher use of financial services.

Number and types of accounts used (APPENDIX C, Q41) were measured by participants’ responses to the item “What kinds of financial accounts do you currently have?” Responses included don’t have any accounts; savings; checking; certificates of deposit; or other accounts, where each type of account used was coded as 1 or not used (0). A composite score ($\alpha = .69$), representing the total number of accounts, ranged from 0 to 4.

Amount in savings (APPENDIX C, Q42) was measured by participants’ response to the item “How much do you have in savings, excluding any financial aid awards?” Savings ranged from 0 to 5, where responses included “I don’t have any savings” (0), “Under $249” (1), “$250-$499” (2), “$500-$999” (3), “$1,000-$2,499” (4), and “$2,500 or more” (5).

Financial Attitudes

The financial attitudes latent construct consisted of two measures (i.e., Perceived Financial Understanding and Perceived Financial Abilities) generated from the EAFCS survey (Jorgensen et al., 2016). These variables reflect *subjective* perceptions of students’ understanding of personal finances and their ability to manage their finances. Differentiating between objective financial knowledge and a subjective understanding of finances is important, as Xiao et al.,

(2012) suggested students overestimate their perceived understanding of personal finances and Tang and Baker (2016) found perceived understanding of personal finances mediated the relationship between objective financial knowledge and financial behaviors. These studies support Atkinson's et al., (2016) and Olive's (2013) conceptualization of the dimension of financial attitudes as not only a belief about money, but also attitudes towards money management and financial decision-making. These items could then be altered through the financial socialization process.

Perceived financial understanding represented participants' perceived subjective understanding of 5 financial topics (i.e., savings, taxes, credit and debt, insurance, and "overall understanding of personal finance and money management concepts and practices"; APPENDIX C, Q29). Responses ranged from 0 (*Poor*) to 3 (*Excellent*), and the scale demonstrated good reliability ($\alpha = .85$). A composite score was created, which ranged from 0 to 15, where higher scores represented higher perceived financial understanding.

Perceived financial abilities represented participants' agreement with a series of seven statements, such as "How I manage my money right now works for me" and "I feel satisfied with how I spend my money" (APPENDIX C, Q30b, Q30f, Q30g, Q30h, Q30i, Q30j, and Q31b). Responses ranged from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*). A composite score ($\alpha = 0.88$) ranged from 7 to 28, where higher scores represented higher perceived financial abilities.

Financial Actions

The financial actions latent construct consisted of three measures (i.e., Financial Management Behaviors, Compulsive Spending Behaviors, and Savings) generated from the EAFCS survey (Jorgensen et al., 2016). Financial management represented participants' ratings regarding four behaviors: "How do you grade yourself in [controlling my spending, paying my bills on-time, planning for my financial future, and saving money]" (APPENDIX C, Q33a, Q33b, Q33c, Q33d). Responses ranged from 0 (*Poor*) to 3 (*Excellent*). A composite score (α = 0.84) ranged from 0 to 12, where higher scores represented better financial behaviors.

The 7-item Compulsive Buying Scale (Faber & O'Guinn, 1992) measured how often participants have bought things they could not afford or engaged in other compulsive spending behaviors (APPENDIX C, Q46). Example statements included "If you have any money left at the end of the month, I just have to spend it" and "Felt others would be horrified if they knew of my spending habits." The scale had good reliability (α = .87) with responses ranging from 0 (*Never*) to 4 (*Always*). A mathematical equation provided by Faber and O'Guinn suggested participants with scores equal to or less than -1.34 were classified as compulsive buyers. Higher scores on the scale indicated a lower level of compulsive spending behaviors:

$$\begin{aligned}\text{Compulsive Spending Mathematical Equation}\\ = -9.69 + (a * .33) + (b * .34) + (c * .50) + (d * .47) + (e * .33)\\ + (f * .38) + (g * .31)\end{aligned}$$

Savings behavior was measured by asking participants whether they had saved money in the past 2 months for a specific purpose or not [i.e., "In the past 2 months, I have…saved for [a car purchase, an important event, or none of the above]" (APPENDIX C, Q39). Each saving behavior was coded as 1 and not having saved was coded as 0. Responses ranged from 0 to 2. By asking participants whether they are saving money for a specific purpose, this item is able to identify whether a person saved money for a specific purpose rather than the amount of money in savings because that amount may not accurately represent their intentional saving behavior but just having money available in case of emergency.

Data analysis

SPSS version 25 was used to analyze descriptive statistics, reliability of variable constructs, and bivariate correlations. AMOS version 25 was used to fit a structural equation model (SEM), exploring the relationships between personal characteristics, financial socialization, and financial capability (Figure 34). According to Hayes (2009), SEM allows for the examination of direct, indirect, and total relationships between variables, such as whether financial socialization mediated the relationships between personal characteristics and financial capability. In this study, a bootstrapping routine (2000 – subsample maximum likelihood bootstrap with bias-correlated 90% confidence intervals) was used to identify the direct and indirect effects of a model and to correct standard errors (Hopwood, 2007; Preacher, Rucker, & Hayes, 2007). Bootstrapping has been shown to be a valid and powerful method for testing model effects (Hayes, 2009). While SEM analysis estimates the magnitude of relationships between variables, it is not a method for discovering causal effects, thus only correlational relationships between observed and latent variables can be interpreted (Hayes, 2009).

A measurement model was constructed using AMOS 25 to confirm the latent variables and determine acceptable model fit (Hair et al., 2009). Bivariate Spearman correlations were conducted to identify and resolve potential multicollinearity issues in the factors used in the measurement model. Once observed variables (i.e., items and subscales) and unobserved variables (i.e., latent factors and constructs) were confirmed, two mediation models (i.e., one for the combined sample; one comparing group differences) were fit in AMOS 25 (Figure 4). Model fit was evaluated based Hu and Bentler's (1999) recommended fit indices and cutoff levels: The Comparative Fit Index (CFI) at or above .90 and the Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR) less than .06.

Results

Of the 851 study participants, 548 (64%) served as the focal group having self-identified as having at least one of the factors of interest: 34.3% identified as being a racial or an ethnic minority, 49.4% identified as coming from a low-income background, 39% identified as being the first in their family to attend or to complete a college education, and 17% identified as meeting all three of these characteristics. The remaining participants (*n* = 303, 35.6%) did not identify as having any of these characteristics and served as a comparison group. More than half of the participants were female (67%; *n* = 572) with an average age around 21 at the time of the survey (Table 1).

Table 1 Demographic information for participants.

	All (*N* = 851)	Focal Group (*n* = 548)	Comparison Group (*n* = 303)
Gender			
Male	265	177	88
Female	572	360	212
Race/Ethnicity			
White	559	256	303
Non-White	292	292	0
Low-Income			
No	431	303	303
Yes	420	128	0
First-Generation			
No	519	216	303
Yes	332	332	0
Academic Standing			
First-year	278	202	76
Freshman	64	50	14
Sophomore	116	60	56
Junior	201	126	75
Senior	178	100	78
Age (*S.D.*)	21.22 (3.58)	21.36 (4.29)	20.96 (1.62)

Note. Focal Group = Participants identifying as minority, low-income, or first-generation students. Comparison Group = Participants not identifying as minority, low-income, or first-generation students.

Bivariate correlations supported the proposed relationships between the observed personal characteristics variables (i.e., attachment, locus of control, and self-esteem), the latent financial socialization variable (i.e., direct and indirect financial socialization), and each dimension of financial capability (i.e., knowledge, access to financial resources, attitudes, and action; Table 2; Correlation coefficients between individual variables/indicators within each latent variable construct are found in Table 25 in APPENDIX D). For example, the personal characteristics variables tended to be related positively and significantly to the financial socialization and financial capability variables, although attachment was not related to financial knowledge. The financial socialization variable was related positively and significantly to all of the financial capability variables, except for financial knowledge.

Table 2 Correlation coefficients for all variables among the full sample ($N = 851$)

Factor	1	2	3	4	5	6	7	8
1. Attachment	--	0.35^{***}	0.24^{***}	0.14^{***}	0.00	0.18^{***}	0.17^{***}	0.12^{*}
2. LOC		--	0.37^{***}	0.12^{**}	0.17^{***}	0.15^{***}	0.25^{***}	0.36^{***}
3. Self-Esteem			--	0.31^{***}	0.13^{***}	0.20^{***}	0.48^{***}	0.33^{***}
4. FS				--	-0.05	0.18^{***}	0.47^{***}	0.13^{*}
5. Knowledge					--	0.18^{***}	0.15^{***}	0.55^{***}
6. Access						--	0.36^{***}	0.38^{***}
7. Attitudes							--	0.59^{***}
8. Actions								--

Note. FS = Financial Socialization. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

The measurement model (Figure 4) determined latent variables created for comparison were appropriate (factor loadings above 0.40; Table 3). Model fit was ($\chi^2(48) = 117.62$, $p < 0.001$, CFI = 0.97, TLI = 0.95, SRMR = 0.04, RMSEA = 0.04 (95% CI: 0.03-0.05); Figure 5).

Table 3 Unstandardized and standardized factor loadings

Factor	Item	ALL		FG		CG	
		B	β	B	β	B	β
Financial Socialization	Direct	1.00	0.86	1.00	0.81	1.00	1.02
	Indirect	0.89	0.68	1.01	0.74	0.55	0.47
Access	Use Bank	1.00	0.42	1.00	0.42	1.00	0.41
	Accounts	0.90	0.53	0.98	0.42	1.95	0.59
	Savings	5.04	0.97	6.66	0.59	1.39	0.91
Attitudes	Understanding	1.00	0.50	1.00	0.48	1.00	0.55
	Abilities	2.01	0.88	2.16	0.91	1.56	0.80
Actions	Management	1.00	0.84	1.00	0.85	1.00	0.85
	Compulsive	0.31	0.40	0.32	0.49	0.25	0.40
	Saved	0.08	0.43	0.08	0.45	0.06	0.41

Note. ALL = All participants: N =851, FG = Focal group: n = 548; CG = Comparison group: n = 303. $p < 0.01$ for all factors.

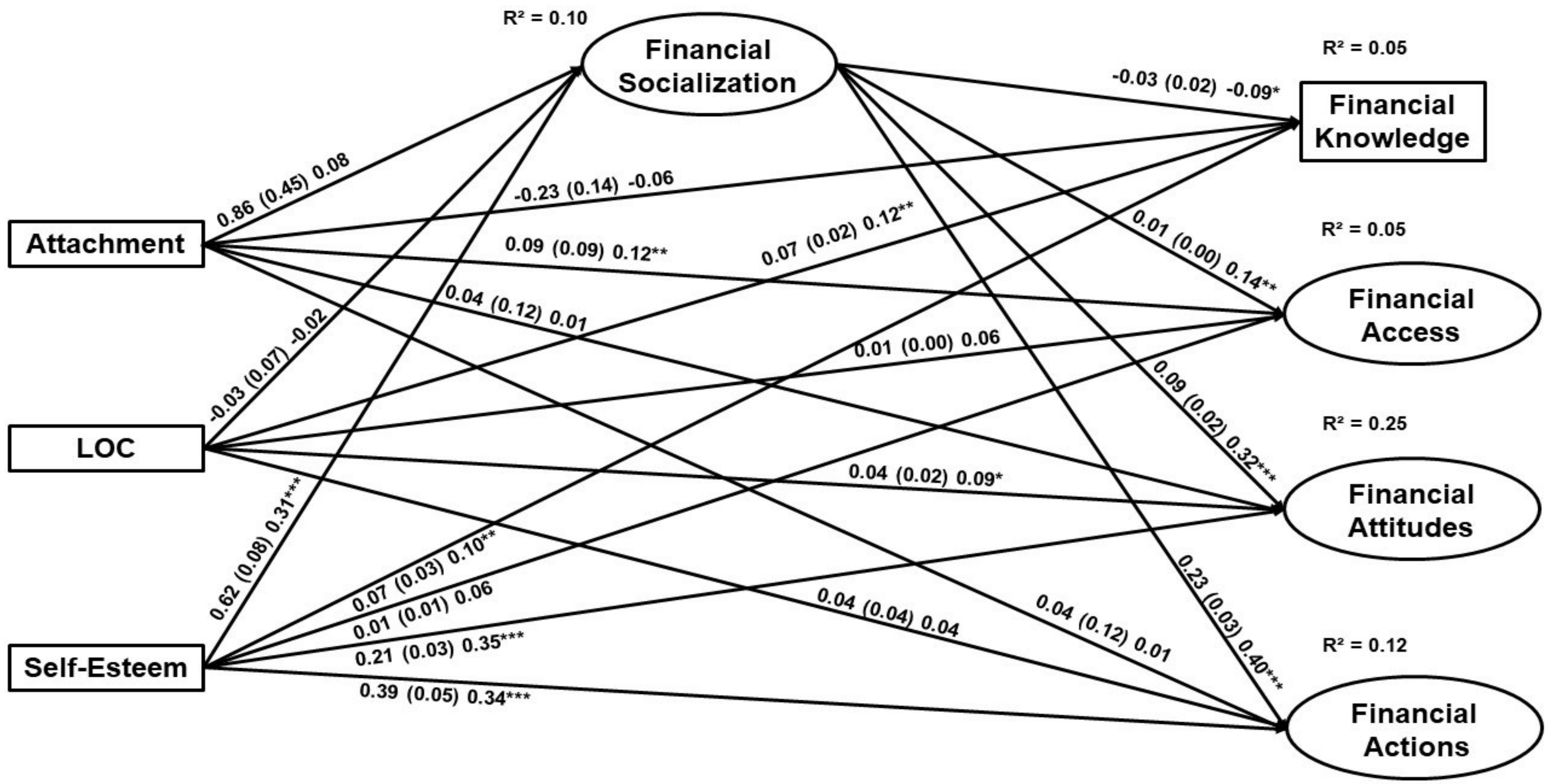

Figure 5 Results of SEM analysis among all participants with unstandardized (standard error) and standardized regression coefficients reported.

Fit Statistics: $\chi^2(48) = 117.62$, $p < 0.001$, CFI = 0.97, TLI = 0.95, SRMR = 0.04, RMSEA = 0.04 (95% CI: 0.03-0.05).
* $p \leq 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Research question 1

How do personal characteristics (i.e., attachment, locus of control, and self-esteem) influence multiple dimensions college students' financial capability (i.e., knowledge, access to financial resources, attitudes, and actions)?

For the entire sample (N = 851; Figure 5; Table 4, Table 4 & Table 6), attachment was related significantly and positively to access to financial resources ($\beta = 0.12$, $p \leq .01$), suggesting someone with a secure attachment style had *greater* access to financial resources, while someone with a non-secure attachment had *lower* access to financial resources. Attachment was not related significantly to financial knowledge, financial attitudes, or financial actions.

Locus of control demonstrated two significant and two non-significant relationships with financial capability. A greater internal locus of control was related positively to financial knowledge ($\beta = 0.12$, $p \leq .001$), meaning someone with an internal locus of control demonstrated *more* financial knowledge, while someone with an external locus of control demonstrated *less* financial knowledge. A greater internal locus of control was also related positively to financial attitudes ($\beta = 0.09$, $p \leq .05$), meaning someone with an internal locus of control had more *positive* financial attitudes towards their financial situation, while someone with an external locus of control demonstrated less *positiv*e financial attitudes. Locus of control was not related significantly to access to financial resources or financial actions.

Self-esteem demonstrated three significant and one non-significant relationships with financial capability. For the significant relationships, self-esteem was related significantly and positively to financial knowledge ($\beta = 0.10$, $p \leq .01$), attitudes ($\beta = 0.35$, $p \leq .001$), and actions ($\beta = 0.34$, $p \leq .001$). These results suggest someone with *higher* self-esteem demonstrated *greater* financial knowledge, a more *favorable* attitude towards finances, and engaged in more *positive* financial behaviors. Someone with a *lower* self-esteem had *less* financial knowledge, had less *favorable* financial attitudes, and engaged in less *positive* financial behaviors. Self-esteem was not related significantly to access to financial resources.

Table 4 Preliminary analysis for the combined sample ($N = 851$) demonstrating the relationships between personal characteristics and financial capability with and without the financial socialization variable included.

Path	Without FFS			With FFS		
	B	*S.E.*	β	B	*S.E.*	β
Attachment -> Knowledge	-0.27	0.14	-0.07^{*}	-0.23	0.14	-0.06
Attachment -> Access	0.10	0.03	0.13^{***}	0.09	0.03	0.12^{**}
Attachment -> Attitudes	0.14	0.14	0.04	0.04	0.12	0.01
Attachment -> Actions	-0.20	0.26	-0.03	-0.40	0.25	-0.06
LOC -> Knowledge	0.08	0.02	0.13^{***}	0.07	0.02	0.12^{***}
LOC -> Access	0.01	0.00	0.06	0.01	0.00	0.06
LOC -> Attitudes	0.04	0.02	0.08^{*}	0.04	0.02	0.09^{*}
LOC -> Actions	0.03	0.04	0.04	0.04	0.04	0.04
Self-Esteem -> Knowledge	0.05	0.03	0.08^{*}	0.07	0.03	0.10^{**}
Self-Esteem -> Access	0.01	0.01	0.10^{*}	0.01	0.01	0.06
Self-Esteem -> Attitudes	0.29	0.03	0.45^{***}	0.21	0.03	0.35^{***}
Self-Esteem -> Actions	0.53	0.05	0.46^{***}	0.39	0.05	0.34^{***}
Attachment -> Socialization	-	-	-	0.86	0.45	0.08
LOC -> Socialization	-	-	-	-0.03	0.70	-0.02
Self-Esteem -> Socialization	-	-	-	0.62	0.00	0.31^{***}
Socialization -> Knowledge	-	-	-	-0.03	0.02	-0.09^{*}
Socialization -> Access	-	-	-	0.01	0.00	0.14^{**}
Socialization -> Attitudes	-	-	-	0.09	0.02	0.32^{***}
Socialization -> Actions	-	-	-	0.23	0.03	0.40^{***}

Note. Socialization = Financial Socialization latent variable. β = standardized, B = unstandardized. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Table 5 Unstandardized and standardized direct and indirect effects among all participants ($N = 851$).

	Knowledge						Access to Financial Resources					
	Direct		Indirect		Total		Direct		Indirect		Total	
	B	β	B	β	B	β	B	β	B	β	B	β
Attachment	-0.23	-0.06	-0.03	-0.01^{*}	-0.25	-0.06	0.09	0.12^{*}	0.01	0.01^{*}	0.10	0.13^{***}
LOC	0.07	0.12^{***}	0.00	0.00	0.07	0.16^{***}	0.01	0.06	0.00	0.00	0.01	0.06
Self-Esteem	0.07	0.10^{*}	-0.02	-0.03^{*}	0.05	0.07	0.01	0.06	0.01	0.04^{***}	0.01	0.10^{**}
Socialization	-0.03	-0.09^{*}			-0.03	-0.09^{*}	0.01	0.14^{***}			0.01	0.14^{***}

Note. Socialization = Financial Socialization, β = standardized, B = unstandardized. $^{*}p < 0.05$, $^{**}p \leq 0.01$, and $^{***}p \leq 0.001$.

Table 6 Unstandardized and standardized direct and indirect effects among all participants ($N = 851$).

	Attitudes						Actions					
	Direct		Indirect		Total		Direct		Indirect		Total	
	B	β	B	β	B	β	B	β	B	β	B	β
Attachment	0.04	0.01	0.08	0.02^{*}	0.12	0.04	-0.40	-0.06	0.19	0.03^{*}	-0.21	-0.03
LOC	0.04	0.09^{*}	0.00	-0.01	0.04	0.08	0.04	0.04	-0.01	-0.01	0.03	0.03
Self-Esteem	0.21	0.35^{***}	0.06	0.10^{***}	0.26	0.45^{***}	0.39	0.34^{***}	0.14	0.12^{***}	0.53	0.46^{***}
Socialization	0.09	0.32^{***}			0.09	0.32^{***}	0.23	0.40^{***}			0.23	0.40^{***}

Note. Socialization = Financial Socialization, β = standardized, B = unstandardized. $^{*}p < 0.05$, $^{**}p \leq 0.01$, and $^{***}p \leq 0.001$.

Research question 2

How do personal characteristics of college students influence the financial socialization process?

Attachment and locus of control were not related significantly to the financial socialization process (Figure 5). However, self-esteem was related positively and significantly to the financial socialization process ($\beta = 0.31$, $p \leq .001$), meaning students with *more* self-esteem reported *more* financial socialization, whereas students with *less* self-esteem reported *less* financial socialization.

Research question 3

How does the financial socialization process influence multiple dimensions of college students' financial capability?

Among all participants in the sample (Figure 5 and Table 4, Table 4, & Table 6), financial socialization was related significantly and negatively to financial knowledge ($\beta = -0.09$, $p = .03$), meaning students who experienced more financial socialization reported less financial knowledge. Financial socialization was related significantly and positively to access to financial resources ($\beta = 0.14$, $p \leq .01$), meaning students with more financial socialization reported greater access to financial services, whereas students with less financial socialization reported less access to financial services. Financial socialization was related positively to financial attitudes ($\beta = 0.32$, $p \leq .001$), meaning students with more financial socialization reported more favorable financial attitudes, whereas students with less financial socialization reported less favorable financial attitudes. Financial socialization was related positively to financial actions ($\beta = 0.40$, $p \leq .001$), meaning students with more financial socialization reported more positive financial behaviors, whereas students with less financial socialization reported less positive financial behaviors.

Research question 4

Does the financial socialization process mediate the relationships between personal characteristics and financial capability?

To test mediation, relationships between the personal characteristics and financial capability were explored without the mediating (i.e., financial socialization) variable in the model and again with the mediating variable in the model. If personal characteristics were related significantly to financial capability in the first model, then mediation could be tested. If no significant relationship was found in this first model, then mediation could not take place (Ul Hadi et al., 2016). Mediation is confirmed if a direct relationship becomes non-significant or if the magnitude of this direct relationship weakens once the mediating variable (i.e., financial socialization) is included in the model. This confirmation is also predicated upon the predictor variables (i.e., personal characteristics) being related to the mediating variable (i.e., financial socialization), and the mediating variable (i.e., financial socialization) being related to the outcome variables (i.e., financial capability). If these additional relationships did not exist, then mediation could not occur.

Preliminary analyses without financial socialization in the model (Table 4; Fit statistics: $\chi^2(34) = 99.74$, $p < .001$; CFI = 0.97; TLI = 0.94; SRMR = 0.04; RMSEA = 0.05, 95% CI 0.04-0.06) revealed several significant direct pathways between personal characteristics and financial capability that could be tested for mediation. Attachment was related negatively to financial knowledge ($\beta = -0.07$, $p \leq .05$); attachment was related positively to access to financial resources ($\beta = 0.13$, $p \leq .001$); locus of control was related positively to financial knowledge ($\beta = 0.13$, $p \leq$

.001); locus of control was related positively to financial attitudes (β = 0.08, $p \leq .05$); and self-esteem was related to all four dimensions of financial capability (knowledge: β = 0.08, $p \leq .05$; access: β = 0.10, $p \leq .05$; attitudes: β = 0.45, $p \leq .001$; and actions: β = 0.46, $p \leq .001$, respectively).

Once financial socialization was included in the model (Table 4), the relationship between attachment and financial knowledge became non-significant (β = -0.06, $p = .10$) and the magnitude in the relationship between attachment and access to financial resources was reduced slightly (β = 0.12, $p \leq .01$ *versus* original β = 0.13, $p \leq .001$,). However, because attachment was not related to financial socialization, financial socialization could not mediate the relationships between attachment and either financial knowledge or access to financial resources. Locus of control was also not related significantly to financial socialization, meaning financial socialization could not mediate the relationships between locus of control and either financial knowledge or financial attitudes.

In preliminary analysis without financial socialization in the model (Table 6), self-esteem was related significantly to all four dimensions of financial capability. After adding financial socialization to the model, self-esteem demonstrated a positive and significant relationship with financial socialization (β = 0.31, $p \leq .001$) and financial socialization was related significantly to each of the financial capability domains (knowledge: β = -0.09, $p \leq .05$; access: β = 0.14, $p \leq .01$; attitudes: β = 0.32, $p \leq .001$; & actions: β = 0.40, $p \leq .001$), meaning mediation relationships could be examined.

Full mediation occurs when the previous significant direct relationship becomes non-significant once the mediating variable is included in the model. As such, financial socialization fully mediated the relationship between self-esteem and access to financial resources, as the previous significant direct relationship became non-significant (β = 0.10, $p \leq .05$ without financial socialization; β = 0.06, $p = .17$ with financial socialization).

Partial mediation occurs when the previous significant direct relationship remains significant, but the magnitude of that relationship is weakened when the mediating variable is included in the model. As such, financial socialization partially mediated the relationships between self-esteem and financial attitudes (β = 0.45, $p \leq .001$ without financial socialization; β = 0.35, $p \leq .001$with financial socialization) and between self-esteem and financial actions (β = 0.46, $p \leq .001$ without financial socialization; β = 0.34, $p \leq .001$ with financial socialization). Additionally, the magnitude of the relationship between self-esteem and financial knowledge increased slightly once financial socialization was included in the model (β = 0.08, $p \leq .05$ without financial socialization; β = 0.10, $p \leq .01$ with financial socialization).

In addition to examining mediation, SEM analysis also allows the exploration of direct and indirect pathways within a model. For example, attachment was related indirectly to financial knowledge; locus of control was related directly to financial knowledge; and self-esteem was related both directly and indirectly to financial knowledge.

Research question 5

How do these relationships between personal characteristics, financial socialization, and financial capability differ for minority, low-income, or first-generation college students as compared to their more affluent peers?

In the current study, mean comparisons (Table 7) revealed notable differences between students in the focal group (i.e., minority, low-income, or first-generation students) and students within the comparison group. Specifically, students in the comparison group tended to have more secure attachments, more internal locus of control, higher self-esteem, and experienced more direct and indirect financial socialization than their peers in the focal group. Additionally, students within the comparison group also demonstrated more financial knowledge, use of banks, including more accounts held, more money currently held in savings accounts, and better perceived financial abilities and money management behaviors than students within the focal group. Finally, students within the comparison group also demonstrated less compulsive spending than students within the focal group.

Table 7 Descriptive statistics and group comparisons

Item	Full Sample		Focal Group		Comparison Group	
	M	*S.D.*	*M*	*S.D.*	*M*	*S.D.*
1. Attachment	0.55	0.50	0.48[a]	0.50	0.68[a]	0.47
2. LOC	14.65	3.37	14.30[a]	3.54	15.29[a]	2.94
3. Self-Esteem	15.20	2.83	15.02[a]	2.91	15.52[a]	2.64
4. Direct FFS	20.36	6.65	19.63[a]	7.15	21.67[a]	5.42
5. Indirect FFS	19.42	7.49	18.53[a]	7.87	21.02[a]	6.45
6. Knowledge	4.08	2.01	3.91[a]	2.00	4.37[a]	1.99
7. Use Banks	3.45	1.67	3.17[a]	1.71	3.97[a]	1.47
8. Accounts	1.67	0.63	1.56[a]	0.65	1.88[a]	0.54
9. Savings	2.46	1.92	1.98[a]	1.82	3.34[a]	1.79
10. Understanding	8.38	3.32	8.30	3.38	8.51	3.20
11. Abilities	20.30	3.78	19.76[a]	3.86	21.28[a]	3.41
12. Management	11.33	3.89	10.90[a]	4.02	12.10[a]	3.50
13. Compulsive	0.72	2.56	0.31[a]	2.76	1.46[a]	1.95
14. Saved	0.52	0.50	0.50	0.50	0.54	0.50

Note. Full Sample: $N = 851$; Comparison Group: $n = 303$; Focal group: $n = 548$.
[a] Denotes a statistical difference in the means between students within the focal and comparison groups.

Bivariate correlations across the focus and comparison groups (Table 8 & in APPENDIX D Table 25 & Table 26) revealed several differences. For example, attachment was not related to financial knowledge and access to financial resources across both groups, whereas attachment was related positively and significantly to financial actions for the comparison group but not for the focal group.

Table 8 Correlation coefficients for all variables among participants in the focal group (n = 548; above the diagonal line) and participants in the comparison group (n = 303; below the diagonal line).

Factor	1	2	3	4	5	6	7	8
1. Attachment	--	0.34^{***}	0.16^{***}	0.10^{*}	-0.04	0.09	0.11^{*}	0.05
2. LOC	0.33^{***}	--	0.28^{***}	0.02	0.16^{***}	0.06	0.12^{*}	0.39^{***}
3. Self-Esteem	0.36^{***}	0.58^{***}	--	0.31^{***}	0.11^{*}	0.13^{*}	0.46^{***}	0.23^{***}
4. FS	0.13^{*}	0.28^{***}	0.28^{***}	--	-0.15^{**}	0.04	0.43^{***}	0.47^{***}
5. Knowledge	0.01	0.16^{**}	0.16^{***}	0.10	--	0.14	0.1	0.63^{***}
6. Access	0.12	0.14^{*}	0.28^{***}	0.19^{***}	0.23^{***}	--	0.24^{*}	0.25^{**}
7. Attitudes	0.19^{**}	0.53^{***}	0.53^{***}	0.50^{***}	0.21^{**}	0.31^{***}	--	0.22^{***}
8. Actions	0.17^{*}	0.46^{***}	0.15^{*}	0.48^{***}	0.48^{***}	0.47^{**}	0.57^{***}	--

Note. FS = Financial Socialization. $^{*}\ p < 0.05$, $^{**}\ p \leq 0.01$, and $^{***}\ p \leq 0.001$.

Factor loadings, intercepts, and residual variances for latent constructs were checked to determine model adequacy for mediation analysis (Hair et al., 2009), meaning group comparisons could be made because the factor loadings for the latent variables in the model were present and valid across groups. The fit statistics for the structural model (i.e., mediation model) comparing these two groups (Figure 6) demonstrated adequate fit statistics ($\chi^2(96) = 160.70$, $p < .001$; CFI = 0.98; TLI = 0.95; SRMS = 0.05; RMSEA = 0.04, 95% CI: 0.02-0.03).

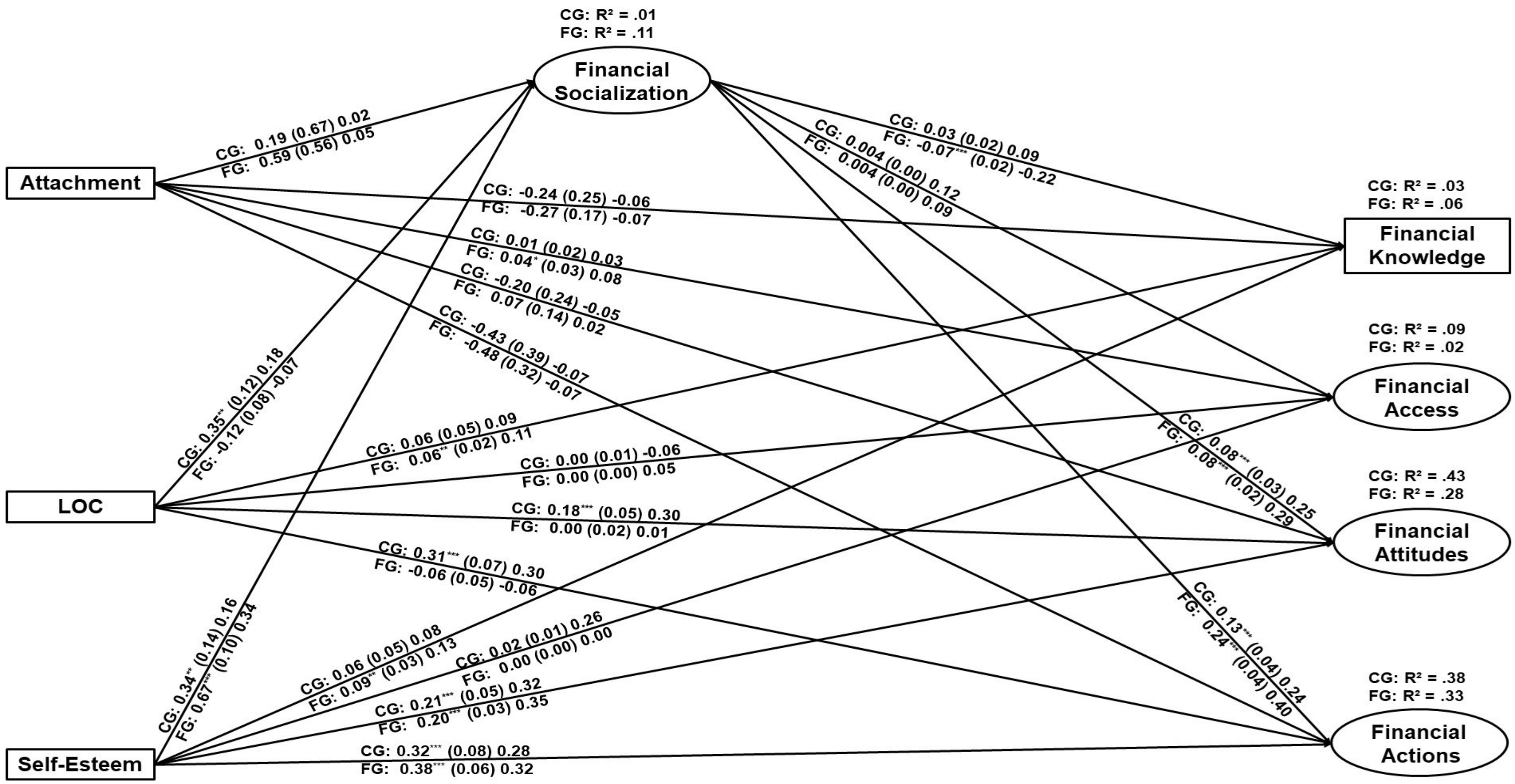

Figure 6 Results of SEM analysis with unstandardized, standard error, and standardized regression weights.

Fit Statistics: $\chi^2(96) = 160.70$, $p < .001$; CFI = 0.98; TLI = 0.95; SRMS = 0.05; RMSEA = 0.04, 95% CI: 0.02-0.03.
FG = Participants in the focal group; CG = Participants in the comparison group. * $p \leq 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

In exploring the relationships between personal characteristics and financial capability (Table 8, Table 10, Table 11 & Table 12), attachment was related significantly and positively to access to financial resources for students within the focal group ($\beta = 0.08$, $p \leq .05$), suggesting a student from an ethnic, low-income, or first-generation student background with a secure attachment had *greater* access to financial resources, while someone from this same group with a non-secure attachment had *lower* access to financial resources. Attachment was unrelated to any other domains of financial capability among students in the focal and comparison groups.

Among students in the focal group (Table 12 & Table 10), locus of control was related significantly and positively to financial knowledge ($\beta = 0.11$, $p \leq .05$), meaning someone within the focal group with an internal locus of control demonstrated *higher* financial knowledge, while someone with an external locus of control demonstrated *lower* financial knowledge. Locus of control was unrelated to any other domains of financial capability for students in the focal group.

Among students in the comparison group (Table 11 & Table 12), an internal locus of control was related positively and significantly to both financial attitudes ($\beta = 0.30$, $p \leq .001$) and financial actions ($\beta = 0.31$, $p \leq .001$). These results suggested someone in the comparison group with an internal locus of control demonstrated *more favorable* financial attitudes and *more positive* financial actions, while someone with an external locus of control demonstrated *less favorable* financial attitudes and *less positive* financial actions. Locus of control was unrelated to financial knowledge and financial access for students within the comparison group.

Among students within the focal group (Table 12 & Table 10), self-esteem was related significantly and positively to financial knowledge ($\beta = 0.13$, $p \leq .05$), attitudes ($\beta = 0.35$, $p \leq .001$), and actions ($\beta = 0.32$, $p \leq .01$), but it was not related significantly to access to financial resources among these students. Among students within the comparison group (Table 11 &

Table 12), self-esteem was unrelated to financial knowledge, but self-esteem was related significantly and positively to access to financial resources ($\beta = 0.26$, $p \leq .05$), financial attitudes ($\beta = 0.32$, $p \leq .001$), and financial actions ($\beta = 0.28$, $p \leq .01$).

In exploring the relationship between personal characteristics and financial socialization (Table 12 & Table 10), among the focal group, self-esteem was related significantly and positively to financial socialization ($\beta = 0.34$, $p \leq .001$), but attachment and locus of control were unrelated to financial socialization. Among the comparison group (Table 11 & Table 12), attachment was unrelated to financial socialization, whereas locus of control ($\beta = 0.18$, $p \leq .01$) and self-esteem ($\beta = 0.16$, $p \leq .001$) were related positively and significantly related to financial socialization.

The relationship between financial socialization and college students' financial capability (Figure 6) also varied according to grouping. Among students within the focal group (Table 12 & Table 10), financial socialization was related negatively to financial knowledge ($\beta = -0.22$, $p \leq .001$) and positively to financial attitudes ($\beta = 0.29$, $p \leq .001$) and financial actions ($\beta = 0.40$, $p \leq .001$). Among students in the comparison group (Table 11 & Table 12), financial socialization was not related to financial knowledge, but it was related positively to financial attitudes ($\beta = 0.25$, $p \leq .001$) and financial actions ($\beta = 0.14$, $p \leq .001$). Financial socialization was unrelated to financial access among both groups of students.

Table 9 Unstandardized and standardized direct and indirect effects for participants within the focal group (FG; n = 548).

	Knowledge						Access to Financial Resources					
	Direct		Indirect		Total		Direct		Indirect		Total	
	B	β	B	β	B	β	B	β	B	β	B	β
Attachment	-0.27	-0.07	-0.04	-0.01	-0.31	-0.08	0.04	0.08	0.00	0.01	0.05	0.08^{*}
LOC	0.06	0.11^{*}	0.01	0.02	0.07	0.13^{**}	0.00	0.05	0.00	-0.01	0.00	0.04
Self-Esteem	0.09	0.13^{*}	-0.05	-0.07^{***}	0.04	0.05	0.00	0.00	0.00	0.03	0.00	0.03
Socialization	-0.07	-0.22^{**}			-0.07	-0.22^{**}	0.00	0.09			0.00	0.09

Note. Socialization = Financial Socialization, β = standardized, B = unstandardized. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Table 10 Unstandardized and standardized direct and indirect effects for participants within the focal group (FG; n = 548)

	Attitudes						Actions					
	Direct		Indirect		Total		Direct		Indirect		Total	
	B	β	B	β	B	β	B	β	B	β	B	β
Attachment	0.07	0.02	0.05	0.02	0.12	0.04	-0.48	-0.07	0.14	0.02	-0.34	-0.05
LOC	0.00	0.01	-0.01	-0.02	-0.01	-0.02	-0.06	-0.06	-0.03	-0.03	-0.09	-0.09
Self-Esteem	0.20	0.35^{***}	0.06	0.01^{***}	0.25	0.45^{***}	0.38	0.32^{***}	0.16	0.13^{***}	0.54	0.46^{***}
Socialization	0.08	0.29^{***}			0.08	0.29^{***}	0.24	0.40^{***}			0.24	0.40^{***}

Note. Socialization = Financial Socialization, β = standardized, B = unstandardized. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Table 11 Unstandardized and standardized direct and indirect effects for participants within the comparison group (CG; $n = 303$).

	Knowledge						Access to Financial Resources					
	Direct		Indirect		Total		Direct		Indirect		Total	
	B	β	B	β	B	β	B	β	B	β	B	B
Attachment	-0.24	-0.06	0.01	0.00	-0.23	-0.05	0.01	0.03	0.00	0.00	0.01	0.03
LOC	0.06	0.09	0.01	0.02	0.07	0.10	0.00	-0.06	0.00	0.02^{*}	0.00	-0.04
Self-Esteem	0.06	0.08	0.01	0.02	0.07	0.09	0.02	0.26^{**}	0.00	0.02^{*}	0.02	0.28^{***}
Socialization	0.03	0.09			0.03	0.09	0.00	0.12^{*}			0.00	0.12^{*}

Note. Socialization = Financial Socialization, β = standardized, B = unstandardized. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Table 12 Unstandardized and standardized direct and indirect effects for participants within the focal group (CG; $n = 303$).

	Attitudes						Actions					
	Direct		Indirect		Total		Direct		Indirect		Total	
	B	β	B	β	B	β	B	β	B	β	B	β
Attachment	-0.20	-0.05	0.02	0.00	-0.19	-0.05	-0.43	-0.07	0.02	0.00	-0.41	-0.06
LOC	0.18	0.30^{***}	0.03	0.05^{**}	0.21	0.35^{***}	0.31	0.31^{***}	0.04	0.04^{**}	0.35	0.35^{***}
Self-Esteem	0.21	0.32^{***}	0.03	0.04^{*}	0.24	0.36^{***}	0.32	0.28^{**}	0.04	0.04^{*}	0.36	0.32^{**}
Socialization	0.80	0.25^{***}			0.08	0.25^{***}	0.13	0.24^{***}			0.13	0.24^{***}

Note. Socialization = Financial Socialization, β = standardized, B = unstandardized. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

In exploring potential mediation, preliminary analyses explored the relationships between personal characteristics and financial capability among college students without financial socialization in the model and again with financial socialization in the model (Table 13 & Table 14). Fit statistics for the model without financial socialization suggested a good fit for the data ($\chi^2(68) = 136.74$, $p < .001$; CFI = 0.97; TLI = 0.94; SRMR = 0.05; RMSEA = 0.04, 95% CI: 0.03-0.04).

Among students within the focal group, preliminary analysis (Table 13) revealed several pathways that might be tested for mediation including relationships between attachment and financial knowledge; locus of control and financial knowledge; and relationships between self-esteem and financial attitudes and financial actions. Once financial socialization was included in the model (Figure 6; Table 13), neither attachment nor locus of control were related significantly to financial socialization, meaning no mediation could take place between the first two pathways identified (i.e., attachment and financial knowledge; locus of control and financial knowledge). However, self-esteem was related significantly to financial socialization ($\beta = 0.34$, $p \leq .001$) and financial socialization was related significantly to both financial attitudes ($\beta = 0.29$, $p \leq .001$) and financial actions ($\beta = 0.40$, $p \leq .001$). Once financial socialization was included in the model, the magnitude of the relationships decreased between self-esteem and financial attitudes ($\beta = 0.45$, $p < .001$ without financial socialization; $\beta = 0.35$, $p < .001$ with financial socialization) and between self-esteem and financial actions ($\beta = 0.46$, $p < .001$ without financial socialization; $\beta = 0.32$, $p < .001$ with financial socialization), suggesting financial socialization partially mediated these relationships. Direct, indirect, and total effects of each relationship within this model are reported in Table 9 and Table 10.

Table 13 Preliminary analysis demonstrating the relationships between personal characteristics and financial capability with and without the financial socialization variable for participants in the focal group (FG; n = 548).

Path	Without FFS			With FFS		
	B	*S.E.*	β	B	*S.E.*	β
Attachment -> Knowledge	-0.36^{**}	0.17	-0.09	-0.27	0.17	-0.07
Attachment -> Access	0.05	0.03	0.08	0.04	0.03	0.08
Attachment -> Attitudes	0.16	0.17	0.04	0.07	0.14	0.02
Attachment -> Actions	-0.30	0.34	-0.05	-0.48	0.32	-0.07
LOC -> Knowledge	0.08^{***}	0.02	0.13	0.06^{*}	0.02	0.11
LOC -> Access	0.00	0.00	0.04	0.00	0.00	0.05
LOC -> Attitudes	-0.01	0.03	-0.02	0.00	0.02	0.01
LOC -> Actions	-0.09	0.05	-0.09	-0.06	0.05	-0.06
Self-Esteem -> Knowledge	0.04	0.03	0.06	0.09^{*}	0.03	0.13
Self-Esteem -> Access	0.00	0.00	0.03	0.00	0.00	0.00
Self-Esteem -> Attitudes	0.29^{***}	0.04	0.45	0.20^{***}	0.03	0.35
Self-Esteem -> Actions	0.54^{***}	0.06	0.46	0.38^{***}	0.06	0.32
Attachment -> Socialization	-	-		0.59	0.56	0.05
LOC -> Socialization	-	-		0.35^{**}	0.12	0.18
Self-Esteem -> Socialization	-	-		0.67^{***}	0.10	0.34
Socialization -> Knowledge	-	-	-	-0.07^{***}	0.02	-0.22
Socialization -> Access	-	-	-	0.00	0.00	0.09
Socialization -> Attitudes	-	-	-	0.08^{***}	0.02	0.29
Socialization -> Actions	-	-	-	0.24^{***}	0.04	0.40

Note. Socialization = Financial Socialization latent variable. β = standardized, B = unstandardized. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Among students within the comparison group, preliminary analysis (Table 14) revealed several pathways that might be tested for mediation: locus of control and financial attitudes; locus of control and financial actions; self-esteem and financial attitudes; and self-esteem and financial actions. Once financial socialization was included in the model (Figure 6; Table 14), locus of control (β = 0.18, $p \leq .01$) and self-esteem (β = 0.16, $p \leq .01$) were both related significantly and positively to financial socialization. Financial socialization was also related significantly and positively to both financial attitudes (β = 0.25, $p \leq .001$) and financial actions (β = 0.24, $p \leq .001$). However, the magnitude of the four relationships identified decreased (i.e., locus of control and financial attitudes: β = 0.34, $p < .001$ without financial socialization; β =

0.30, $p < .001$ with financial socialization; locus of control and financial actions: $\beta = 0.35$, $p < .001$ without financial socialization; $\beta = 0.31$, $p < .001$ with financial socialization; self-esteem and financial attitudes: $\beta = 0.36$, $p < .001$ without financial socialization; $\beta = 0.32$, $p < .001$ with financial socialization; self-esteem and financial actions: $\beta = 0.33$, $p < .001$ without financial socialization; $\beta = 0.28$, $p < .001$ with financial socialization), suggesting that financial socialization partially mediated the relationships between locus of control and financial attitudes and actions and between self-esteem and financial attitudes and actions for students within the comparison group.

Table 14 Preliminary analysis demonstrating the relationships between personal characteristics and financial capability with and without the financial socialization variable for participants in the comparison group (CG; $n = 303$).

Path	Without FFS			With FFS		
	B	*S.E.*	β	B	*S.E.*	β
Attachment -> Knowledge	-0.21	0.25	-0.05	-0.24	0.25	-0.06
Attachment -> Access	0.01	0.02	0.03	0.01	0.02	0.03
Attachment -> Attitudes	-0.21	0.26	-0.05	-0.20	0.24	-0.05
Attachment -> Actions	-0.42	0.40	-0.07	-0.43	0.39	-0.07
LOC -> Knowledge	0.08	0.05	0.11	0.06	0.05	0.09
LOC -> Access	0.00	0.00	-0.04	0.00	0.01	-0.06
LOC -> Attitudes	0.22^{***}	0.05	0.34	0.18^{***}	0.05	0.30
LOC -> Actions	0.35^{***}	0.07	0.35	0.31^{***}	0.07	0.31
Self-Esteem -> Knowledge	0.07	0.05	0.09	0.06	0.05	0.08
Self-Esteem -> Access	0.02	0.01	0.28	0.02	0.01	0.26
Self-Esteem -> Attitudes	0.26^{***}	0.06	0.36	0.21^{***}	0.05	0.32
Self-Esteem -> Actions	0.36^{***}	0.08	0.33	0.32^{***}	0.08	0.28
Attachment -> Socialization	-	-	-	0.19	0.67	0.02
LOC -> Socialization	-	-	-	0.35^{***}	0.12	0.18
Self-Esteem -> Socialization	-	-	-	0.34^{***}	0.14	0.16
Socialization -> Knowledge	-	-	-	0.03	0.02	0.09
Socialization -> Access	-	-	-	0.00	0.00	0.12
Socialization -> Attitudes	-	-	-	0.08^{***}	0.03	0.25
Socialization -> Actions	-	-	-	0.13^{***}	0.04	0.24

Note. Socialization = Financial Socialization latent variable. β = standardized, B = unstandardized. $^{*}p < 0.05$, $^{**}p \leq 0.01$, and $^{***}p \leq 0.001$.

Summary

In summary, among all participants in the current study (Figure 5), financial socialization fully mediated the relationship between self-esteem and access to financial resources. Financial socialization also partially mediated the relationships between self-esteem and financial attitudes and between self-esteem and financial actions. Self-esteem was the only personal characteristic to be related significantly to financial socialization. Financial socialization was related significantly to all four domains of financial capability. All direct, indirect, and total effects of the relationships between the variables of interest for the full sample are found in Table 1 and Table 6.

Among students within the focal group (Figure 6), financial socialization partially mediated the relationships between self-esteem and financial attitudes and between self-esteem and financial actions. Self-esteem was the only personal characteristic to be related significantly to financial socialization. Financial socialization was related significantly to financial knowledge, attitudes, and actions, but not to access to financial resources. All direct, indirect, and total effects of the relationships between the variables of interest for the focal group are found in Table 1 and Table 10.

Among students within the comparison group (Figure 6), financial socialization partially mediated the relationships between locus of control and financial attitudes, between locus of control and financial actions, between self-esteem and financial attitudes, and between self-esteem and financial actions. The personal characteristics of locus of control and self-esteem were related significantly to financial socialization, whereas attachment was not related to financial socialization. Financial socialization was related significantly to financial actions and financial attitudes, but not to financial knowledge and access to financial resources. All direct, indirect, and total effects of the relationships between the variables of interest for the comparison group are found in Table 11 and Table 12.

Discussion

The current study combined the Gudmunson and Danes' (2011) conceptual family financial socialization model and Sherraden's (2013) financial capability model with a multi-dimensional concept of financial capability (Atkinson et al., 2006; Olive, 2013).These models were adapted to explore the relationships between personal characteristics (i.e., attachment, locus of control, and self-esteem) and the financial capability (i.e., knowledge, access to financial resources, attitudes, behaviors) among college students and to examine whether the financial socialization process mediated these relationships. The current study also examined whether these relationships differed among ethnic, low-income, and first-generation status students (i.e., focal group), as compared to their more affluent peers (i.e., comparison group).

Among the combined sample and for each of the groupings (i.e., focal and comparison), the current study revealed no relationships between attachment and financial socialization, although attachment was related to access to financial resources and financial attitudes among the full sample and to access to financial resources among the comparison group. These findings prompt several important points of discussion. First, results from the current study did not support Jorgensen et al.'s (2016) previous findings indicating college students with secure attachment engaged in more positive financial behaviors (e.g., cash and credit management) and that financial socialization had the potential to improve those financial behaviors. One possibility is that financial actions and behaviors were measured differently across these two studies. This study focused on financial management behaviors and compulsive spending behaviors, whereas Jorgensen et al., (2016) used cash and credit management behaviors. It is possible that this variation may lead to finding inconsistency in the results. It is also possible that the students who participated in this study may have responded differently to their perceived adult attachment and the role of social interactions in the development of financial management behavior. At this time, there are some financial behavior scales that have been developed for college student populations (Dew & Xiao, 2011; Ksendzova, Donnelly, & Howell, 2017), however, these scales have been used on mostly White middle-class college student samples. Additional work is needed to determine if these financial behavior scales consider the financial circumstances of college students who are minority, low-income, and first-generation college students.

The second point of discussion was that attachment was unrelated to financial socialization. Within the context of financial socialization, Luhr (2018) found some parents may avoid talking about family finances in order to protect their children from financial distress. The current study may have been unable to replicate relationships between attachment and financial socialization, as this earlier research did, due to not including measures related to parental "protective" behaviors, such as the monitoring of financial transactions, or parents making financial decisions related to college tuition, monthly expenses, or emergencies on-behalf of their children. Furthermore, the current study only sought the perspectives of college students, rather than the perspectives of their parents. It is possible some of the participants over- or under-estimated the quality of the financial socialization they received from their parents and some participants may not be been aware of the financial socialization they are receiving.

The third point of discussion is that attachment, specifically a secure attachment, was related positively to access to financial resources in the combined sample, but this relationship was not found among the focal group of students identifying as minority, low-income, or first-generation students. Within the current study, a secure attachment was conceptualized as trusting sources of social support, their availability when help is needed, and college student's proactively seeking out that support (Fraley, 2018). This lack of a relationship between attachment and access to financial resources among the focal group may be due to being un- or under- banked status. Sherraden (2013) noted that some households are un- or under- banked, not because they are unable to manage their day-to-day finances, but because they believe traditional financial services, such as bank loans or credit cards, are not well suited to meet their specific financial needs. It is also possible that some college students do not own their own bank accounts and use a parent or family members account to conduct their financial transactions. This study focused on traditional banking services, but alternative financial services can be helpful during times of need among participants in the focal group. The exclusion of the role of alternative financial services (i.e., check cashing places, pawn shops) as part of access to financial services in this study may have influenced to access to financial services and the types of financial resources available to minority, low-income, and first-generation students

Within the current study, locus of control was related positively to financial socialization among the comparison group, but it was unrelated to financial socialization among the combined sample and the focal group. This relationship supports existing research among middle-class (and predominately White) college students. Researchers such as Britt et al., (2013), Jorgensen et al., (2016), and Serido et al., (2010) found that college students with more internal locus of control exhibit greater financial self-sufficiency. The desire to take control over one's finances may prompt college students to proactively seek financial information from their parents and opportunities for parents through the financial socialization to teach their children problem-solving strategies (Serido et al., 2010). On the other hand, minority, low-income, and first-generation students may view their financial circumstances differently, including the level of control they feel they have over these circumstances (Britt et al., 2013; Jorgensen et al., 2016). When students do not feel they have control over their circumstances, they may not believe learning more about finances or changing their financial behaviors will improve their situation (Luhr, 2018). As a result, they may be less inclined to seek out further financial socialization opportunities from their parents.

Locus of control was related to financial knowledge and financial attitudes for the combined sample, with financial knowledge among the focal group, and with financial attitudes and financial actions for the comparison group. This different pattern in relationships by racial groupings is noteworthy. Much of the financial research examining locus of control has focused on financial behaviors, revealing that students with an internal locus of control are more likely to budget and less likely to incur debt (Kidwell et al., 2003; Shim et al., 2010). However, the results of the current study suggest additional potential racial differences on other aspects of financial capability, including knowledge and attitudes. Perry and Mason (2005) suggested Whites exhibit more internal locus of control than other racial minorities. The current study supports this finding in that students in the comparison group (i.e., students not identifying as minority, low-income, or first-generation students) demonstrated more internal locus of control than students in the focal group. However, students within the focal group (i.e., minority, low-income, and first-generation students), when exhibiting an internal locus of control, may have had greater motivation to learn about finances than their more affluent peers, although motivation was not explored within the current study. Motivation and perceived control of one’s financial situation are also likely to influence financial attitudes. When students have more internal locus of control, they are also more likely to have favorable attitudes towards finances, which, in the case of the current study, applied primarily to the students within the comparison group. These findings need further research to better understand potential racial differences in the influence of locus of control on financial capability among college students.

In the current study, financial socialization demonstrated a negative relationship with minority, low-income, and first-generation students' financial knowledge, meaning the more financial socialization they received in the home, the lower their financial knowledge. This finding may suggest these students learned by observing and/or mimicking their parents' financial behaviors without learning the *whys* or best practices behind these behaviors. Even when parents were intentionally teaching their students about finances, they may not have explained the reason why specific financial behaviors were important. Some parents may have simply stated, "Because I said so…," which may not be overly beneficial to college students when they are making their own financial decisions. However, further research is needed to better understand why more financial socialization may influence poorer financial knowledge among these students.

In the current study, financial socialization also partially mediated the relationships between locus of control and financial attitudes and financial actions among students in the comparison group. This finding highlights potential benefits that financial socialization may have on improving financial capability when students have an internal locus of control. Additionally, financial socialization could build confidence in the financial abilities of young adults (CFPB, 2018). This finding can be used for the development of financial education programs focused on building the financial confidence of both parents and their children as parents who can discuss financial matters in the home, their young adult children feel they can trust their parents' financial advice and trust their parents will help guide them through financial difficulties (Jorgensen et al., 2016).

Within the current study, self-esteem was an important factor among all groupings, as self-esteem was related positively to financial socialization, financial attitudes, and financial actions. With limited research on the role of self-esteem on the development of financial capability (e.g., Hanley & Wilhelm, 1992), this study supports the relationship between developing a positive sense of self and how that belief can motivate one's efforts to develop greater financial capability. Self-esteem may be an important motivator for students wanting to develop financial capability, especially within the context of financial socialization efforts. Research has established that the financial socialization process can improve financial outcomes among young adults (CFPB, 2016b; Danes, 1994; Gudmunson & Danes, 2011; Jorgensen et al., 2016). If parents considered the financial socialization process as an intervention, the direct (i.e., intentionally-delivered instruction) and indirect (i.e., observation and mimicking) delivery of financial information can be used to improve the financial capability of their college students.

Findings from the current study further suggest a need to tailor financial education programs to students based on their needs. Students within the focal group likely have different needs than students within the comparison group. As financial education programs are better able to identify these different needs, they will also be able to better tailor their programs to address these needs. One area of focus is the development of an internal locus of control and positive self-esteem, as these are important factors to consider when trying to empower college students to take control of their financial situation. This empowerment begins in the home with parents' efforts at financially socializing their children. While locus of control and self-esteem can be adjusted later in life, it may be more efficacious to help children earlier in life to develop an internal locus of control and positive self-esteem. However, parents may also need help and additional education in better understanding how to financially socialize their children or to address locus of control and self-esteem issues within their children. As such, parent education programs that address these topics may be warranted.

Implications

The findings of this study lend themselves to implications in research and the development of prevention and intervention financial education programing to aid young adults and their parents in the development of improved financial capability. Given that young adults are expected to make complex financial decisions often with little to no formal financial education, the financial socialization process within the home can contribute to the development of financial capability. What follows is a description of the research, theory, and practical implication of this study.

Research and Scholarly Literature

To date, most research on financial socialization and financial capability has focused primarily on White, middle-class college students (e.g., Britt et al., 2011; Britt et al., 2013; Britt et al., 2015; Jorgensen & Savla, 2010; Jorgensen et al., 2016). The current study adds an important addition to this scholarly literature by exploring financial socialization as it relates to the financial capability among minority, low-income, and first-generation college students (i.e., focal group) as compared to their more affluent peers (i.e., comparison group). This comparison is important as students within this focal group demonstrate different personal characteristics, such as a more external locus of control, and different financial capability (e.g., financial knowledge, access to financial resources) than students within the comparison group. Furthermore, financial socialization influenced financial capability among these groupings similarly and differently. For example, financial socialization partially mediated the relationships between self-esteem and financial attitudes and financial actions for students within both groupings, yet financial socialization also partially mediated the relationships between locus of control and financial attitudes and financial actions for students within the comparison group only. Despite these findings, further differences between minority, low-income, and first-generation college students and their more affluent peers should be explored.

Theory

Results from the current study may also be used to modify existing theoretical models explaining how financial capability is developed among college students. These theoretical models often focus on financial capability as an outcome that follows a step-by-step progression from financial knowledge to financial attitudes to financial behaviors and finally to financial capability or financial well-being (e.g., Gudmunson & Danes, 2011; Jorgensen et al., 2016; Sherraden, 2013). However, these models may not include access to financial resources, which access may influence not only students' financial attitudes and their behaviors, but also their financial capability and well-being (Sherraden, 2013). Olive (2013) recognized this need to include access to financial resources within a construct of financial capability. Olive (2013) then proposed that financial capability was a multi-dimensional construct, in which each dimension (i.e., financial knowledge, access to financial services, attitudes, and actions) was an interrelated and a simultaneous outcome, rather than following a step-by-strep progression towards financial capability. The current study was used to explore this multi-dimensional conceptualization of financial capability within the context of personal characteristics (i.e., attachment, locus of control, and self-esteem) and financial socialization among college students. The results of this study revealed relationships between each dimension of financial capability and the personal characteristics and financial socialization examined, thus providing support for this multi-dimensional construct of financial capability. Further research is needed to confirm these relationships, yet the results from the current study provide an encouraging direction for examining financial capability as a multi-dimensional concept among college students.

Practice, Education, & Training

While financial education programs (i.e., peer-to-peer programs, online training modules, classes, or financial presentations and workshops) are available on many college campuses (Durband & Britt, 2012), results from the current study suggest these financial education programs may need to be tailored to address needs specific to students, as opposed to a one-size-fits-all program. For example, students in the focal group (i.e., minority, low-income, and first-generation students) demonstrated a more external locus of control, whereas students in the comparison group demonstrated a more internal locus of control. Additionally, students in the focal group may need additional help gaining access to financial resources, whereas students in the comparison group may have received more financial assistance from their parents. One potential direction for financial education programs can take is to conduct an initial assessment for incoming students to evaluate where they are with financial capability and what information and resources will be most beneficial to them.

The role of parents in financial education should not be ignored. Results from the current study, along with results from other existing research (e.g., Jorgensen et al., 2016; LeBaron et al., 2018), confirm parents play an integral role in the development of financial capability among college students through the financial socialization process. For example, financial socialization was related to nearly every dimension of students' financial capability. Financial socialization also partially mediated the relationships between self-esteem and financial attitudes and financial behaviors for students within both groups and between locus of control and financial attitudes and financial behaviors for students within the comparison group.

Administrators of financial education programming need to include parents to help their students develop financial capability. One way that administrators of these financial education programs can leverage this influence is to involve parents within these programs. By involving parents within the programs, administrators can better understand what has been taught and how. They can further tailor programs to respect parental preferences, such as credit card usage or debt. By involving parents, parents may be able to learn of resources and strategies that will help them to initiate financial discussions or respond to questions brought to them by their college-aged children. Parents may also gain insights regarding potential risky financial behaviors, such as overspending or relying on parental support when they fail to budget, and how to address these behaviors. Intervention techniques may also help to address an external locus of control or poor self-esteem in college students, and prevention efforts during childhood may be more effective and efficient. Parent education programs can provide parents with insights that help them to recognize signs of external locus of control or poor self-esteem and how they can help their children. Furthermore, these parent education programs can also be designed to address age-appropriate financial socialization efforts and financial capability.

Parents may avoid financial discussions because they fear their children may not be old enough or able to understand those financial concepts (Danes, 1994). Parent education programs can help parents to determine what or how to communicate complex financial topics, such as paying for college, how insurance works, or how to gain greater access to financial resources necessary for making financial choices. Through these financial education programs, parents can gain greater financial knowledge and confidence in how to communicate with their children, thus beginning to build their children's financial capability at a younger age.

Limitations

Although the current study provides an important contribution to the financial socialization and financial capability literature, namely its comparison of students with minority, low-income, or first-generation status to their more affluent peers, it is not without limitations. The questionnaire was advertised only to undergraduate students at a single university located in the Southeastern United States, meaning findings may not be generalizable for college students at other universities or in other geographical locations. It is also possible that participants not enrolled in a college program would respond differently than currently enrolled college students. This study was also designed as an exploratory cross-sectional study to determine participant's financial capability at a single time point. Future longitudinal research is needed to better understand the development of and changes in financial capability over time. Additionally, some responses were retrospective in nature, such as how parents taught college students about finances in the home. Memories may fade on what happened in the past. It is also possible that the findings of the study may include racial or ethnic bias due to the scales and questions used in the development of this study. While each scale used in the questionnaire was found to be reliable, these measures have been assessed primarily among populations of White college students. It is possible that minority, low-income, and first-generation college students may respond differently due to their own understanding of the terms used in the measures used in this study. As such, further measure development is needed among a more diverse population that captures the nuances of being an ethnic minority, low-income, or first-generation college student. Additionally, parents may have taught children about finances in the home, but children were indifferent about these efforts or did not grasp the importance of them at the time these lessons were delivered. As such, more parental insights are needed on how and when they taught their children about finances.

Future Research

To further examine the financial capability of college students (i.e., financial knowledge, access to financial resources, attitudes, and actions), future research should employ a multi-time-point longitudinal study. The cross-sectional nature of this study did not allow for an exploration of how financial capability changes over time. It would also be important to explore ways in which acquisition of financial knowledge through participation in existing financial education programs, such as courses in personal finance, financial aid workshops, or financial counseling, influence participant's responses before and after their participation. Such programs, using longitudinal methodology, can examine how financial capability changes over time, as well as the effectiveness of prevention and intervention programs in developing financial capability.

Future research might also consider including additional questions regarding family processes, such as the use of specific financial socialization strategies, types of financial communication in the home, and family rules about money and financial decision-making. These processes may also differ depending on the structure of the family and resources available. For example, college students from intact two-parent biological families may experience financial socialization differently than students from single-parent or step-parent headed households, in part, because of variations in instrumental support and financial resources available before and during college (Lee & Mortimer, 2009). Although participants were asked to respond to items related to the financial socialization process, LeBaron et al. (2018) have noted that how and what parents teach their children about money also includes experiential learning (e.g., earning an allowance or working for wages), financial planning (e.g., saving for college), money management (e.g., learning to budget), and the value of sharing money (e.g., tithing or charitable donations). Family processes may influence the types of experiential learning children and adolescents experience. For example, some parents may encourage their adolescents to get a job during high school to better prepare them for living on their own. Other parents may discourage their children from working, as they believe focusing on their education will be more beneficial over time. However, for some families, especially those with limited financial resources, children may be expected to work to assist the household family budget. Therefore, more research is needed to understand these family processes, including financial socialization strategies, communication, and values behind or motivations for financial decisions. One potential method is to gather multi-respondent data from the college students and their parents. Parents will be able to provide additional insights on these processes and reasons for using the strategies they use, which cannot be captured by examining data only from the college students.

Further research is also needed in exploring how locus of control and financial capability are related to the level of financial support provided by parents. Students from minority, low-income, or first-generation college student backgrounds may not believe their parents are able to help them financially. This lack of support may place more pressure on these students to manage their own financial situation, resulting in lower levels of feeling in control over their financial situation. On the other hand, students being supported primarily by their parents may feel they have little control over their financial situation and decision-making opportunities because their parents make these decisions for them. Furthermore, they may not believe developing financial capability is necessary at this stage in life, as they may believe their parents will always be there when help is needed. However, more research is needed in exploring locus of control and financial capability within the context of parental support.

Lastly, further research is needed in developing and validating scales and measures used in the exploration of financial capability among more diverse populations of college students and young adults. Little measurement development has focused on students identifying as minority, low-income, and first-generation students, so existing measures may reflect ethnic or racial biases. Furthermore, young adults not attending college may respond differently to existing measures designed primarily for college students. As such, future research is needed to make these measures adaptable to a wider and more diverse population of young adults.

Conclusion

The financial socialization process is an important building block in the understanding of how personal characteristics (i.e., attachment, locus of control, and self-esteem) influence the development of financial capability (i.e., financial knowledge, access to financial resources, attitudes, and actions). As gatekeepers of financial information, parents play a significant role in the development of financial capability through their involvement in the financial education of their children, either through financial discussions or modeling financial behaviors (Danes, 1994; Gudmunson & Danes, 2011; Jorgensen & Savla, 2010; Jorgensen et al., 2016). Financial socialization can be used to promote the financial capability of college students, but other factors also influence this development of financial capability, including the level of control students perceive they have over their financial situation, their level of self-esteem, and whether they are minority, low-income, or first-generation college students.

Some parents may not realize that their college students view them as models of financial behaviors (Danes, 1994) and a college student's financial attitudes and values are rooted in the financial habits established early in the home (Danes, 1994; CFPB, 2016b). However, financial behaviors are not fixed, as financial experiences and financial education can change knowledge, attitudes, and behaviors (Mandell & Klein, 2009). Financial knowledge can aid in building the financial confidence of young adults (Mandell, 2008), so they in turn can learn to control their spending and lower their compulsive spending behaviors (Pham, Yap, & Dowling, 2011). Empowering college students to take control of their financial situation includes a belief that they have some level of control over their financial situation (Shim et al., 2010), a positive sense of self to acknowledge one's financial limitations (Hanley & Wilhelm, 1992), and parents who encourage the development of healthy financial behaviors, such as controlling spending and saving (Jorgensen et al., 2016). Thus, financial capability is not a fixed quality, rather, financial capability is an ongoing process through which college students continually evaluate their financial alternatives through developing healthy financial habits that can help them achieve their financial goals (CFPB, 2016b).

CHAPTER IV

MANUSCRIPT TWO

Abstract

The role of alternative financial services, such as payday loans and pawn shops, has yet to be explored as a financial resource and a potential factor in the financial well-being of college students. The purpose of this study was to explore the relationships between financial well-being, financial knowledge and skills, financial attitudes (i.e., materialistic views), compulsive spending behaviors, and access to financial services (i.e., number of traditional bank accounts, credit cards, usage of alternative financial services) among college students. Data was collected from a convenience sample of 844 undergraduate students attending a university in the Southeastern United States, and regression analyses was used to explore these relationships. Findings revealed lower materialistic views and fewer compulsive spending behaviors were related positively to students' financial well-being. Among those not identifying as a minority, low-income, or first-generation (n = 301) student, greater financial skills, lower materialistic views, fewer compulsive spending behaviors. However, more usage of credit cards was related positively to financial well-being. Among minority, low-income, or first-generation (n = 400) students, greater financial skills and lower materialistic views were related positively to financial well-being, and more usage of alternative financial services was related negatively to their financial well-being. Among minority, low-income, and first-generation (n = 143) college students, greater financial skills and having lower materialistic views were related positively to financial well-being.

Literature Review

In the United States, college is seen as an opportunity to improve employment opportunities and income potential (U.S. Department of Education, 2015). While the U.S. Department of Education has noted that student loan default rates have declined (U.S. Department of Education, 2015), some young adults remain unsatisfied with their financial situation and continue to worry about their ability to repay their student loans (PWC, 2018). The Institute for College Access and Success (TICAS) also found African-American, Pell Grant recipients, and first-generation college students were more likely to default on federal student loans, even after completing their degrees (TICAS, 2018). To address the need to prepare college students to meet their financial future, some collegiate financial education centers have focused on improving financial knowledge and promoting money management behaviors, such as saving and budgeting (Durband & Britt, 2012). Others have introduced behavioral intervention strategies, such as financial counseling, to reduce credit card usage and student loan debt acquisition, as a way to encourage debt management for their students (Durband & Britt, 2012).

However, the acquisition of knowledge alone is insufficient in improving one's financial outlook when positive financial behaviors, such as saving and budgeting, are inconsistently maintained (Xiao, 2008). Even among students participating in financial education or counseling programs, once a financial crisis has been resolved, most fail to maintain lessons learned and resume poor money management behaviors (e.g., overspending and not saving) shortly thereafter (Britt et al., 2015; Britt et al., 2013; Durband & Britt, 2012).

One approach these collegiate financial education centers can take is to emphasize financial well-being among its student participants. Financial well-being is defined as:

> a state of being wherein you have control over day-to-day, month-to-month finances, have the capability to absorb a financial shock, are on track to meet your financial goals, and have the financial freedom to make the choices that allow individuals to enjoy life (CFPB, 2015, p. 5).

By conceptualizing financial well-being in this way, the purpose of this study was to explore the relationships between financial well-being, financial knowledge and skills, financial attitudes (i.e., materialistic views), compulsive spending behaviors, and access to financial services (i.e., number of traditional bank accounts, credit cards, usage of alternative financial services) among college students. This study also explored how these factors may differ among minority, low-income, or first-generation college students, as compared to students without these characteristics.

Theoretical Frameworks

Within the current study, a framework for exploring financial well-being among college students was developed, in which the Consumer Financial Protection Bureau's (2018) model of financial capability factors and well-Being (Figure 7) was integrated with Sherraden's (2013) financial capability model (Figure 8). This integration was deemed necessary as the Consumer Financial Protection Bureau failed to acknowledge within its model the influence financial attitudes and access to financial resources may have on financial well-being, thus denoting an important gap in the existing literature on financial well-being among college students. the purpose of the current study was to address this gap.

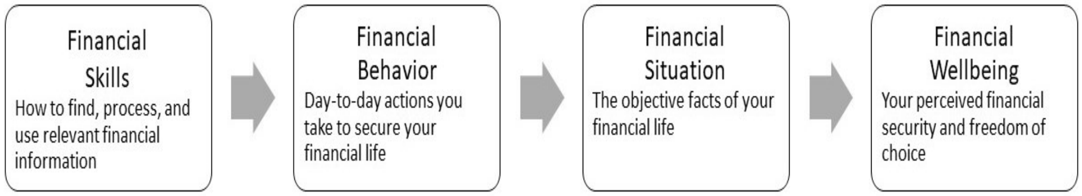

Figure 7 Model of Financial Capability Factors and Financial Well-being (Consumer Financial Protection Bureau, 2018).

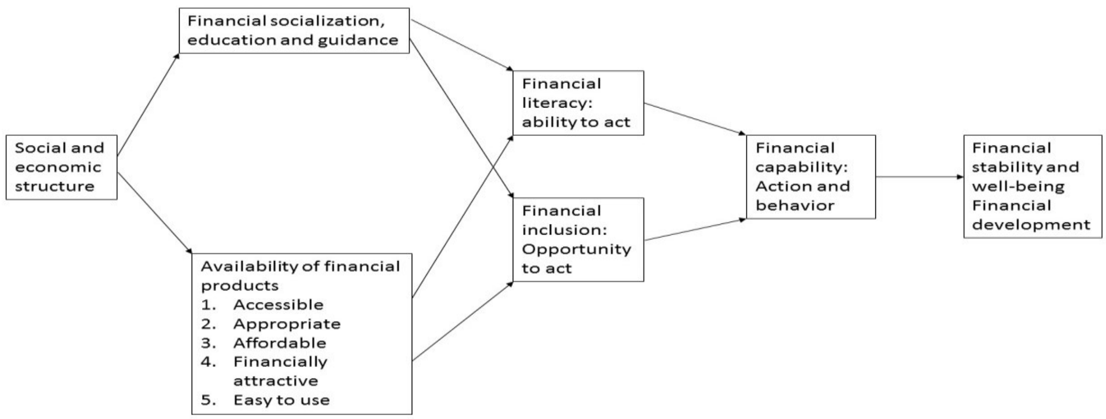

Figure 8 Financial Capability Model (Sherraden, 2013)

The Consumer Financial Protection Bureau's (2018) model of financial capability factors and financial well-being (Figure 7) was developed to explore how educational programs can more effectively promote the financial knowledge and skills necessary for people to make sound financial decisions and to promote financial well-being. This model illustrates that financial well-being is influenced by three key factors: financial knowledge and skills, financial behavior, and the person's financial situation. Within this framework, financial knowledge was conceptualized as a person's command of (or ability to recall) financial concepts (CFPB, 2018).

Financial skills reflect the ability to find reliable financial information and adapt that information to achieve financial goals (CFPB, 2018). Financial behaviors, such as budgeting, are the day-to-day financial actions people engage in (or do not engage in) to manage their finances (CFPB, 2018). These financial behaviors reflect the application of the financial skills, which skills are strengthened and refined through continued use. The financial situation reflects an individual's financial circumstances, such as income, debt, and credit standing, which can help or hinder people from achieving financial well-being (CFPB, 2018; Sherraden, 2013).

As noted by the Consumer Financial Protection Bureau (2018), financial knowledge and skills, behaviors, and the financial situation influence a person's financial well-being. However, other researchers have noted that financial attitudes and access to financial services also influence financial well-being (Gudmunson & Danes, 2011; Sherraden, 2013). For example, Gudmunson and Danes (2011) suggested financial knowledge, financial capabilities (i.e., skills), and financial attitudes influence both the financial behaviors of people and their financial well-being. Furthermore, Jorgensen and Savla (2010) found financial attitudes mediated the relationship between financial knowledge and behaviors among college students, suggesting that if students view a behavior unfavorably, they will not engage in that behavior, even though they may know it will be beneficial to them or improve their financial well-being. Additionally, Sherraden (2013) developed the model of financial capability (Figure 8) to illustrate how access to financial services fits within the context of financial socialization, financial literacy (i.e., knowledge), financial behaviors, and financial well-being. Sherraden suggested that without adequate access to financial services, people may not be able to develop financial stability (i.e., their financial situation) or well-being despite having financial literacy (i.e., financial knowledge) and engaging in positive financial behaviors (e.g., living within a budget).

One financial attitude that connects well with the financial socialization process (Danes, 1994), financial knowledge, access to financial resources (Sherraden, 2013), and financial well-being (Consumer Financial Protection Bureau, 2018) is a distrust in traditional banking services and the use of alternative financial services (e.g., payday loans, check cashing, pawn shops) for help in managing day-to-day finances and to achieve financial goals (Barr, 2008). This distrust in traditional banking services may have been developed through financial socialization received in the family-of-origin or through a lack of access to traditional banks and their services. Traditional banking and alternative financial services also reflect access to financial services, which is an important element in determining one's financial situation and financial well-being (CFPB, 2018; Sherraden, 2013). Sherraden (2013) noted financial behaviors, and ultimately someone's financial well-being, can be limited if that person does not have access to financial services that facilitate their financial goals. For example, the completion of a college degree is dependent on students' access to enough financial resources to pay for that college education, whether these resources are provided by themselves, their parents, financial aid, traditional banking services, or alternative financial services. Unfortunately, financial reasons are cited as the number one reason for dropping out of college (Johnson et al., 2009). When struggling financially, a student's distrust in traditional banks may prompt that student to seek out alternative financial services. These services may be intended as a quick fix to an inconvenient financial problem, but reliance on this service may turn into long-term debt and credit problems that may continue to harm that student's financial well-being. As such, when exploring financial well-being among students, it is important to examine not only their financial skills, behavior, and situation, but also their financial knowledge, attitudes, and access to financial resources.

Financial Capability and Well-being

According to Sherraden's (2013) model and other researchers' work (Gudmunson & Danes, 2011; Jorgensen et al., 2016), individuals require financial knowledge, attitudes, and access to financial resources to develop their financial capability. Financial capability has been defined as people having the knowledge on how best to manage their money, a favorable attitude towards applying this knowledge, and having the financial access to engage in behaviors that allow them to achieve their financial goals (Atkinson et al., 2007). Not only do these factors help people develop financial capability, but they also help people develop financial stability and financial well-being (CFPB, 2018; Sherraden, 2013). Financial well-being provides people with control over their finances, freedom, the capability to overcome financial shocks, and the ability to achieve financial goals (CFPB, 2015). Therefore, within the current study, it is proposed that financial knowledge, financial skills, attitudes, access to financial resources, and financial behaviors all influence college students' financial well-being.

Financial Knowledge and Financial Skills

Numerous researchers have identified financial knowledge as a precursor to financial capability and financial well-being (e.g., Gudmunson & Danes, 2011; Jorgensen et al., 2016; Sherraden, 2013). These researchers portray financial knowledge as operating under a similar premise: better financial knowledge will result in better financial behaviors, which behaviors will improve financial capability and ultimately, financial well-being (e.g., Gudmunson & Danes, 2011; Jorgensen et al., 2016; Sherraden, 2013). Financial knowledge within this research is usually conceptualized as a general understanding of financial concepts (e.g., savings, credit, insurance, and taxes) and the ability to recall these concepts (Gudmunson & Danes, 2011; Mandell & Klein, 2009). This conceptualization most resembles an objective measure of financial knowledge, in which participants try to correctly identify financial concepts and their definitions (Xiao, Serido, & Shim, 2012). Based on this conceptualization, many financial education and intervention programs, including on-campus financial resource centers, try to help students increase their financial knowledge (Durband & Britt, 2012). However, financial knowledge does not always translate into financial behaviors. For example, most people know they should save on a regular basis, yet few do so consistently. Researchers have found mixed results whether improved financial knowledge leads to improved financial behaviors (Fernandes, Lynch, & Netemeyer, 2014; Friedline & West, 2015).

Whereas financial knowledge reflects an objective measure of a person's understanding of and ability to recall financial concepts (Xiao, Serido, & Shim, 2012), financial skills reflect the ability to find reliable information and to apply that information to someone's financial situation in a way that will help that person achieve financial goals (CFPB, 2018). The Consumer Financial Protection Bureau (2018) differentiated financial knowledge from financial skills in their examination of financial well-being. Specifically, they found that financial skills were more strongly related to financial behaviors than was financial knowledge. Participants and practitioners agreed that it is not enough to gain knowledge of financial concepts, but people need to learn how to apply this knowledge if they want to improve their financial behaviors and financial well-being (CFPB, 2018). Following a budget is an example that illustrates this progression from knowledge to skills to behavior. Following a budget requires financial knowledge (i.e., knowing what a budget is and its purpose), financial skills (i.e., how to create a budget and adapt it to someone's financial situation), and the actual process of following the budget, which reflects a financial management behavior. Although many people understand what a budget is, they may not be inclined to follow a budget (i.e., apply this knowledge), even though doing so may improve their financial well-being. A person's financial attitudes may influence whether they apply financial knowledge (i.e., financial skills) or not.

Financial Attitudes

Within the current study, financial attitudes are conceptualized as people's subjective perceptions of their financial situation and the feelings and emotions they have regarding money and its usage (Borden et al., 2008). Healthy financial attitudes can promote healthy financial behaviors, such as saving money and not overspending, which can reduce financial distress and improve financial well-being (Hayhoe et al., 2000). However, adopting unhealthy attitudes may hinder young adults' financial well-being moving forward. Furthermore, the attitudes someone has towards finances and financial behaviors will often influence whether that person engages in those behaviors, regardless of their financial knowledge (Jorgensen & Savla, 2010). For example, Mandell (2008) noted some students may not be accustomed to keeping a budget and may come from households where budgeting was not prioritized. As a result, these students may not follow a budget because they do not understand the need for it or any benefits from following a budget. On the other hand, Serido and colleagues (2010) noted when college students understood budgeting as being important, they were more likely to spend within the budget parameters and actively save money as part of the budgeting process.

Materialistic Views

The current study focused specifically on the attitude of materialism. According to Richins (2004), materialism represents "the importance a person ascribes to the ownership and the acquisition of material goods to achieve a desired state" (p. 210). Materialism has been shown to be related negatively to psychological well-being (Kasser et al., 2014) and financial well-being (Gutter & Copur, 2011). Kasser et al.'s (2014) research also demonstrated that as people reduced their materialistic perspectives, their psychological well-being increased. The regulation of financial behaviors, such as saving or spending money, can be influenced by a person's perceptions of materialistic goods and the meaning behind these goods (e.g., power, status, and prestige). Those with higher materialistic views place a greater emphasis on objects and possessions that create a specific image, such as status, and use these materialistic goods to convey an image by which college students want to be known by others (Pinto, Parente, & Palmer, 2000). However, the pressure to continue acquiring these goods to maintain such an image may result in excess spending, which is likely to diminish one's financial well-being and possibly their desired image (CFPB, 2018; Pinto, Parente, & Palmer, 2000).

Under these circumstances, credit card debt may be a result of these materialistic views or compulsive spending behaviors (Pinto, Parente, & Palmer, 2000). Students may develop these attitudes and behaviors possibly because they believe their parents will bail them out, when necessary (Hamilton, 2013). Parents may feel it is better to bail out their children of these situations, but these efforts may inadvertently influence these students in developing unrealistic expectations about financial responsibility and discourage them from taking control of their own financial well-being. Some researchers have found that young adults receiving instrumental aid from their parents (e.g., allowance, money for expenses or emergencies) experienced less financial distress and greater financial well-being (Kim & Chatterjee, 2013). However, these same youth also held more credit card debt, potentially because they felt more comfortable with this debt (Kim & Chatterjee, 2013).

Financial Behaviors

Multiple theoretical perspectives highlight the influence financial behaviors have on financial well-being (CFPB, 2018; Gudmunson & Danes, 2011; Jorgensen & Savla, 2010). When people engage in positive financial behaviors (e.g., living within one's means, saving consistently), they are better able to control their financial situation and prepare for unexpected events (CFPB, 2018; Pham, Yap, & Dowling, 2011; Tang, 2016). When they engage in negative financial behaviors, such as compulsive spending, they may be overspending, taking on debt, and experiencing more financial distress, which will ultimately harm their financial well-being and preparedness to weather unexpected emergencies (Durband & Britt, 2012; Roberts & Jones, 2001). Within the current study, compulsive spending behaviors were examined specifically.

Compulsive Spending Behaviors

Compulsive spending refers to the need to purchase goods or services that alter an individual's negative mood (Pham, Yap, & Dowling, 2011). Many college students have a desire to spend, possibly due to poor money management, less parental monitoring and control, or because spending provides students with a sense of personal satisfaction or a state of temporary happiness (Britt et al., 2011; Koran et al., 2006). Some young adults may turn to "retail" therapy as a way to deal with emotional issues (e.g., feelings of depression, anxiety, or low self-esteem), even though such spending behaviors may turn into compulsive or addictive behaviors (Atalay & Meloy, 2011). Other students may also use shopping to promote their level of prestige or status (Durband & Britt, 2012; Hanley & Wilhelm, 1992; Roberts & Jones, 2001). For example, Hanley and Wilhelm (1992) suggested some college students may spend money to enhance their status as they seek more peer acceptance. Such compulsive behaviors may influence a person's financial well-being (Roberts & Jones, 2001). For example, a college student may make a compulsive purchase to fulfill an emotional need, but this financial behavior can hurt their financial situation, especially if they overspend or do not keep adequate financial records (Durband & Britt, 2012). Additionally, these behaviors may lead to greater unhappiness and indebtedness, which may prompt further compulsive spending behaviors, thus creating a cycle of compulsive spending and emotional and financial problems.

Having access to additional sources of money, such as savings accounts, credit cards, or access to alternative financial services, can further enable individuals to engage in compulsive spending behaviors that may otherwise be inaccessible to them if they lacked these resources (Hanley & Wilhelm, 1992). This access may prompt more materialistic attitudes among college students, which may prompt them to place greater importance on possessions that will further strain their financial situation (Pinto, Parente, & Palmer, 2000). Prior research has found that materialism is related to compulsive spending (Faber & O'Guinn, 1992). Unfortunately, many young adults prioritize living in the moment, without realizing the long-term effects today's purchases may have on their future financial well-being. For some college students, they may view their financial decisions in terms of how a purchase will influence their emotional well-being currently, rather than how these purchases will fulfill their needs and wants at a later time (Britt et al., 2013; Britt et al., 2015).

Financial Services

College students may view completion of a college degree as a pathway towards greater financial security and financial well-being (Durband & Britt, 2012), as having a college degree often increases a person's income potential over the lifetime (U.S. Department of Education, 2015). However, college affordability and student loan debt create challenges for many students, including stress, anxiety, and doubts about their future (Johnson et al., 2009). Some students may struggle with these challenges, while other students may not, depending on how they were taught about money and the financial assistance available to them from their families and other sources. For example, some minority, low-income, and first-generation status college students may come from homes, where living paycheck-to-paycheck is a daily occurrence (Eichelberger, Mattioli, & Foxhoven, 2017). Other students may have parents, who prioritized saving money for their college education and openly discussed and taught their children how to manage these finances (Romo, 2011). As such, the benefits of higher educational attainment may be disproportional among college students, depending on the level of financial assistance and financial knowledge they have to make sound financial decisions (Eichelberger, Mattioli, & Foxhoven, 2017).

The ability to manage one's personal finances and to borrow money during college requires institutional resources, such as having a checking or savings account. Having a bank account allows individuals to conduct basic financial transactions and to save money, and they may also lead to credit services with affordable and fair terms (Burhouse et al., 2015). Having a bank account has also been identified as a positive contributor towards financial security and well-being (Birkenmaier, 2012). However, obtaining and maintaining a bank account may not be possible for individuals already struggling with their financial situation. For example, some banking institutions may require direct deposit or a minimum balance to avoid monthly banking service fees (Burhouse et al., 2015). These requirements may prevent someone from having or using a bank account. As such, people may turn to using alternative financial services, especially in communities where traditional banking services are not available or affordable (Barr, 2008). According to the National Financial Capability Study (2013), a quarter of the more than 26,000 participants reported using an alternative financial service within the previous five years (Lusardi & Scheresberg, 2013). Another study of more than 5,000 Millennials, including those who were college educated, found 42% of participants used alternative financial services to help them manage their personal finances (Schuyler et al., 2018).

Banking services, whether they are traditional (i.e., checking or savings accounts) or non-traditional (i.e., alternative financial services), can influence the financial decisions and financial well-being of college students. Some studies have noted individuals may piece together financial management strategies, including traditional banking services and alternative financial services, in an effort to achieve their financial goals (Barr, 2008). For example, bank procedures may require "holding a check before depositing the funds," so some individuals may opt for using alternative financial services in an effort to quickly access to their money (Birkenmaier, 2012). As long as individuals view alternative financial services as being beneficial towards achieving and maintaining their financial well-being, they will continue to use these services (Barr, 2008). In some circumstances, however, people may turn to alternative financial services when they lack money to meet all their financial obligations. Unfortunately, a lack of financial knowledge or understanding of how these services operate may lead to a cycle of debt, which debt has been associated with lower financial well-being and higher levels of stress (Norvilitis et al., 2006).

Ethnic Minority, Low-Income, and First-Generation Students

The transition to higher education, the influence of social groups, and increased responsibilities may become an intimidating period for many students. Some students, particularly minority, low-income, and first-generation students, may engage in financial behaviors they hope will bring more acceptance from others, but may lead to unnecessary debt and poorer financial well-being (Bearden, Netemeyer, & Teel, 1989; Kropp, Lavack, & Silvera, 2005; Netemeyer, Bearden, & Teel, 1992). When facing pressing financial management issues or inadequate credit histories, some students may turn to alternative financial services for help

(Birkenmaier, Curley, & Kelley, 2011; McNair et al., 2016). They may view these services as their only viable source of credit and short-term financial relief (Schuyler et al., 2018), even though these services may lead to more debt (Lin et al., 2016). College students may not realize any harm in using alternative financial services, due to their presence in many of their communities-of-origin and by observing family members using these services (Burhouse et al., 2015; Fowler et al., 2014; Prager, 2009). As a result, they may develop an accepting attitude towards alternative financial services and view them as convenient ways of managing financial issues, despite potential long-term threats to their financial well-being.

Summary

In summary, the Consumer Financial Protection Bureau's (2018) model of financial capability factors and financial well-being suggests that financial knowledge and financial skills, financial behavior, and the financial situation develop financial well-being in a step-by-step procedure. While this model includes what Sherraden (2013) suggests is the ability to act (i.e., financial knowledge), it lacks the inclusion of financial attitudes and access to financial resources, which according to Sherraden (2013) provides the opportunity to act. As such, the current study combined these models to explore potential factors that influence college students' financial well-being, including their financial knowledge and financial skills; materialistic views (i.e., attitudes); compulsive spending behaviors; and access to financial resources, including alternative financial services.

Research Design

The purpose of this study was to explore the relationships between financial well-being, financial knowledge and skills, financial attitudes (i.e., materialistic views), compulsive spending behaviors, and access to financial services (i.e., number of traditional bank accounts, credit cards, usage of alternative financial services) among college students. To explore these relationships an online cross-sectional survey was administered to collect data from a convenience sample of undergraduate students attending a university in the Southeastern United States. Descriptive statistics, correlations, and linear regression analyses were conducted using SPSS version 25. Previous research on adult populations (18 years of age and older) in the United States demonstrated that financial knowledge and skills, attitudes, and behaviors are related to financial well-being (CFPB, 2018). This study contributes to this existing body of knowledge by specifically exploring how college students' usage of traditional banking and alternative financial services influence their financial well-being and comparing these associations among minority, low-income, and first-generation college students and their more affluent peers. As such, this study was guided by the following research questions:

(1) What are the relationships between financial well-being, financial knowledge and skills (i.e., applied knowledge), financial attitudes (i.e., materialistic views), compulsive spending behaviors, and access to financial resources (i.e., number of traditional bank accounts, credit card usage, and alternative financial services usage)?

(2) How do these associations differ among college students *not* identifying as minority, low-income, or first-generation students, those identifying as minority, low-income, *or* first-generation college students, and those identifying as minority, low-income, *and* first-generation college students?

Methods

Participant Recruitment

Undergraduate students, aged 18 and older and attending a university in the Southeastern United States, were invited to participate in the current study. Following notice of approval for human research by the Institutional Review Board (IRB) in August 2017, the 283-item questionnaire was distributed online via Qualtrics. The researcher sent out personal email invitations to instructors and administrators in late August 2017. Instructors were invited to promote the survey and to consider offering extra credit to students for participation in the study. The University Information Technology Services department also released a survey invitation via a campus-wide listserv email in late September 2017. The email provided an anonymous link to complete the survey (see APPENDIX B for the email recruiting script). The opening screen provided participants with the informed consent and IRB protocol information (see APPENDIX B for verbiage). Upon completion of the questionnaire, participants were given the opportunity to enter a drawing for one of four $25 gift cards by providing a current email address.

In order to run a comparative analysis, students with the selected focal characteristics (i.e., minority, low-income, and first-generation status) were oversampled through a non-random, campus-wide email solicitation, including invitations distributed through the University listserv system and emails to specific faculty and administrators requesting their assistance in recruiting participants. These faculty and administrators oversaw classes and campus-wide programs geared specifically to students matching these selection characteristics. During the Fall 2017 term, over 600 responses were collected, and a reminder email was distributed in late January 2018 to seek additional responses throughout the Spring 2018 semester. The questionnaire was available for a total of seven months, after which time the link to the survey was deactivated by the researcher. A total of 892 responses were collected over these two semesters.

Sample

Responses to an online survey were collected from 892 students at a university in the Southeastern United States throughout the Fall 2017 and Spring 2018 semesters. Questionnaires completed by graduate students and those with missing responses (n = 41) were removed prior to data analysis. Of the 851 valid responses, 548 of the participants (64%) self-identified as having at least one of the characteristics of minority, low-income, or first-generation college student status, and 572 (67%) of the participants were female.

Measures

This 283-item survey (see APPENDIX C) measured personal and family characteristics (i.e., demographic questions), domains of financial capability (i.e., financial knowledge, access to financial resources, financial attitudes, and financial actions) and included scales measuring materialistic views (Richins, 2004), compulsive spending (Faber & O'Guinn, 1992), and the financial well-being scale from the Consumer Financial Protection Bureau (2016).

Ethnic Minority, Low-Income, First-Generation College Student Status

Demographic questions were used to classify whether students met the focal characteristics of being a minority, low-income, or first-generation student. Ethnic minority status was determined through responses to Census race and ethnic classifications (APPENDIX C, Q1 & Q2). Low-income status was determined by whether students participated in the Pell Grant financial aid program (APPENDIX C, Q3) and whether they used government-sponsored health care programs during their youth (APPENDIX C, Q27). First-generation status was determined by participants providing the parental level of educational attainment in the home (APPENDIX C, Q74 & Q75) and whether participants self-identified as the first from their family to attend or complete a four-year college degree (APPENDIX C, Q4 & Q5). Participants self-identifying as *not* being minority, low-income, or first-generation college students were coded as 0 (Group 1), participants self-identifying as a minority, low-income, *or* first-generation college students were coded as 1 (Group 2), and participants self-identifying as a minority, low-income, *and* first-generation college student were coded as 2 (Group 3).

Dependent Variable: Financial Well-being

The free and publicly available abbreviated (5-item) version of the Consumer Financial Protection Bureau's (2016) Financial Well-being Scale (APPENDIX C, Q63) was used to score and measure financial well-being. Example statements included "Because of my money situation, I feel like I will never have the things I want in life" and "I am concerned that the money I have or will save won't last." The scale had good reliability ($\alpha = .73$) with responses ranging from 0 (*Never*) to 4 (*Always*). One negatively worded statement was reverse coded. A composite score was created using the scoring sheet provided by the Consumer Financial Protection Bureau (2016), where higher scores represented greater financial well-being.

Independent Variables

Concepts represented within guiding theoretical frameworks (CFPB, 2018; Gudmunson & Danes, 2011; Sherraden, 2013) were identified in the current study as the independent variables. These factors included financial knowledge and financial skills, financial attitudes (i.e., materialistic views), compulsive spending behaviors, and access to financial resources (i.e., number of traditional bank accounts, credit card usage, and alternative financial services usage).

Financial Knowledge and Financial Skills

Financial knowledge reflected an objective measure (i.e., they know it or they do not know it) of what students know about personal finances. This measure consisted of seven multiple-choice questions taken from the Emerging Adults Financial Capability Survey (EAFCS; Jorgensen et al., 2016; APPENDIX C, Q47-62). Questions measured knowledge of four domains, including savings (1-item; i.e., "How long will it take [David] to accumulate savings of $600?"), credit and debt (3-items; e.g., "If a consumer fails to pay personal debts, a creditor is allowed to do all of the following except…"), insurance (1-item; i.e., "Many young people receive health insurance benefits from their parents. Which of the following statements is true about health insurance coverage?"), and taxes (2-items; e.g., "Your take home pay from your job is less than the total amount you earn. Which of the following best describes what is taken out of your total pay?"). The scale exhibited adequate reliability ($\alpha = .70$). Responses were scored as correct (1) or incorrect (0), with a composite score ranging from 0 to 7.

Financial skills represented participants' ratings regarding how well they applied four financial behaviors in their lives. Each of these behaviors reflected elements that might be found within a budget, including planning, controlling spending, and saving. Furthermore, several of these elements (i.e., controlled spending, saving) overlapped elements found within the Consumer Financial Protection Bureau's (2018) Financial Skills Scale. Within the current study, this measure asked specifically, "How do you grade yourself in [e.g., controlling my spending, saving money]" (Jorgensen et al., 2016; APPENDIX C, Q33). Responses ranged from 0 (*Poor*) to 3 (*Excellent*). A composite score ranged from 0 to 12, where higher scores represented higher rated financial skills. The scale was reliable ($\alpha = 0.80$).

Materialism

The 9-item short form of the Materialism Scale by Richins (2004) measured participants' materialistic views (APPENDIX C, Q32). Example statements included "I admire people who own expensive homes, cars, and clothes" and "The things I own say a lot about how well I'm doing in life." Responses for each item ranged from 0 (*Strongly Disagree*) to 3 (*Strongly Agree*). All of the items in the scale were reversed scored creating a composite score from 0 to 27, where higher scores indicated lower levels of materialism and lower scores indicated higher levels of materialism. The scale had good reliability ($\alpha = .80$).

Compulsive Spending Behaviors

The 7-item Compulsive Buying Scale (Faber & O'Guinn, 1992) measured how often participants have bought things they could not afford or engaged in other compulsive spending behaviors (APPENDIX C, Q46). Example statements included "If you have any money left at the end of the month, I just have to spend it" and "Felt others would be horrified if they knew of my spending habits." The scale had good reliability ($\alpha = .87$) with responses ranging from 0 (*Never*) to 4 (*Always*). Faber and O'Guinn provided a mathematical equation to identify whether participants were classified as compulsive buyers (those with scores equal to or less than -1.34), thus higher scores on the scale reflected lower levels of compulsive spending behaviors:

$$\text{Compulsive Spending Mathematical Equation} = -9.69 + (a * .33) + (b * .34) + (c * .50) + (d * .47) + (e * .33) + (f * .38) + (g * .31)$$

Number of Bank Accounts

The number of bank accounts was measured by participants' responses to the item "What kinds of financial accounts do you currently have? Mark all that apply" (Jorgensen et al., 2016; APPENDIX C, Q41). Participants could mark any or all of the responses, which included "I do not have any type of bank account," "Savings account," "Checking account," "Certificates of deposit (CD)," or "Other". A composite score exhibited adequate reliability ($\alpha = .69$), representing the total number of accounts selected and ranged from 0 to 4 accounts.

Credit Card Usage

Credit card usage was measured by participants' responses to the item "What is the combined total balance owed on your credit card (including store issued credit cards)?" (Jorgensen et al., 2016; APPENDIX C, Q37). Responses were coded as 0 (*I do not own a credit card*), 1 (*$0-$99*), 2 (*$100-$499*), 3 (*$500-$999*), 4 (*$1,000-$1,999*), 5 (*$2,000-$4,999*), and 6 (*$5,000 or more*). Higher scores represented higher credit card balances.

Alternative Financial Service Usage

Alternative financial service usage measured how often participants had used six different alternative financial services within the past 12 months. Example items included: "I have used a pay day loan type service" and "I have used a check cashing service" (Jorgensen et al., 2016; APPENDIX C, Q23). Responses included 0 (*Never*), 1 (*At least once*), 2 (*2 to 5 times*), 3 (*6 to 10 times*), and 4 (*More than 10 times*). A composite score was calculated representing the frequency of this usage with a score ranging from 0 to 24. This score was then recoded into a new composite score, in which no alternative financial services had been used (0), alternative financial services had been used at least once but no more than 5 times (1), and alternative financial services had been used 5 or more times (2) in the last 12 months.

In addition to these variables, demographic and economic variables were also included as control variables. These control variables included mother's educational attainment, participants' gender, age, academic standing, level of parental financial support, and amount of student loans.

Data Analysis

Data for this study were collected via the Qualtrics software platform and participant responses were downloaded into IBM SPSS version 25 statistical software and prepared for data analysis, including an examination of descriptive statistics for each variable of interest.

Bivariate Spearman correlations were used to examine whether the variables of interest were appropriate for inclusion in the analysis (Hair et al., 2010). Specifically, correlations were used to identify potential multicollinearity, as highly correlated variables may distort the predictive accuracy of regression analyses (Hair et al., 2010). To determine an acceptable degree of collinearity, the correlation coefficient and the tolerance value (VIF value) in the regression analysis must be reviewed and should be below 10 (Hair et al., 2010). It was determined no multicollinearity was present as all correlation coefficients demonstrated magnitudes below 0.80 and the VIF values for all items were below 2.0 (Hair et al., 2010).

Regression analysis was employed in this study to explore the relationships among multiple simultaneous predictors on an outcome variable (Hair et al., 2010). To conduct a regression analysis, statistical considerations of normality, linearity, and homoscedasticity were also examined to determine whether all variables were adequate for analysis (Hair et al., 2010). Potential outliers were identified by conducting a visual inspection of the data using box-and-whisker plots, which revealed no outliers, and using Mahalanobis distance measure (D^2) to screen out cases, which identified 7 outlier cases (Hair et al., 2010). These outliers were removed, leaving a total of 844 valid responses for regression analysis. To check for normality and linearity, histograms were visually checked for normal distribution, and standardized residuals and predicted values were plotted within a scatterplot to interpret homoscedasticity from the graphical representation of the regression analyses (Hair et al., 2010).

Results

Of the 844 study participants, 301 (35.7%) participants did *not* self-identify as a minority, low-income, or first-generation college student (Group 1); 400 (47.4%) participants self-identified as a minority, low-income, *or* first-generation college student (Group 2); and 143 (16.9%) participants self-identified as a minority, low-income, *and* first-generation college student (Group 3). Females (67.1%; n = 566) made up the majority of the participants, more than half of the participants graduated from a high school in Mississippi (62.9%; n = 531), and participants were an average age around 21 at the time of the survey (Table 15).

Table 15 Demographic information for participants.

	All (N = 844)	Group 1 (n = 301)	Group 2 (n = 400)	Group 3 (n = 143)
Gender				
Male	264	88	127	49
Female	566	210	265	91
Race/Ethnicity				
White	554	301	253	0
Non-White	290	0	147	143
Low-Income				
No	428	301	127	0
Yes	416	0	273	143
First-Generation				
No	515	301	214	0
Yes	329	0	186	143
Academic Standing				
First-year	277	76	136	65
Freshman	62	14	34	14
Sophomore	114	55	48	11

Table 15 (continued)

	All (N = 844)	Group 1 (n = 301)	Group 2 (n = 400)	Group 3 (n = 143)
Junior	200	74	91	35
Senior	178	78	85	15
Age (*S.D.)*	21.19 (3.43)	20.97 (1.62)	21.32 (3.71)	21.30 (5.05)
Mother's Education				
No college	163	8	95	60
Some college	231	27	126	78
Undergraduate degree	278	165	109	4
Graduate degree	172	101	70	1
Graduate of MS High School				
Yes	531	153	256	122
No	313	146	140	17
Student Loan Debt				
Yes	523	123	287	113
No	321	178	113	30
Credit cards				
Yes	349	133	152	69
No	495	168	248	79

Note. Group 1 = Participants *not* identifying as minority, low-income, or first-generation students. Group 2 = Participants identifying as minority, low-income, *or* first-generation students. Group 3 = Participants identifying as minority, low-income, *and* first-generation.

Research question 1

What are the relationships between financial well-being, financial knowledge and skills (i.e., applied knowledge), financial attitudes (i.e., materialistic views), compulsive spending behaviors, and access to financial resources (i.e., number of traditional bank accounts, credit card usage, and alternative financial services usage)?

Bivariate correlations (Table 16) demonstrated significant relationships between financial well-being and most of the variables of interest: higher financial knowledge (r = 0.10, $p \leq .01$), higher financial skills (r = 0.32, $p < .001$), lower materialistic views (r = 0.32, $p \leq .001$), lower compulsive spending (r = 0.27, $p \leq .001$), higher number of bank accounts (r = 0.12, $p \leq .001$), and higher alternative financial services usage (r = -0.18, $p \leq .001$). However, credit card usage was not related significantly with financial well-being.

Table 16 Descriptive statistics and correlation coefficients for all variables among all participants (N = 844)

Factor	*M*	*S.D.*	1	2	3	4	5	6	7	8
1.Well-being	54.98	9.98	--	0.10^{**}	0.32^{***}	0.32^{***}	0.27^{***}	0.12^{***}	-0.01	-0.18^{***}
2. Knowledge	7.45	2.85		--	0.23^{***}	0.12^{***}	0.31^{***}	0.17^{***}	0.00	-0.17^{***}
3. Skills	4.34	2.73			--	0.12^{***}	0.31^{**}	0.14^{***}	-0.09^{*}	-0.09^{**}
4. Materialistic	22.83	4.42				--	0.29^{***}	0.06	-0.01	-0.16^{***}
5. Compulsive	0.74	2.54					--	0.20^{***}	-0.17^{***}	-0.24^{***}
6. Accounts	1.67	0.63						--	0.07	-0.02
7. Credit Card	0.75	1.24							--	0.14^{***}
8. AFS	0.63	0.79								--

Note. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

A regression model was fit for the entire sample (N = 844) using a hierarchical, step-wise approach. The control variables of mother's educational attainment, participants' gender, high school attendance in Mississippi, student loan balances, and parental financial support were entered into the first block. The other variables were entered into the model following the steps of the Consumer Financial Protection Bureau's (2018) financial capability model: Financial knowledge and financial skills were entered into the second block; Financial attitudes (i.e., materialistic views) were entered into the third block; Compulsive spending behaviors were entered into the fourth block; Lastly, students' financial situation (access to financial resources via number of bank accounts, credit card usage, and alternative financial services usage) was entered into the fifth block.

The results of this regression analysis (Table 17) revealed college students' financial well-being was associated with lower materialistic views (β = 0.27, $p \leq .001$), higher financial skills (β = 0.20, $p \leq .001$), lower compulsive spending (β = 0.10, $p \leq .01$), and higher alternative financial services usage (β = -0.08, $p \leq .01$). Among the control variables, mother's educational attainment (β = 0.13, $p \leq .001$), participants' gender (β = 0.07, $p \leq .05$), and student loan balance (β = -0.21, $p \leq .001$) were also associated with financial well-being. However, financial well-being was not related significantly to objective financial knowledge, number/types of bank accounts, credit card usage, and the remaining control variables of completed high school in Mississippi and parental support. This final model explained 28% of the variance in financial well-being among the entire sample of college students.

Table 17 Hierarchical multiple regression predicting financial well-being among all participants (N = 844)

Model	Factor	B	*S.E.*	Β	*T*	*p*	R^2	ΔR^2
1	Constant	55.82	1.36		40.97	0.00	0.11	0.11***
	Gender	0.44	0.57	0.03	0.78	0.44		
	Mother Education	0.71	0.16	0.15	4.46	0.00		
	MS HS	-0.86	0.69	-0.04	-1.25	0.21		
	Student Loans	-1.21	0.15	-0.26	-7.97	0.00		
	Parental Support	-0.61	0.18	-0.11	-3.34	0.00		
2	Constant	52.50	1.62		32.40	0.00	0.19	0.07***
	Gender	0.51	0.57	0.03	0.91	0.36		
	Mother Education	0.63	0.16	0.14	4.38	0.00		
	MS HS	-0.85	0.68	-0.04	-1.24	0.22		
	Student Loans	-1.28	0.15	-0.28	-8.85	0.00		
	Parental Support	-0.52	0.18	-0.09	-2.84	0.05		
	Knowledge	0.43	0.12	0.12	3.72	0.00		
	Skills	0.91	0.12	0.25	7.65	0.00		
3	Constant	36.21	2.31		15.71	0.00	0.21	0.20***
	Gender	1.07	0.54	0.06	1.98	0.05		
	Mother Education	0.73	0.15	0.16	4.87	0.00		
	MS HS	-0.96	0.65	-0.05	-1.48	0.14		
	Student Loans	-1.19	0.15	-0.26	-8.22	0.00		
	Parental Support	-0.12	0.18	-0.02	-.682	0.50		
	Knowledge	0.20	0.11	0.06	1.79	0.08		
	Skills	0.74	0.12	0.20	6.37	0.00		
	Materialistic	0.70	0.07	0.31	9.50	0.00		
4	Constant	33.35	2.46		13.57	0.00	0.27	0.26***
	Gender	1.10	0.52	0.06	2.09	0.04		
	Mother Education	0.62	0.15	0.13	4.28	0.00		
	MS HS	-0.57	0.63	-0.03	-0.90	0.37		
	Student Loan	-0.99	0.14	-0.22	-6.99	0.00		
	Parental Support	-0.01	0.17	0.00	-0.07	0.95		
	Knowledge	0.02	0.11	0.01	0.20	0.85		
	Skills	0.74	0.12	0.20	6.37	0.00		
	Materialistic	0.61	0.07	0.27	8.39	0.00		
	Compulsive	0.41	0.13	0.10	3.07	0.00		
5	Constant	33.57	2.55		13.17	0.00	0.28	0.27***
	Gender	1.16	0.52	0.07	2.21	0.03		
	Mother Education	0.61	0.15	0.13	4.13	0.00		
	MS HS	-0.59	0.63	-0.03	-0.94	0.35		
	Student Loan	-0.96	0.14	-0.21	-6.79	0.00		
	Parental Support	0.03	0.17	0.01	0.19	0.85		
	Knowledge	-0.03	0.11	-0.01	-0.24	0.81		
	Skills	0.74	0.12	0.20	6.41	0.00		
	Materialistic	0.60	0.07	0.27	8.21	0.00		
	Compulsive	0.38	0.14	0.10	2.76	0.01		
	Accounts	0.40	0.50	0.02	0.80	0.43		
	Credit Cards	0.46	0.24	0.06	1.88	0.06		
	AFS	-1.04	0.39	-0.08	-2.66	0.01		

Note. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Research question 2

How do these associations differ among college students *not* identifying as minority, low-income, or first-generation students, those identifying as minority, low-income, *or* first-generation college students, and those identifying as minority, low-income, *and* first-generation college students?

To respond to this question, three groupings were created. Group 1 consisted of participants *not* self-identifying as a minority, low-income, or first-generation college student; Group 2 consisted of participants self-identifying as a minority, low-income, *or* first-generation college student; and Group 3 consisted of participants self-identifying as a minority, low-income, *and* first-generation college student.

Mean comparisons (Table 18) revealed notable statistically significant differences between students in each group. For example, financial well-being varied significantly among each group. The participants in Group 1 had significantly higher financial well-being (M = 58.75), as compared to those in Group 2 (M = 52.97, $p \leq .001$) and Group 3 (M = 52.67, $p \leq .001$). Additionally, students within Group 3 demonstrated lower financial knowledge (M = 6.60), as compared to those in Group 1 (M = 7.77, $p \leq .001$) and those in Group 2 (M = 7.51, $p \leq .001$). Finally, students within Group 2 (M = 0.68, p = .03) reported greater usage of alternative financial services compared to those in Group 1 (M = 0.52). There were no statistically significant differences in materialistic views or credit card usage between groups.

Among the control variables, participants' gender was not significantly different among groups. The mother's educational attainment was significantly higher among Group 1 (M = 7.00), as compared to those in Group 2 (M = 5.32, $p \leq .001$) and Group 3 (M = 3.69, $p \leq .001$). Participants from Group 3 (M = 0.85) were more likely to graduate from high schools in

Mississippi, as compared to those in Group 1 ($M = 0.51$, $p \leq .001$) and Group 2 ($M = 0.64$, $p \leq .001$). Group 1 participants held fewer student loan balances ($M = 1.07$) compared to those in Group 2 ($M = 2.22$, $p \leq .001$). Group 1 participants received more instrumental support (i.e., money to pay monthly bills and emergencies) from their parents ($M = 3.91$) as compared to those in Group 3 ($M = 3.37$, $p = .01$).

Mean comparisons (Table 18) also revealed notable statistically significant differences between students in Group 2 and Group 3. As compared to students within Group 3, students within Group 2 had significantly higher financial knowledge ($M = 7.51$ *vs*. $M = 6.83$, $p = .003$); significantly lower compulsive spending behaviors ($M = 0.56$ *vs*. $M = -0.25$, $p = .002$); and more bank accounts ($M = 1.63$ *vs*. $M = 1.38$, $p \leq .001$). Financial well-being, financial skills, materialistic views, credit card usage, and alternative financial services usage did not vary significantly between students within these groups. For the control variables, gender, student loans, and parental support did not vary significantly between students withing these groups. However, mother's educational attainment was higher among Group 2 participants ($M = 5.32$), as compared to Group 3 ($M = 3.69$, $p \leq .001$), and more students from Group 3 ($M = 0.85$) graduated from a high school in Mississippi, compared to those in Group 2 ($M = 0.64$, $p \leq .001$).

Among participants *not* identifying as minority, low-income, or first-generation students (i.e., Group 1), bivariate correlations (Table 19) demonstrated relationships between financial well-being and higher financial knowledge ($r = 0.15$, $p \leq .01$), higher financial skills ($r = 0.40$, $p \leq .001$), lower materialistic views ($r = 0.13$, $p \leq .05$), lower compulsive spending behaviors ($r = 0.41$, $p \leq .001$), higher credit card usage ($r = 0.41$, $p \leq .001$), and higher AFS usage ($r = -0.18$, $p < .01$). However, financial well-being was not related to number of bank accounts.

Table 18 Descriptive statistics and group comparisons

	Full Sample (N = 844)		Group 1 (*n* = 301)		Group 2 (*n* = 400)		Group 3 (*n* = 143)	
Item	*M*	*S.D.*	*M*	*S.D.*	*M*	*S.D.*	*M*	*S.D.*
Well-being	54.98	9.98	58.75[a]	9.44	52.97[a]	9.81	52.67[a]	9.24
Gender	1.69	0.47	1.70	0.46	1.68	0.47	1.66	0.49
Mother Education	5.64	2.12	7.00[a]	1.19	5.32[ab]	2.17	3.69[ab]	1.57
Attended MS HS	0.63	0.48	0.51[a]	0.50	0.64[ab]	0.48	0.85[ab]	0.36
Student Loans	1.85	2.17	1.07[a]	1.85	2.22[a]	2.26	2.43	2.08
Parental Support	3.68	1.82	3.91[a]	1.73	3.62[a]	1.86	3.37	1.85
Knowledge	7.45	2.85	7.77[a]	2.87	7.51[b]	2.85	6.60[ab]	2.67
Skills	7.34	2.73	7.77[a]	2.55	7.21[a]	2.75	6.83[a]	2.92
Materialistic	22.83	4.42	23.05	4.21	22.63	4.65	22.93	4.16
Compulsive	0.74	2.54	1.47[a]	1.94	0.56[ab]	2.70	-0.25[ab]	2.77
Accounts	1.67	0.63	1.88[a]	0.54	1.63[ab]	0.60	1.38[ab]	0.71
Credit Card	0.75	1.24	0.73	1.13	0.71	1.25	0.87	1.42
AFS	0.63	0.79	0.52[a]	0.75	0.68[a]	0.81	0.71	0.81

Note. Group 1= *not* minority, low-income, or first-generation college student;
Group 2 = minority, low-income, or first-generation college student;
Group 3 = minority, low-income, and first-generation college student.
[a] Denotes a statistically significant difference in means between students within Group 1 and the other groups (Groups 2 and 3).
[b] Denotes a statistically significant difference in means between students within Group 2 and those in Group 3.

Table 19 Descriptive statistics and correlation coefficients for all variables among participants not identifying as minority, low-income, or first-generation college students (Group 1; *n* = 301)

Factor	*M*	*S.D.*	1	2	3	4	5	6	7	8
1.Well-being	58.75	9.44	--	0.15**	0.37***	0.40***	0.41***	0.04	0.13*	-0.14*
2. Knowledge	7.77	2.87		--	0.29***	0.24***	0.32***	0.18**	-0.04	-0.18***
3. Skills	7.77	2.55			--	0.36***	0.38***	0.15**	-0.06	-0.13*
4. Materialistic	23.05	4.21				--	0.41***	0.11	-0.05	-0.14*
5. Compulsive	1.47	1.94					--	0.17**	-0.16**	-0.15**
6. Accounts	1.88	0.54						--	0.00	0.03
7. Credit Card	0.73	1.13							--	0.06
8. AFS	0.52	0.75								--

Note. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Among participants identifying as minority, low-income, *or* first-generation students (i.e., Group 2), bivariate correlations (Table 20) demonstrated relationships between financial well-being and higher financial skills ($r = 0.24$, $p \leq .001$), lower materialistic views ($r = 0.29$, $p \leq .001$), lower compulsive spending behaviors ($r = 0.17$, $p \leq .001$), and higher alternative financial services usage ($r = -0.18$, $p \leq .001$). However, financial well-being was not related to financial knowledge, number of bank accounts, and credit card usage.

Table 20 Descriptive statistics and correlation coefficients for all variables among participants identifying as minority, low-income, or first-generation college students (Group 2; $n = 400$)

Factor	*M*	*S.D.*	1	2	3	4	5	6	7	8
1.Well-being	52.97	9.81	--	0.03	0.29^{***}	0.24^{***}	0.17^{***}	0.09	-0.05	-0.18^{***}
2. Knowledge	7.51	2.85		--	0.22	0.05^{***}	0.28^{***}	0.12^{*}	0.05	-0.13^{***}
3. Skills	7.21	2.75			--	0.02	0.28^{***}	0.09	-0.06	-0.06
3. Materialistic	22.63	4.65				--	0.23^{***}	0.08	-0.01	-0.17^{***}
5. Compulsive	0.56	2.70					--	0.11^{*}	-0.24^{***}	-0.23^{***}
6. Accounts	1.63	0.60						--	0.09	-0.02
7. Credit Card	0.71	1.25							--	0.20^{***}
8. AFS	0.68	0.81								--

Note. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Among participants identifying as minority, low-income, and first-generation students (i.e., Group 3), bivariate correlations (Table 21) demonstrated relationships between financial well-being and higher financial management behaviors (r = 0.27, p ≤ .001) and lower materialistic views (r = 0.32, p ≤ .001). Financial well-being was not related to financial knowledge, lower compulsive spending behaviors, number of bank accounts, credit card usage, and alternative financial services usage.

Table 21 Descriptive statistics and correlation coefficients for all variables among participants identifying as minority, low-income, and first-generation college students (Group 3; $n = 143$)

Factor	*M*	*S.D.*	1	2	3	4	5	6	7	8
1.Well-being	52.67	9.24	--	0.02	0.32^{***}	0.27^{***}	0.13	-0.01	-0.14	-0.12
2. Knowledge	6.60	2.67		--	0.16	0.03	0.30^{***}	0.12	-0.02	-0.21^{*}
3. Skills	6.83	2.92			--	-0.03	0.20^{*}	0.09	-0.17^{*}	-0.05
3. Materialistic	22.93	4.16				--	0.29^{***}	-0.13	0.02	-0.19^{*}
5. Compulsive	-0.25	2.77					--	0.20^{*}	-0.03	-0.35^{***}
6. Accounts	1.38	0.71						--	0.14	0.05
7. Credit Card	0.87	1.42							--	0.12
8. AFS	0.71	0.81								--

Note. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Three regression models were fit, one model for each of the three groupings of college students. The results of the analysis among those *not* self-identifying as minority, low-income, or first-generation college students (i.e., Group 1; Table 22) revealed that financial well-being was associated with higher financial skills ($\beta = 0.23$, $p \leq .001$), lower materialistic views ($\beta = 0.19$, $p \leq .001$), lower compulsive spending behaviors ($\beta = 0.27$, $p \leq .01$), and higher credit card usage ($\beta = 0.19$, $p \leq .01$). However, financial well-being was not related to financial knowledge, number of bank accounts, and alternative financial services usage. This final model explained 35% of the variance in financial well-being among those *not* self-identifying as minority, low-income, or first-generation college students.

Table 22 Hierarchical multiple regression predicting financial well-being among participants in Group 1 (n = 301)

Model	Factor	B	*S.E.*	β	*T*	*P*	R^2	ΔR^2
1	Constant	61.54	3.38		18.22	0.00	0.10	0.08^{***}
	Gender	0.83	1.01	0.05	0.83	0.41		
	Mother Education	0.22	0.44	0.03	0.50	0.61		
	MS HS	0.56	1.05	0.03	0.54	0.59		
	Student Loans	-1.32	0.28	-0.26	-4.65	0.00		
	Parental Support	-0.89	0.31	-0.16	-2.91	0.00		
2	Constant	57.58	3.79		15.21	0.00	0.22	0.12^{***}
	Gender	0.77	1.00	0.04	0.77	0.44		
	Mother Education	0.24	0.44	0.03	0.54	0.59		
	MS HS	0.64	1.04	0.03	0.61	0.54		
	Student Loans	-1.33	0.28	-0.26	-4.73	0.00		
	Parental Support	-0.74	0.31	-0.14	-2.37	0.02		
	Knowledge	0.42	0.19	0.13	2.37	0.03		
	Skills	1.29	0.21	0.35	6.29	0.00		
3	Constant	39.23	4.76		8.24	0.00	0.21	0.19^{***}
	Gender	1.38	0.95	0.08	1.45	0.15		
	Mother Education	0.43	0.42	0.06	1.04	0.30		
	MS HS	0.22	0.99	0.01	0.22	0.83		
	Student Loans	-1.18	0.27	-0.23	-4.40	0.00		
	Parental Support	-0.31	0.30	-0.06	-1.01	0.31		
	Knowledge	0.15	0.18	0.05	0.84	0.40		
	Skills	0.85	0.21	0.23	4.09	0.00		
	Materialistic	0.75	0.13	0.33	5.87	0.00		
4	Constant	38.83	4.65		8.34	0.00	0.31	0.29^{***}
	Gender	1.27	0.89	0.07	1.43	0.15		
	Mother Education	0.40	0.39	0.05	1.03	0.30		
	MS HS	0.28	0.93	0.01	0.30	0.76		
	Student Loans	-0.98	0.25	-0.19	-3.88	0.00		
	Parental Support	0.00	0.29	0.00	0.00	1.00		
	Knowledge	-0.09	0.17	-0.03	-0.54	0.59		
	Skills	0.84	0.21	0.23	4.08	0.00		
	Materialistic	0.44	0.13	0.20	3.42	0.00		
	Compulsive	1.13	0.28	0.23	4.08	0.00		
5	Constant	39.30	4.76		8.25	0.00	0.35	0.32^{***}
	Gender	1.41	0.87	0.08	1.61	0.11		
	Mother Education	0.40	0.38	0.05	1.06	0.29		
	MS HS	0.27	0.90	0.01	0.30	0.76		
	Student Loans	-0.89	0.25	-0.17	-3.58	0.00		
	Parental Support	0.03	0.28	0.01	0.10	0.92		
	Knowledge	-0.11	0.17	-0.03	-0.61	0.54		
	Skills	0.87	0.20	0.23	4.26	0.00		
	Materialistic	0.43	0.13	0.19	3.40	0.00		
	Compulsive	1.29	0.27	0.27	4.71	0.00		
	Accounts	-0.83	0.86	-0.05	-0.97	0.33		
	Credit Cards	1.58	0.40	0.19	3.90	0.00		
	AFS	-0.70	0.62	-0.06	-1.13	0.26		

Note. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Among those self-identifying as minority, low-income, *or* first-generation college students (i.e., Group 2; 0), financial well-being was associated with higher financial skills (β = 0.18, $p \leq .001$), lower materialistic views (β = 0.26, $p \leq .001$), and higher alternative financial services usage (β = -0.11, p = .02). However, financial well-being was not related to financial knowledge, compulsiveness, number of bank accounts, and credit card usage. This model explained 21% of the variance in financial well-being among those self-identifying as minority, low-income, *or* first-generation college students.

Among those self-identifying as minority, low-income, *and* first-generation college students (i.e., Group 3; Table 24), financial well-being was associated with higher financial skills (β = 0.23, $p \leq .01$) and lower materialistic views (β = 0.39, $p \leq .001$). However, financial well-being was not related to financial knowledge, compulsive spending, number of bank accounts, credit card usage, and alternative financial services usage. This model explained 23% of the variance in financial well-being among those self-identifying as minority, low-income, *and* first-generation college students.

Table 23 Hierarchical multiple regression predicting financial well-being among participants in Group 2 (n = 400)

Model	Factor	B	*S.E.*	β	*t*	*P*	R^2	ΔR^2
1	Constant	56.93	1.86		30.64	0.00	0.08	0.07^{***}
	Gender	0.12	0.80	0.01	0.15	0.88		
	Mother Education	0.32	0.22	0.07	1.44	0.15		
	MS HS	-1.50	1.00	-0.07	-1.51	0.13		
	Student Loans	-1.09	0.21	-0.25	-5.17	0.00		
	Parental Support	-0.64	0.26	-0.12	-2.50	0.01		
2	Constant	54.23	2.23		23.38	0.00	0.11	0.04^{***}
	Gender	0.16	0.80	0.01	0.20	0.84		
	Mother Education	0.37	0.22	0.08	1.66	0.10		
	MS HS	-1.59	0.99	-0.08	-1.60	0.11		
	Student Loans	-1.18	0.22	-0.27	-5.49	0.00		
	Parental Support	-0.59	0.26	-0.11	-2.30	0.02		
	Knowledge	0.33	0.17	0.10	1.93	0.05		
	Skills	0.68	0.17	0.19	3.94	0.00		
3	Constant	40.80	3.28		12.45	0.00	0.16	0.14^{***}
	Gender	0.59	0.77	0.04	0.76	0.45		
	Mother Education	0.39	0.21	0.09	1.84	0.07		
	MS HS	-1.53	0.96	-0.08	-1.60	0.11		
	Student Loans	-1.09	0.21	-0.25	-5.25	0.00		
	Parental Support	-0.25	0.26	-0.05	-0.99	0.32		
	Knowledge	0.14	0.17	0.04	0.80	0.42		
	Skills	0.65	0.17	0.18	3.80	0.00		
	Materialistic	0.58	0.10	0.28	5.60	0.00		
4	Constant	35.99	3.64		9.89	0.00	0.20	0.18^{***}
	Gender	0.63	0.76	0.04	0.82	0.41		
	Mother Education	0.39	0.21	0.09	1.87	0.06		
	MS HS	-1.08	0.95	-0.05	-1.14	0.25		
	Student Loans	-0.94	0.21	-0.22	-4.58	0.00		
	Parental Support	-0.16	0.25	-0.03	-0.63	0.53		
	Knowledge	0.04	0.17	0.01	0.20	0.84		
	Skills	0.65	0.17	0.18	3.80	0.00		
	Materialistic	0.57	0.10	0.27	5.52	0.00		
	Compulsive	0.20	0.18	0.05	1.07	0.29		
5	Constant	36.58	3.80		9.63	0.00	0.21	0.19^{***}
	Gender	0.68	0.76	0.04	0.90	0.37		
	Mother Education	0.39	0.21	0.09	1.88	0.06		
	MS HS	-1.16	0.95	-0.06	-1.23	0.22		
	Student Loans	-0.92	0.21	-0.21	-4.43	0.00		
	Parental Support	-0.14	0.25	-0.03	-0.57	0.57		
	Knowledge	-0.02	0.17	-0.00	-0.09	0.93		
	Skills	0.64	0.17	0.18	3.74	0.00		
	Materialistic	0.54	0.10	0.26	5.23	0.00		
	Compulsive	0.14	0.19	0.04	0.70	0.48		
	Accounts	0.78	0.75	0.05	1.03	0.30		
	Credit Cards	0.18	0.38	0.02	0.47	0.64		
	AFS	-1.35	0.58	-0.11	-2.35	0.02		

Note. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Table 24 Hierarchical multiple regression predicting financial well-being among participants in Group 3 (n = 143)

Model	Factor	B	*S.E.*	β	*t*	*p*	R^2	ΔR^2
1	Constant	51.10	3.45		14.82	0.00	0.02	-0.01
	Gender	1.50	1.34	0.10	1.12	0.26		
	Mother Education	0.40	0.50	0.07	0.78	0.43		
	MS HS	0.56	2.28	0.02	0.25	0.80		
	Student Loans	-0.42	0.38	-0.09	-1.12	0.27		
	Parental Support	0.01	0.43	0.00	0.03	0.97		
2	Constant	49.70	3.86		12.88	0.00	0.08	0.06
	Gender	1.60	1.34	0.11	1.19	0.24		
	Mother Education	0.25	0.51	0.07	0.83	0.41		
	MS HS	0.14	2.32	0.01	0.10	0.91		
	Student Loans	-0.50	0.39	-0.11	-1.29	0.20		
	Parental Support	0.03	0.43	0.01	0.08	0.94		
	Knowledge	0.25	0.31	0.07	0.82	0.42		
	Skills	0.77	0.27	0.24	2.88	0.00		
3	Constant	29.65	5.64		5.26	0.00	0.22	0.13^{***}
	Gender	2.37	1.26	0.16	1.19	0.06		
	Mother Education	0.51	0.47	0.09	1.08	0.28		
	MS HS	0.07	2.16	0.03	0.03	0.97		
	Student Loans	-0.66	0.37	-0.15	-1.81	0.07		
	Parental Support	0.42	0.41	0.08	1.01	0.32		
	Knowledge	0.13	0.29	0.04	0.44	0.65		
	Skills	0.77	0.26	0.24	3.01	0.00		
	Materialistic	0.85	0.18	0.38	4.62	0.00		
4	Constant	25.27	6.02		4.20	0.00	0.22	0.16^{***}
	Gender	2.22	1.23	0.15	1.80	0.07		
	Mother Education	0.34	0.46	0.06	0.74	0.46		
	MS HS	-0.05	2.11	0.00	-0.02	0.98		
	Student Loans	-0.45	0.36	-0.10	-1.22	0.22		
	Parental Support	0.39	0.40	0.08	0.96	0.34		
	Knowledge	0.05	0.30	0.01	0.17	0.87		
	Skills	0.77	0.26	0.24	3.01	0.00		
	Materialistic	0.85	0.19	0.38	4.58	0.00		
	Compulsiveness	-0.01	0.29	0.00	-0.04	0.97		
5	Constant	26.08	6.40		4.07	0.00	0.23	0.16^{***}
	Gender	2.51	1.25	0.17	2.00	0.05		
	Mother Education	0.25	0.47	0.04	0.53	0.60		
	MS HS	0.05	2.14	0.00	0.03	0.98		
	Student Loans	-0.40	0.37	-0.09	-1.08	0.28		
	Parental Support	0.46	0.42	0.09	1.10	0.27		
	Knowledge	0.00	0.30	0.00	0.01	0.99		
	Skills	0.72	0.26	0.23	2.75	0.01		
	Materialistic	0.86	0.19	0.39	4.55	0.00		
	Compulsiveness	-0.10	0.31	-0.03	-0.33	0.74		
	Accounts	0.40	1.10	0.03	0.36	0.72		
	Credit Cards	-0.74	0.52	-0.11	-1.41	0.16		
	AFS	-0.80	1.00	-0.07	-0.80	0.43		

Note. * $p < 0.05$, ** $p \leq 0.01$, and *** $p \leq 0.001$.

Summary

In summary, among the full sample, higher financial skills, lower materialistic views, lower compulsive spending behaviors, higher credit card usage, and lower usage of alternative financial services were related to higher financial well-being among college students. Among those students *not* identifying as minority, low-income, or first-generation college students (i.e., Group 1), higher financial skills, lower materialistic views, lower compulsive spending behaviors, and more credit card usage were related to higher financial well-being. Among those students identifying as minority, low-income, *or* first-generation college students (i.e., Group 2), higher financial skills, lower materialistic views and lower alternative financial services usage were related to higher financial well-being. Among those students identifying as minority, low-income, *and* first-generation college students (i.e., Group 3), higher financial skills and lower materialistic views were related to higher financial well-being.

Discussion

The current study was guided by combining two theoretical models: Consumer Financial Protection Bureau's (2018) model for financial well-being and Sherraden's (2013) financial capability model. Through these frameworks, this study explored the relationships between financial well-being among college students and financial knowledge and financial skills, financial attitudes (i.e., materialistic views), compulsive spending behaviors, and access to financial services, such as bank accounts, credit cards, and alternative financial services. The current study also examined whether the associations differed among college students *not* identifying as a minority, low-income, or first-generation student and those who self-identify as a minority, low-income, *or* first-generation college student.

These findings prompt several important points of discussion. A key premise of the model of financial well-being (CFPB, 2018; Figure 7) is that financial knowledge will promote financial behaviors and ultimately financial well-being. Existing research has suggested financial knowledge and increases therein, can be attributed to financial education or financial socialization received in the home, at school, or from real-life experiences (CFPB, 2016b; Danes, 1994; Mandell, 2008). However, the regression analysis from the current study revealed that college students' financial knowledge, regardless of student groupings, had no significant relationship with financial well-being. The acquisition of financial knowledge alone may not necessarily correspond to improved financial well-being among college students. Although financial knowledge was not related to college students' financial well-being in the current study, it is important to consider how students' knowledge remains a component of the development of financial attitudes and behaviors. For example, if someone fears debt, especially debt brought on by credit cards or student loans, they may purposely avoid financial services because they lack an understanding of how these services can be used responsibly to improve financial well-being.

Despite not finding a relationship between financial knowledge and financial well-being in the current study, financial skills were found to be related significantly and positively to financial well-being for students in all groupings. The Consumer Financial Protection Bureau (2018) found both financial knowledge and financial skills were related to financial well-being, but they acknowledged that financial skills had greater influence on financial well-being than did the financial knowledge. This finding from the current study suggests that knowledge needs to be applied, and likely sustained over time, in order for it to impact financial behaviors and financial well-being. However, it must be acknowledged that the financial skills measured in the current study differed from that used in the Consumer Financial Protection Bureau's study, although overlapping elements (i.e., controlled spending and saving money) were present. Consistent usage of measures may demonstrate similar patterns of results with financial knowledge, financial skills, and financial well-being. Even with different measurement, however, the current results do support this earlier research and emphasizes the importance of applying financial knowledge to improve financial well-being.

In the current study, lower levels of materialism were related to higher levels of financial well-being among all four groupings of college students. Conversely, higher levels of materialism were related to lower levels of financial well-being among college students. This finding supports other existing research that has reported a similar relationship between materialism and psychological and financial well-being (Gutter & Copur, 2011; Kasser et al., 2014). However, for those students with higher levels of materialism, this finding does not explain the motivation behind their materialistic behaviors. Materialistic views may be motivated by different objectives or goals, such as demonstrating status, prestige, power, or importance (Pinto, Parente, & Palmer, 2000). Students may use materialism to portray greater status, which status may help them to feel accepted. With this acceptance, these students may feel greater psychological well-being, at least temporarily. Unfortunately, as these students continue to accumulate more materialistic goods to continue "fitting in," they may unintentionally overspend or have to take on credit card or student loan debt or turn to alternative financial services to support these purchases (Pinto, Parente, & Palmer, 2000). Over time, overspending and debt, due to these materialistic views, may harm their financial well-being. Despite this potential harm, Kasser et al.'s (2014) work found that changes in materialistic views, specifically decreases in materialism, can result in improved well-being, suggesting potential intervention possibilities for students with higher levels of materialism.

Lower levels of compulsive spending behaviors were related to greater financial well-being among college students within the full sample and among the group *not* identifying as ethnic minority, low-income, or first-generation college students. Compulsive spending behaviors were unrelated to financial well-being among the two groupings involving minority, low-income, or first-generation college students. This difference in influence is important to consider. Some researchers suggested that college students have a desire to spend, potentially due to less parental monitoring or because spending can be used to cope with states of temporary unhappiness (Britt et al., 2011; Koran et al, 2006). For students *not* identifying as minority, low-income, or first-generation students, they may have limited their compulsive spending behaviors because they may have believed their parents were monitoring their spending (Hamilton, 2010, 2013; Serido & Shim, 2014; 2017). In those instances when compulsive spending behaviors could be problematic, students may have felt they could turn to their parents for additional financial assistance when help was needed. On the other hand, among the groups containing minority, low-income, or first-generation students, these students may have understood their parents would be unable to "bail them out" if they got into trouble because of compulsive spending behaviors. As a result, they may have been more mindful of how they managed their finances and avoided overspending (Hamilton, 2013). Additionally, parents of minority, low-income, or first-generation college students may have socialized their children to be mindful of their financial situation and help their children identify and develop financial strategies that discourage overspending (Luhr, 2018).

Access to financial services had a diverse influence on the financial well-being of college students, most notably through credit card and alternative financial services usage. Credit card usage was related positively to financial well-being, but only among students *not* identifying as a minority, low-income, or first-generation student. It may be that credit cards and other forms of financial access provide students with financial choices (Shim et al., 2010), which help students to feel more secure in their financial future and to enjoy life more fully (CFPB, 2018). Furthermore, parents may use joint credit cards as a way of monitoring their students' financial transactions (Hamilton, 2013). Students *not* identifying as minority, low-income and first-generation students may enjoy having this convenience.

Alternative financial services usage was related negatively to financial well-being, but only among the full sample and students within Group 2 (i.e., minority, low-income, *or* first-generation students). This finding could be explained, in part, if some participants' view alternative financial services as a viable go-to option when other forms of credit are not available or when experiencing a financial emergency. However, for some minority, low-income, *or* first-generation college students, they may have witnessed their underbanked or unbanked parents turn to alternative financial services and observed the stress these services created for their parents. While these students may not have wanted to use alternative financial services themselves, they may have felt they had no other options but to turn to these services when dealing with financial issues, resulting in lower financial well-being.

Student loans were negatively related to the financial well-being of the combined sample, and two of the three groups (i.e., Groups 1 and 2). However, student loans were not related to financial well-being among those identifying as minority, low-income, *and* first-generation college students (i.e., Group 3). This finding is somewhat surprising, in that research has suggested that some college students, African American students especially, face extra burdens from student loan debt, including more debt overall and more difficulties repaying this debt (e.g., Addo, Houle, & Simon, 2016). One possible explanation for the current finding is that students in this grouping may view student loans as necessary to complete their degrees, which can be used to provide them opportunities to improve their financial situation moving forward. It also possible that these students have not felt the full impact of these student loans until they are required to begin making payments once they have left school.

Implications

Findings from the current study may provide practical implications for collegiate financial education programming. The first implication involves differentiating between objective financial knowledge and financial skills (i.e., applied knowledge). Most financial education programs seek to increase students' objective financial knowledge (i.e., their ability to recall financial concepts; Xiao et al., 2012), as it is believed more financial knowledge leads to better financial behaviors (CFPB, 2018; Gudmunson & Danes, 2011; Jorgensen et al., 2016; Sherraden, 2013). However, the Consumer Financial Protection Bureau (2018) suggests that students do need financial knowledge, but they also need to be able to apply this knowledge, which they termed financial skills. This research noted that financial skills were more influential on financial behaviors than was the financial knowledge. Results from the current study provide further support to this idea that financial skills (i.e., applied knowledge) may be more important than objective financial knowledge, in that financial skills was related positively to financial well-being of college students, whereas financial knowledge was not related. As such, in addition to teaching students about important financial concepts, financial education curricula need to help students better understand how they can apply this information to their own lives and to help motivate students to apply this knowledge.

The second implication has to do with materialistic views (i.e., attitudes). Within the current study, lower materialistic attitudes were related to higher financial well-being for students within all groupings, which result supports findings from other researchers (Gutter & Copur, 2011; Kasser et al., 2014). Kasser et al. (2014) found that higher materialistic attitudes can be changed, resulting in improved psychological well-being. As such, campus financial education programs may consider developing an intervention program that addresses materialistic attitudes. By identifying factors that contribute to these materialistic views (e.g., status, prestige; Pinto et al., 2000) or why these values are important to students, these intervention programs can help students to find other ways to feel value or to fit in that do not involve materialistic attitudes.

The third implication is related to compulsive spending behaviors. Within the current study, lower compulsive spending behaviors were related to greater financial well-being among college students within the full sample and among the group *not* identifying as ethnic minority, low-income, or first-generation college students, but this relationship was not found among minority, low-income, or first-generation college students. This finding may suggest that students from different racial backgrounds may behave in compulsive spending behaviors differently and have different motivations for doing so (Britt et al., 2011; Koran et al., 2006). Financial education program may need to be adjusted to take into account this difference when discussing financial behaviors. Furthermore, these programs may need to administer an assessment to better understand how students engage in various financial behaviors, including compulsive spending behaviors, the motivations behind these behaviors, and how purchases influence students' financial well-being.

The final implication has to do with students' access to financial resources, namely credit cards, alternative financial services, and student loans. Within the current study, these resources had different influences on financial well-being, depending on the type of resource examined and which student grouping was being evaluated. These resources may provide additional financial choices at the time (Shim et al., 2000) and they may be considered convenient ways to pay for college or living expenses, but over time, these debt types may become overwhelming to students. Campus financial education programs are ideally suited to help students address their financial issues. These campus financial education programs, particularly those embedded within financial aid offices, give great attention to student loans. However, these programs may need to provide more attention to credit card and alternative financial services usage. These programs can further help students identify better and less expensive alternatives when they need financial help. These education programs also provide an ideal setting to gather additional information about why students seek out these specific financial services, how they perceive them, and how these services influence their financial well-being.

Limitations and Future Research

The current study provided an important contribution to the existing literature by exploring financial well-being among minority, low-income, or first-generation college students. However, the current study also had limitations. One limitation was the reliance on a convenience sample of undergraduate college students at a university in the Southeastern United States, which may prevent generalizability to students at universities in other parts of the country or to non-student populations. This study was also designed as an exploratory cross-sectional study to identify factors predicting participant’s financial well-being at a single time point. Future longitudinal research is needed to better understand how financial well-being changes over time and what factors may contribute to these changes. Additionally, a different measure for financial skills was used in the current than the Financial Skills Scale developed by the Consumer Financial Protection Bureau. Even though some results in the current study were similar to this previous study, caution may be warranted in interpreting the results of the current study. Using similar scales across studies will help in determining similar patterns of results.

Caution is also needed when examining financial well-being among minority, low-income, or first-generation college students. Many of the measures used in the current study, although reliable, were developed primarily from White, middle-class student populations. Being a minority, low-income, or first-generation college student may create unique challenges, such as navigating the process of obtaining financial aid, acquiring housing, paying tuition and fees, and covering the required cost of living, which may not be adequately measured within the current measures. As such, further research on measure development is warranted. The challenges faced by minority, low-income, or first-generation college students may also be exacerbated if these students are solely responsible for paying for their education, a primary income-earner in their household, or required to contribute to the household income of their family-of-origin. As such, additional research may be needed to better understand their unique financial situation.

Further research is also needed to better understand how college students, especially minority, low-income, and first-generation students, view credit cards, alternative financial services, and student loans, as well as when and why they use these services. With this information, financial education programs may be able to develop programming and curricula that better addresses their financial needs and helps them to find better and cheaper alternatives.

Conclusion

Within the current study, the relationships between financial well-being and financial knowledge and skills, financial attitudes (i.e., materialistic views), compulsive spending behaviors, and financial access (number of bank accounts, credit card usage, and usage of alternative financial services) were explored. This study also explored potential differences in these relationships depending on whether college students self-identified as minority, low-income, or first-generation students or not.

Findings of this study demonstrated higher financial skills and lower materialistic views were related to higher levels of financial well-being for college students. Additionally, fewer compulsive spending behaviors among some college students, such as those *not* identifying as a minority, low-income, or first-generation student, were related to higher levels of financial well-being. More credit card usage was also related positively to financial well-being for the full sample and students *not* identifying as minority, low-income, or first-generation students. Usage of alternative financial services was related negatively to financial well-being among the full sample and students identifying as minority, low-income, *or* first-generation students.

College students' current and future financial well-being can be influenced by the amount of financial freedom their parents allow them to develop the skills they need to manage their personal finances on their own (Gudmunson & Danes, 2011; Sherraden, 2013). Some students, such as minority, low-income, and first-generation students, may have financial needs that their parents are unable to provide, including identifying and accessing financial resources that can be used to complete college (Sherraden, 2013). Thus, students can benefit from financial education programs that focus on the specific needs of these students and increase their awareness to the interrelated influence of financial knowledge, financial attitudes, financial behaviors, and access to financial resources on their financial well-being.

CHAPTER V

CONCLUSION

The purpose of the current research was to examine the financial capability and financial well-being among college students. Specifically, the financial capability and financial well-being of minority, low-income, and first-generation college students was compared to their more affluent peers. The ultimate goal behind this dissertation research was to explore whether financial capability consisted of an interrelated and multi-dimensional concept, consisting of financial knowledge, access to financial resources, financial attitudes, and financial behaviors (Olive, 2013), and how this financial capability influenced students' financial well-being. The hope behind this research was to provide financial education centers with information they can use to tailor their financial education programs to address the specific needs of all college students. When financial education programs are better suited to meet students' needs, they can help college students to develop greater financial confidence and motivate them to take greater personal responsibility for their finances (Gudmunson & Danes, 2011; Jorgensen et al., 2016; Sherraden, 2013; CFPB, 2018). As students develop greater financial capability and take greater personal responsibility for their finances, their financial well-being can also be improved.

Financial Capability and Financial Well-Being

Findings from this study support the idea that financial capability (i.e., financial knowledge, access to financial services, financial attitudes, and financial behaviors) is a multidimensional and interrelated concept (Olive, 2013) that does not necessarily follow a step-by-step process that begins with knowledge and ends with financial behaviors (Gudmunson & Danes, 2011). Furthermore, findings from this study support the notion that each of these dimensions may be influenced differently, depending on what factors are explored and the minority, low-income, and first-generation status of college students.

Regarding the domain of financial knowledge, several important findings were found across the two dissertation studies. First, students with a more internal locus of control and more positive self-esteem had greater financial knowledge. However, when comparing minority, low-income, or first-generation students (i.e. focal group) to their more affluent peers (i.e., comparison group), these relationships only emerged for students within the focal group. This difference suggests that different factors may influence whether students seek out and learn financial knowledge. This difference also suggests financial education programs may need to adapt their curriculum when helping young adults identify sources of financial information.

Second, financial socialization demonstrated a negative relationship with financial knowledge, for students within the focal group and not for students within the comparison group. This difference highlights the third important finding, which is a need to differentiate between financial knowledge and financial skills (CFPB, 2018). Financial knowledge reflects the ability to recall financial concepts (Gudmunson & Danes, 2011; Mandell & Klein, 2009). However, financial skills reflect the ability to adapt this knowledge to their own financial situation and to *apply* this knowledge into action (CFPB, 2018). Finally, the Consumer Financial Protection Bureau found both financial knowledge and financial skills were related to financial well-being. In the second dissertation study, financial knowledge was unrelated to financial well-being of college students, but financial skills were related positively to financial well-being. These findings may suggest some college students are receiving financial education in the home, but they may not be understanding the reasons for why that information is important or how it is relevant to them. As such, in order to improve financial capability and financial well-being, administrators of financial education programs need to help students acquire greater financial knowledge, but also help them to better understand how to *apply* that knowledge. These programs can provide parent education programs focused on facilitating the transmission of financial knowledge via age-appropriate ways (Danes, 1994). Thus, both parents and their children benefit from financial education efforts aimed at increasing financial knowledge that might be needed for making complex financial decisions and how to approach future situations.

Several important findings are also related to the domain of access to financial resources. In the first dissertation study, college students with a more secure attachment and more financial socialization had greater access to financial services, although these relationships were not found when exploring group differences. In the second study, the major findings included: (1) The number of bank accounts was not related to students' financial well-being; (2) Student loans were related negatively to financial well-being, although student loans were unrelated to well-being among students identifying as minority, low-income, *and* first-generation students; (3) Credit card usage was related positively to financial well-being, but only for students *not* identifying as minority, low-income, or first-generation students; and (4) Alternative financial services were related negatively to financial well-being for the full sample of students and students within the minority, low-income, *or* first-generation status group.

These findings suggest that college students, regardless of minority, low-income, or first-generation status, have access to and rely on different financial resources to manage their day-to-day financial transactions and to address financial needs when they arise (Barr, 2008; Birkenmaier et al., 2011). However, these students are likely to need help identifying trusted financial resources and specifically those resources that will be most beneficial to them over time. For example, credit cards and alternative financial services may feel like a convenient way to address a pressing financial problem, but extended use of these services may lead to overspending and high-interest debt problems (Hancock et al., 2013; Roberts & Jones, 2001).

Administrators of financial education programs can help college students to identify potential financial resources. However, the financial situation of these students will need to be better understood, such as what resources they have access to, their willingness to use these resources, and their values relating to these services. For example, some students may not trust traditional banking services, while others may be debt-averse (Birkenmaier et al., 2016; Eichelberger et al., 2017). As such, financial education programs need to consider how and why parents and their college-aged children access specific financial services. Parents are also in an ideal situation to demonstrate to their children how to engage in financial transactions. However, some parents may need help themselves in better understanding how to evaluate financial services. Thus, providing parent education programs that include financial socialization strategies and access to financial services is important.

Regarding the domain of financial attitudes, college students with more internal locus of control (among the full sample and comparison group) and positive self-esteem (among all groupings of student) had more favorable financial attitudes, specifically greater perceived financial understanding and better perceived financial abilities. Financial socialization was also related positively to financial attitudes for all groupings of students.

These finding are important because when students believe specific financial behaviors are important, they are more likely to engage in those behaviors (Luhr, 2018) and why Jorgensen and Savla (2010) found financial attitudes mediate the relationship between financial knowledge and financial behaviors. While some financial attitudes may help college students' financial behaviors and, ultimately, their financial well-being, other financial attitudes may hinder financial behaviors and financial well-being. For example, some college students may develop a "YOLO" ("You only live once") or "FOMO" ("Fear of missing out") attitude, which may prompt them to spend more money than necessary and possibly take on debt to fund their activities. Materialism is another attitude that may hinder college students' financial well-being. In the second dissertation study, lower materialistic views were related positively to financial well-being among all groups of college students. Not having a materialistic view may help students to control their spending and improve their financial well-being. However, when students use materialism to portray a specific image, they may feel taking on debt is the only way to support this image (Pinto et al., 2000), which may be why their financial well-being is lower.

The final domain is financial action, or the financial behaviors of college students, such as following a budget and compulsive spending. In the first dissertation study, college students with more positive self-esteem engaged in more positive financial behaviors, including actively managing their money, fewer compulsive spending behaviors, and intentional savings. Financial socialization was related positively to financial behaviors. Additionally, a greater internal locus of control among college students *not* identifying as a minority, low-income, or first-generation student was related to greater financial behaviors. In the second dissertation study, financial behaviors, specifically fewer compulsive spending, was related to greater financial well-being.

These findings support other research on financial capability and financial well-being (e.g., CFPB, 2018; Jorgensen & Savla, 2010; Jorgensen et al., 2016). More importantly, these findings support the need for encouraging college students and their parents to learn about finances and to apply that knowledge in the form of financial action (CFPB, 2018). Children benefit from their parents' guidance, and this guidance can help develop their children's financial capability, and ultimately their financial well-being.

Financial Socialization

Guided by previous research (e.g., Gudmunson & Danes, 2011; Jorgensen et al., 2016), results from the first study revealed that the financial socialization process partially mediated the relationships between college students' self-esteem and their financial attitudes and actions. These results support previous findings where financial socialization was found to assist college students' in developing their financial attitudes and financial behaviors (Jorgensen et al., 2016). Additionally, when students believe they can manage their finances (i.e., self-esteem; Pearlin et al., 1981), parents can encourage and strengthen college students' confidence and financial attitudes and behaviors (Hanley & Wilhelm, 1992; Peng et al., 2007; Whitbeck et al., 1991).

Somewhat surprising, however, was the finding that financial knowledge among minority, low-income, or first-generation college students was lower when parents financially socialized them in the home. This finding may have been due to students observing their parents' financial behaviors without understanding why. Furthermore, this finding may be related to the relationship between locus of control and financial knowledge. When minority, low-income, or first-generation students believe they have more control over their finances, they tend to have more financial knowledge. However, when they feel they have less control over their finances, they tend to have less financial knowledge. As parents financially socialize their children, they may intentionally or unintentionally reinforce beliefs that students have control over their situation. These students may develop a belief that increasing their financial knowledge or improving their financial attitudes will not help their financial situation, which may reduce their motivation to try (Luhr, 2018). Parents who experience helplessness or hopelessness may thus transmit those feelings to their children through their financial socialization efforts.

As demonstrated by the findings from this dissertation study, parents play a critical role in the financial capability and financial well-being of their college-aged children. Some parents may be embarrassed by their own financial situation or their lack of financial knowledge. As a result, they may not want to discuss their finances or their shortcomings with their children. In these cases, findings in this study support the need for parents to encourage their college-aged children to seek out opportunities to learn about finances or to find resources that will help them improve their financial situation. Additionally, financial education programs can identify money management strategies through their own participants. For example, families from low-income or minority backgrounds facing financial setbacks may use those experiences to provide a unique perspective or strategy on how to overcome or address financial difficulties (Sherraden, 2013).

The Future of Financial Education

The findings from the current dissertation study support the notion the needs of students differ, and one-size-fits-all campus financial education or intervention programs may not be adequate, as currently constituted. Additionally, financial education programs should consider the development of financial capability as multi-dimensional rather than a step-by-step progression. With this perspective in mind, this dissertation study has multiple implications for financial education programs, parents, and college students for the development of college students' financial capability, and ultimately their financial well-being.

Many college campuses already promote financial literacy education programs, but few promote financial counseling services similar to those aimed at improving the physical and mental health of college students (Financial Literacy and Education Commission, 2015).

Financial counseling can address underlying reasons for why college students engage in specific financial behaviors, such as compulsive spending and using alternative financial services. Financial counselors can then direct students to resources they can turn to when facing financial issues. Existing financial education programs can also incorporate financial counseling by training staff on how to coach and work with students facing significant financial-related stress. Financial counselors or coaches can help students identify sources of financial stress (e.g., a perceived lack of control of a financial situation or anxiety and uncertainty about the future) or the behaviors that may be harming their financial well-being. Financial counseling can thus assist students in developing financial goals that will aid in developing financial capability and improving financial well-being (Archuleta et al., 2015).

From the first dissertation study, minority, low-income, or first-generation college students demonstrated lower financial knowledge when accounting for the financial socialization process in the home. This finding may be due to what and how parents taught their children about finances (LeBaron et al., 2018). On-campus financial education programs can help students develop financial knowledge and financial skills by recognizing the financial socialization that has already taken place. For example, minority, low-income, and first-generation students may come from households that do not understand, qualify for, or trust traditional banking and credit services (Sherraden, 2013). The complexity of financial services and products available today can be very daunting to someone unfamiliar with these services and products. As a result, students and their families may shy away from using debit and credit cards or traditional loans (Sherraden, 2013) and turn towards alternative financial services for their banking needs (Barr, 2008). Additionally, on-campus and community financial education programs may need to provide services using simple terms or in alternative languages that can be easily understood for non-native speaking or financially naïve clientele. Since English is the primary, and sometimes only form of communication in financial institutions (e.g., banks and credit unions), ethnic or racial minorities whose English is not their primary language may not have access to or understand how to utilize the financial services offered (Painter, 2013). As such, financial education efforts looking to improve financial capability and financial well-being should consider how financial education services are being delivered and provide the information using language and terms that are easy to understand.

Within the first study, financial socialization was also found to influence the financial attitudes and financial behaviors of college students. While most parents feel it is their responsibility and are proactive about teaching their children about finances (Rothman et al., 2011), parents can be more mindful about how and what they teach their children, as well as their own behaviors and attitudes. When parents do not know something related to finances, they need to be encouraged to seek resources to help them in their financial socialization efforts.

On-campus financial education programs are in a position to provide this relevant and credible financial information for college students and their parents. Administrators and educators from these programs can also help both students and their parents to better evaluate their own financial circumstance and develop a plan to address any issues that may arise (Durband & Britt, 2012), including the development of financial attitudes and behaviors that are sustainable once a "crisis situation" has passed (Britt et al., 2015).

Financial education programs within community and neighborhoods in addition to college programs can also facilitate age-appropriate and family-focused programming to improve financial capability and financial well-being. For example, the Consumer Financial Protection Bureau (2019) has developed several initiatives that help families to save an emergency fund or other money. These programs include the *Savings Boot Camp* email program, *Start Small, Save Up* website, and the "Building your savings? Start with smart goals" lesson from the *Your Money, Your Goals* curriculum. Participants within these programs noted changes in their financial attitudes and behaviors as they were able to begin and maintain a savings plan (CFPB, 2019). Using family-focused financial education programs can also empower people by teaching them basic financial topics and helping them to develop attitudes and behaviors that match their financial goals when living paycheck-to-paycheck.

Findings from the second dissertation study support the need for financial education programs to develop financial skills, lower materialistic views, and identify adequate financial services. Most financial education programs are designed to help students gain greater financial knowledge. However, increased financial knowledge does not necessarily mean students will engage in better financial behaviors or that their financial well-being will improve. As noted by the Consumer Financial Protection Bureau (2018), students need to learn how to *apply* their financial knowledge, which is described as financial skills. From this perspective, financial education programs and curricula need to be designed to emphasize how students can apply the knowledge they are gaining. These financial skills need to help students take charge of their financial situation. These skills can be taught and strengthened through learning activities, where participants engage in problem-solving through hands-on real-life scenarios (Todd et al., 2011; Towson, 2013). Instructional methods that include hands-on activities, role-playing, and simulations have demonstrated success in improving the learning and comprehension of financial topics (Jarvis, 2006; Johnson & Sherraden, 2007).

In addition to teaching financial skills, Shim and colleagues (2010) noted that financial education efforts need to connect financial attitudes and behaviors with long-term financial goals so that young adults can better understand how financial knowledge and skills are pertinent to them. This idea relates to the need to discuss attitudes, such as materialism, within financial education curricula. People may use materialism to portray a certain image now, but does this image fit within their long-term goals? Financial education programming can be designed to help students set financial goals, explore why these goals are important to them (i.e., values), and to explore their current financial attitudes. If these concepts are aligned by financial educators, financial coaching can help students to align their financial goals, values, and attitudes.

Finally, financial education programming needs to better address the financial services available to college students and their families. As revealed in the second dissertation study, various financial services, including number of bank accounts, credit cards, student loans, and alternative financial services, had differing influences on college students' financial well-being. Administrators and educators, possibly in collaboration with financial counselors and financial aid officers, can help students to explore what financial services are available to them, as well as which services can best meet their needs. Exploring advantages and disadvantages of each of these services may help students and their families to meet their financial goals.

Findings from this study revealed that including parents in financial education programs, parents can help improve their young adult children's financial behaviors by encouraging them to attend seminars, workshops, and take coursework that is relevant to them and will foster improved financial capability and well-being. Additionally, parents can continue to provide the encouragement and emotional support needed to achieve their personal and financial goals.

Future research on financial capability and financial well-being is still needed to better understand potential similarities and differences between minority, low-income, and first-generation students and their more affluent peers. While the current dissertation research found some similarities and differences between these two groups, it does not provide a complete picture. This research needs most notably a longitudinal examination of the financial socialization processes used within the home and it needs multiple informants reporting on these processes. The current study examined only a single timepoint and relied on students' retrospective perspectives on how they were taught about finances in the home. Future research also needs to include parental perspectives of this financial socialization process, as it will be beneficial in better understanding what is being taught, how it is being taught, and why it is being taught, as well as how this information is being received.

Conclusion

Ultimately, the findings from this dissertation study support the influence of and need for financial education, both at home and in school, and for the development of financial capability and financial well-being among college students. However, rather than focusing just on the learning of financial terms and definitions (i.e., an objective financial knowledge), administrators and educators for campus financial education programs can help students to better *apply* this knowledge into developing positive financial attitudes and financial behaviors that will promote their financial capability and financial well-being in school and beyond. Parents can also be invited to participate in and be involved with culturally sensitive financial education programming and share insights they have about the financial socialization processes they used in the home. One strategy for helping college students develop financial capability and financial well-being is to help them develop personal financial goals that are reflective of their financial capability, such as saving a specific amount of money by graduation or developing a debt repayment plan for paying off their student loans.

REFERENCES

Addo, F. R., Houle, J. N., & Simon, D. (2016). Young, Black, and (still) in the red: Parental wealth, race, and student loan debt. *Race and social problems*, *8*(1), 64–76. https://doi.org/10.1177/2332649218790989

Ainsworth, M. S. (1978). The development of infant-mother attachment. In B. M. Caldwell & H. N. Ricciuti (Eds.), *Review of child development research* (Vol. 3, pp. 1-94). Chicago: University of Chicago Press.

Allen, M. W. (2008). Consumer finance and parent-child communication. In J. J. Xiao (Ed.), *Handbook of consumer finance research* (pp. 351-361). New York: Springer.

American Psychological Association (APA). (2020). *Stress in America 2020: Stress in the time of COVID-19*. Retrieved from https://www.apa.org/news/press/releases/stress/2020/stress-in-america-covid.pdf

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

Archuleta, K. L., Burr, E. A., Bell Carlson, M., Ingram, J., Irwin Kruger, L., Grable, J., & Ford, M. (2015). Solution focused financial therapy: A brief report of a pilot study. *Journal of Financial Therapy, 6*(1), 1-16. https://doi.org/10.4148/1944-9771.1081

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the late twenties. *American Psychologist,* 55, 469-480.

Arnett, J. J. (2013). *Adolescence and emerging adulthood* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

The Ascent. (2019, March 22). *Study: The average millennial achieves financial independence at this age*. The Ascent. https://www.fool.com/the-ascent/research/study-average-millennial-achieves-financial-independence-age/

Atalay, A. S., & Meloy, M. G. (2011). Retail therapy: A strategic effort to improve mood. *Psychology & Marketing, 28*, 638-660. DOI: 10.1002/mar.20404.

Atkinson, A., McKay, S., Collard, S., & Kempson, E. (2007). Levels of financial capability in the UK. *Public Money & Management*, *27*(1), 29-36. DOI: 10.1111/j.1467-9302.2007.00552.x

Atkinson, A., McKay, S., Kempson, E., &. Collard, S. (2006). *Levels of financial capability in the UK: Results of a baseline survey*. (FSA Consumer Research 47). Retrieved from Financial Conduct Authority website: https://www.fca.org.uk/publication/research/fsa-crpr47.pdf

Barr, M. S. (2008, March). *Financial services, saving and borrowing among low- and moderate-income households: Evidence from the Detroit area household financial services survey*. Paper presented at the 3rd Annual Conference on Empirical Legal Studies. Retrieved from: http://dx.doi.org/10.2139/ssrn.1121195

Bartholomew, K., & Shaver, P. R. (1998). Methods of assessing adult attachment: Do they converge? In J. A. Simpson & W. S. Rhodes (Eds.) *Attachment theory and close relationships* (pp. 25-45). New York: Guilford Press.

Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self- esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, *4*, 1-44.

Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Adolescence, 11,* 639-652. DOI: 10.1177/0272431691111004

Bearden, W. O., Netemeyer, R. G., & Teel, J. E. (1989). Measurement of consumer susceptibility to interpersonal influence. *Journal of Consumer Research, 15*, 473-481.

Birkenmaier, J. (2012). Promoting bank accounts to low-income households: Implications for social work practice. *Journal of Community Practice, 20*(4), 414-431. DOI: 10.1080/10705422.2012.732004

Birkenmaier, J., Curley, J., & Kelley, P. (2011). The financial credit profile of low-income families seeking assets. *Journal of Financial Therapy, 2*, 68-85. DOI: 10.4148/jft.v2i2.1512

Birkenmaier, J., & Fu, Q. (2016). The association of alternative financial services usage and financial access: Evidence from the national financial capability study. *Journal of Family and Economic Issues*, *37*, 450-460. DOI: 10.1007/s10834-015-9463-2

Borden, L. M., Lee, S. A., Serido, J., & Collins, D. (2008). Changing college students' financial knowledge, attitudes, and behavior through seminar participation. *Journal of Family and Economic Issues*, *29*(1), 23–40. http://doi.org/10.1007/s10834-007-9087-2

Boss, P. (2002). *Family stress management: A contextual approach*. Thousand Oaks, CA: Sage Publications.

Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books (originally published in 1969).

Britt, S. L., Canale, A., Fernatt, F., Stutz, K., & Tibbetts, R. (2015). Financial stress and financial counseling: Helping college students. *Journal of Financial Counseling and Planning, 26*(2), 172-186.

Britt, S. L., Grable, J., Cumbie, J., & Bell, M. M. (2013). The influence of locus of control on student financial behavior. *College Student Journal*, *47*(1), 178-184.

Britt, S. L., Grable, J., Cumbie, J., Cupples, S., Henegar, J., Schnider, K., & Archuleta, K. (2011). Student financial counseling: An analysis of a clinical and non-clinical sample. *Journal of Personal Finance, 10*(2), 172-186.

Burhouse, S., Chu, K., Ernst, K., Goodstein, R., Lloro, A., Lyons, G., Northwood, J., Osaki, Y., Rhine, S., Sharma, D., & Weinstein, J. (2015). *FDIC National survey of unbanked and underbanked households.* Retrieved from https://www.economicinclusion.gov/surveys/2015household/documents/2015_FDIC_Unbanked_HH_Survey_Report.pdf

Butters, R. B., Asarta, C. J., & McCoy, S. G. (2012). Financial literacy and gender in U.S. high schools. *Journal of Economics and Finance Education, 11*, 142-149.

Chen, H., & Volpe, R. P. (1998). An Analysis of Personal Financial Literacy among College Students. *Financial Services Review*, 7, 107-128.

Cho, S. H., Gutter, M., Kim, J., & Mauldin, T. (2012). The effect of socialization and information source on financial management behaviors among low- and moderate-income adults. *Family and Consumer Sciences Research Journal, 40*(4), 417-430. DOI: 10.111/j.1552-3934.2012.02120.x

Collins, N. L. (1996). Working models of attachment: Implications for explanation, emotion, and behavior. *Journal of Personality and Social Psychology, 71*, 810-832.

Consumer Financial Protection Bureau's (CFPB). (2015). *Measuring financial well-being: A guide to using the CFPB financial well-being scale*. Retrieved from https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-scale/

Consumer Financial Protection Bureau's (CFPB). (2016a). *Financial literacy annual report*. Retrieved from https://www.consumerfinance.gov/data-research/research-reports/2016-financial-literacy-annual-report/

Consumer Financial Protection Bureau's (CFPB). (2016b). *Building blocks to help youth achieve financial capability*. Retrieved from https://www.consumerfinance.gov/data-research/research-reports/building-blocks-help-youth-achieve-financial-capability/

Consumer Financial Protection Bureau's (CFPB). (2017). *Snapshot of older consumers and student loan debt.* Retrieved from the Office for Older Americans and Office for Student and Young Consumers https://www.consumerfinance.gov/about-us/blog/nationwide-look-how-student-debt-impacts-older-adults/

Consumer Financial Protection Bureau's (CFPB). (2018). *Measuring financial skill: A guide to using the CFPB financial skill scale*. Retrieved from https://files.consumerfinance.gov/f/documents/bcfp_financial-well-being_financial-skill-scale.pdf

Consumer Financial Protection Bureau (CFPB). (2018). *Pathways to financial well-being: The role of financial capability*. Retrieved from https://s3.amazonaws.com/files.consumerfinance.gov/f/documents/bcfp_financial-well-being_pathways-role-financial-capability_research-brief.pdf

Consumer Financial Protection Bureau (CFPB). (2019). *Financial Literacy Annual Report 2019*. Retrieved from https://files.consumerfinance.gov/f/documents/bcfp_financial-literacy_annual-report_2019.pdf

Council for Economic Education (CEE). (2018). *Survey of the states: Economic and personal finance education in our nation's schools 2018*. Retrieved from the Council for Economic Education website https://www.councilforeconed.org/wp-content/uploads/2018/02/2018-SOS-Layout-18.pdf

Cude, B., Lawrence, F., Lyons, A., Metzger, K., LeJeune, E., Marks, L., & Machtmes, K. (2006). *College students and financial literacy: What they know and what we need to learn*. [Paper presentation]. Proceedings of the 2006 Eastern Family Economics and Resource Management Association, 102-109.

Danes, S. M. (1994). Parental perceptions of children's financial socialization. *Financial Counseling and Planning*, *5*(1), 127-146.

Danes, S. M., & Dunrud, T. (1993). Children and Money: Teaching Children Money Habits for Life. Minnesota Extension Service Publication, HE-FO-6116, University of Minnesota.

Danes, S. M., & Yang, Y. (2014). Assessment of the use of theories within the Journal of Financial Counseling and Planning and the contribution of the family financial socialization conceptual model. *Journal of Financial Counseling and Planning, 25,* 53-68.

Deenanath, V., Danes, S. M., & Jang, J. (2019). Purposive and unintentional family financial socialization, subjective financial knowledge, and financial behavior of high school students. *Journal of Financial Counseling and Planning, 30*, 83-96. http://dx.doi.org/10/1891/1052-3073.30.1.83

Dew, J., & Xiao, J. J. (2011). The financial management behavior scale: Development and validation. *Journal of Financial Counseling and Planning, 22*(1), 43–59.

Durband, D. B., & Britt, S. L. (2012). *Student financial literacy: Campus-based program development*. New York: Springer.

Ehrbar, N. (2019, May 17). More than half of millennials in their 30s still banking on mom and dad. *Yahoo Finance*. https://finance.yahoo.com/news/more-than-half-of-millennials-banking-on-mom-and-dad-192804570.html

Eichelberger, B., Mattioli, H., & Foxhoven, R. (2017). Uncovering barriers to financial capability: Underrepresented students' access to financial resources. *Journal of Student Financial Aid, 47*(5), 70-87.

Faber, R. J., & O'Guinn, T. C. (1992). A clinical screener for compulsive buying. *Journal of Consumer Research, 19*, 459-469. DOI: 0093-5301/93/1903.0012$2.00

Fernandes, D., Lynch, J. G., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science, 60*(8), 1861–1883. DOI: 10.1287/mnsc.2013.1849

Ferrari, T. M., Bateson, L., Hudson, N., Bridgeman, B., & Cochran, G. (2010). Getting real results with Ohio State University Extension's real money, real world, program. *Journal of Youth Development, 5*(2), 1-15.

Financial Literacy and Education Commission. (2015). Opportunities to improve the financial capability and financial well-being of postsecondary students. Retrieved from https://www.treasury.gov/resourcecenter/financialeducation/Documents/Opportunities%20to%20Improve%20the%20Financial%20Capability%20and%20Financial%20Wellbeing%20of%20Postsecondary%20Students.pdf

Fitzpatrick, K. (2017). Bank accounts, nonbank financial transaction products, and food insecurity among households with children. *Journal of Consumer Affairs, 51*(3), 631-658. DOI: 10.1111/joca.12158

Fowler, C. S., Cover, J. K., & Kleit, R. G. (2014). The geography of fringe banking. *Journal of Regional Science, 54*(4), 688-710. DOI: 10.1111/jors.12144

Fraley, R. C. (2018). *Adult attachment theory and research: A brief overview*. Retrieved from http://labs.psychology.illinois.edu/~rcfraley/attachment.htm.

Friedline, T., & West, S. (2016). Financial education is not enough: Millennials may need financial capability to demonstrate healthier financial behaviors. *Journal of Family and Economic Issues, 37*, 649-671. DOI: 10.1007/s10834-015-9475-y

Garasky, S., Nielsen, R. B., & Fletcher, C. N. (2008). Consumer finances of low-income families. In: Xiao J. J. (Eds). *Handbook of Consumer Finance Research* (pp. 223-237). Springer: New York, NY

Gross, J. J., & Thompson, R. A. (2007). Emotion Regulation: Conceptual Foundations. In J. J. Gross (Ed.), *Handbook of Emotion Regulation* (pp. 3-24). New York, NY: Guilford Press.

Grusec, J. E., & Davidov, M. (2010). Integrating different perspectives on socialization theory and research: A domain-specific approach. *Child Development*, 81(3), 687-704.

Gudmunson, C. G., & Danes, S. M. (2011). Family financial socialization: Theory and critical review. *Journal of Family and Economic Issues, 32*(4), 644-667. DOI: 10.1007/s10834-011-9275-y.

Gudmunson, C. G., Ray, S. K., & Xiao, J. J. (2016). Financial socialization. In J. J. Xiao (Ed.), *Handbook of consumer finance research* (pp. 61-72). New York: Springer.

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

Hair, J., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Hamilton, L. T. (2010). *Strategies for success: Parental funding, college achievement, and the transition to adulthood.* (Publication No. 3413633) [Doctoral dissertation, Indiana University]. Retrieved from ProQuest LLC.

Hamilton, L. T. (2013). More is more or more is less? Parental financial investments during college. *American Sociological Review,* 78(1), 70-95.

Hancock, A., Jorgensen, B. L., & Swanson, M. S. (2013). College students and credit card use: The role of parents, work experience, financial knowledge, and credit card attitudes. *Journal of Family and Economic Issues, 34*(4), 369-381. DOI: 10.1007/s10834-012-9338-8.

Hanley, A., & Wilhelm, M. S. (1992). Compulsive buying: an exploration into self-esteem and money attitudes. *Journal of Economic Psychology, 13*, 5-18.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76,* 408-420. DOI: 10.1080/03637750903310360

Hayhoe, C. R., Leach, L. J., Turner, P. R., Bruin, M. J., & Lawrence, F. C. (2000). Differences in spending habits and credit use of college students. *Journal of Consumer Affairs, 34*(1), 113-131. DOI: 10.1111/j.1745-6606.2000.tb00087.x

Heckman, S., Lim, H., & Montalto, C. (2014). Factors related to financial stress among college students. *Journal of Financial Therapy, 5,* 19-39. DOI: 10.4148/1944-9771.1063

Hopwood, A. G. (2007). Whither accounting research? *The Accounting Review, 82*(5), 1365–1374.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1–55. DOI: 10.1080/10705519909540118

Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs, 44*(2), 296-316.

Jarvis, P. (2006). Practice-based and problem-based learning. *The theory and practice of teaching* (pp 147-156). 2nd Ed. New York, NY: Routledge.

Johnson, J., Rochkind, J., Ott, A. N., & DuPont, S. (2009). *With their whole lives ahead of them: Myths and realities about why so many students fail to finish college*. New York Public Agenda. Retrieved from http://www.publicagenda.org/files/theirwholelivesaheadofthem.pdf.

Johnson, E., & Sherraden, M. (2007). From financial literacy to financial capability among young. *Journal of Sociology & Welfare*, *34*(3), 119-145.

Jorgensen, B. L. (2017, February 20). Financial Capability of Emerging Adult's (EAFCS) survey questions with sources and categories.

Jorgensen, B. L., & Savla, J. (2010). Financial literacy of young adults: The importance of parental socialization, *Family Relations, 59*(4), 465-478. DOI: 10.1111/j.1741-3729.2010.00616.x

Jorgensen, B., Foster, D., Jensen, J., & Vieira, E. (2017). Financial attitudes and responsible spending behavior of emerging adults: Does geographic location matter? *Journal of Family and Economic Issues, 38*, 70-83. DOI: 10.1007/s10834-016-9512-5

Jorgensen, B. L., Rappleyea, D. L., Schweichler, J. T., Fang, X., & Moran, M. E. (2016). The financial behavior of emerging adults: A family financial socialization approach. *Journal of Family and Economic Issues*, *38*, 57-69. DOI: 10.1007/s10834-015-9481-0

Kasser, T., Rosenblum, K. L., Sameroff, A. J., Deci, E. L., Niemiec, C. P., Ryan, R. M., Arnadottir, O., Bond, R., Dittmar, H., Dungan, N., & Hawks, S. (2014). Changes in materialism, changes in psychologocial well-being: Evidence from three longitudinal studies and an intervention experiment. *Motivation and Emotion, 38*, 1-22. https://doi.org/10.1007/s11031-013-9371-4.

Keil, B. J., & Kelbaugh, B. M. (1996). The high school financial planning program. *Journal of Extension, 34*(1) Retrieved from: https://www.joe.org/joe/1996february/tt2.php

Kidwell, B., Brinberg, D., & Turrisi, R. (2003). Determinants of money management behaviors. *Journal of Applied Social Psychology, 33*, 1244-1260.

Kim, J., & Chatterjee, S. (2013). Childhood financial socialization and young adults' financial management. *Journal of Financial Counseling & Planning, 24*(1), 61-79.

Kim, J., LaTaillade, J., & Kim, H. (2019). Financial socialization of college students: Domain-general and domain-specific perspectives. *Journal of Family Economic Issues, 40*, 226-236. DOI: 10.1007/s10834-018-9590-7

Kim, J. H., & Torquati, J. (2029). Family processes and adolescent's financial behaviors. *Journal of Family Economic Issues, 32*, 668-679. DOI: 10.1007/s10834-011-9270-3.

Klepfer, K., Cornett, A., Fletcher, C., & Webster, J. (2019). *Student financial wellness survey: Fall 2018 semester results*. Trellis Research National Aggregate Report. https://www.trelliscompany.org/wp-content/uploads/2019/06/Fall-2018-SFWS-Report.pdf

Klontz, B., Bivens, A., Klontz, P., Wada, J., & Kahler, R. (2008). The treatment of disordered money behaviors: Results of an open clinical trial. *Psychological Services, 5*(3), 295-308. DOI: 10.1037/1541-1559.5.3.295

Koran, L. M., Faber, R. J., Aboujaoude, E., Large, M. D., & Serpe, R. T. (2006). Estimated prevalence of compulsive buying behavior in the United States. *The American Journal of Psychiatry, 163*, 1806-1812.

Kropp, F., Lavack, A. M., & Silvera, D. H. (2005). Values and collective self-esteem as predictors of consumer susceptibility to interpersonal influence among university students. *International Marketing Review*, *22*(1), 7-33.

Ksendzova, M., Donnelly, G. E., & Howell, R. T. (2017). A brief money management scale and its associations with personality, financial health, and hypothetical debt repayment. *Journal of Financial Counseling and Planning, 28*(1), 62–75. https://doi.org/10.1891/1052-3073.28.1.62

LeBaron, A. B., Hill, E. J., Rosa, C. M., & Marks, L. (2018). What's and how's of family financial socialization: Retrospective reports of emerging adults, parents, and grandparents. *Journal of Family Relations, 67*, 497-509. DOI: 10.1111/fare.12335

Lee, J. C., & Mortimer, J. T. (2009). Family socialization, economic self-efficacy, and the attainment of financial independence in early adulthood. *Longitudinal Life Course Studies, 1*(1), 45-62.

Lin, J. T., Bymcrot, C., Ulicny, T., Lusardi, A., Mottola, G., Kieffer, C., & Walsh, G. (2016). *Financial Capability in the United States 2016*. FINRA Investor Education Foundation. Retrieved from http://www.usfinancialcapability.org/downloads/NFCS_2015_Report_Natl_Findings.pdf

Loulakis, A., & Hill, R. P. (2010). Status and materialism among college-aged women. *American Marketing Association, 21*, 43-52.

Luhr, S. (2018). How social class shapes adolescent financial socialization: Understanding differences in the transition to adulthood. *Journal of Family and Economic Issues, 39*, 457-473. DOI: 10.1007/s10834-018-9573-8

Lusardi, A., & Scheresberg, C. de B. (2013). *Financial literacy and high-cost borrowing in the United States*. NBER Working Paper 18969. Cambridge, MA: National Bureau of Economic Research. http://www.nber.org/papers/w18969.pdf

Mandell, L. (2008). *The financial literacy of young American adults: Results of the 2008 national jump$tart coalition survey of high school seniors and college students*. Washington, DC: Jump Start Coalition for Financial Literacy.

Mandell, L., & Klein, L. S. (2009). The impact of financial literacy education on subsequent financial behavior. *Journal of Financial Counseling and Planning Education, 20*, 15-24.

McNair, S., Summers, B., De Bruin, W. B., & Ranyard, R. (2016). Individual-level factors predicting consumer financial behavior at a time of high pressure. *Personality and Individual Differences, 99*, 211-216. DOI: 10.1016/j.paid.2016.05.034

Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., Houts, R., et al. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences, 108*(7), 2693–98.

Mosle, A., & Patel, N. (2012). *Two Generations, One Future: Moving Parents and Children Beyond Poverty Together*. Retrieved from The Aspen Institute aspeninstitute.org/sites/default/files/content/docs/ascend/Ascend-Report-022012.pdf

Netemeyer, R. G., Bearden, W. O., & Teel, J. E. (1992). Consumer susceptibility to interpersonal influence and attributional sensitivity. *Psychology and Marketing, 9*(5), 379-394.

Norvilitis, J. M., Merwin, M. M., Osberg, T. M., Roehling, P. V., Young, P., & Kamas, M. M. (2006). Personality factors, money attitudes, financial knowledge, and credit card debt in college students. *Journal of Applied Social Psychology, 36*(6), 1395-1413. https://doi.org/10.1111/j.0021-9029.2006.00065.x

Olive, P. (2013). *Analyzing the financial capability of people in Wisconsin*. (Issue Brief April 2013). Wisconsin: Collins, J. M Retrieved from http://fyi.uwex.edu/financialseries/files/2013/04/April_2013_Fin_Cap1.pdf

Painter, M. A. (2013). Immigrant and native financial well-being: The roles of place of education and race/ethnicity. *Social Science Research, 42*(5), 1375-1389.

Pathak, P., Holmes, J., & Zimmerman, J. (2011). *Accelerating financial capability among youth: Nudging new thinking*. Retrieved from the New America Foundation: https://www.new america.org/asset-building/policy-papers/accelerating-financialcapability-among-youth-nudging-new-thinking

Pham, T. H., Yap, K., & Dowling, N. A. (2012). The impact of financial management practices and financial attitudes on the relationship between materialism and compulsive buying. *Journal of Economic Psychology, 33,* 461-470. DOI: 10.1016/j.joep.2011.12.07

Pearlin, L., Lieberman, M., Menaghan, E., & Mullan, J. (1981). The stress process. *Journal of Health and Social Behavior, 22*, 337-356.

Peng, T. C. M., Bartholomae, S., Fox, J. J., & Cravener, G. (2007). The impact of personal finance education delivered in high school and college courses. *Journal of Family and Economic Issues, 28*(2), 265-284.

Perry, V. G., & Morris, M. D. (2005). Who is in control? The role of self-perception, knowledge, and income in explaining consumer financial behavior. *The Journal of Consumer Affairs, 39*(2)*,* 299-313.

Pinto, M. B., Parente, D. H., & Mansfield, P. M. (2005). Information learned from socialization agents: Its relationship to credit card use. *Family and Consumer Sciences Research Journal, 33*(4), 357-367.

Pinto, M. B., Parente, D. H., & Palmer, T. S. (2000). Materialism and credit card use by college students. *Psychology Reports, 86*, 643-652.

Prager, R. A. 2009. *Determinants of the locations of payday lenders, pawnshops and check-cashing outlets*. Washington, DC: Federal Reserve Board. Retrieved from https://www.federalreserve.gov/pubs/feds/2009/200933/200933pap.pdf

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypothesis: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*(1), 185-227.

Richins, M. L. (2004). The material values scale: Measurement properties and development of a short form. *Journal of Consumer Research, 31*, 209-219. DOI: 0093-5301/2004/3101-0018$10.00

Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research, 19*(3), 303-316. DOI: 0093-5301/93/1903-0001$2.00

Richters, J., & Walters, E. (1991). *Attachment and socialization: The positive side of social influence*. In Lewis, M. & Feinman, E. (Eds.), Social influences and socialization in infancy. (pp. 185-214). New York: Plenum Press.

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

Roberts, J. A., & Jones, E. L. I. (2001). Money attitudes, credit card use, and compulsive buying among American college students. *Journal of Consumer Affairs, 35*(2), 213-240.

Robles, B. J. (2014). Economic inclusion and financial education in culturally diverse communities: Leveraging cultural capital and whole-family learning. *New Directions for Adult & Continuing Education, 141*, 57-66. DOI: 10.1002/ace.20085

Romo, L. K. (2011). Money talks: Revealing and concealing financial information in families. *Journal of Family Communication, 11,* 264-281. DOI: 10.1080/15267431.2010.544634

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rothman, E. F., Miller, E., Terpeluk, A., Glauber, A., & Randel, J. (2011). The proportion of U.S. parents who talk with their adolescent children about dating abuse. *Journal of Adolescent Health, 49*, 216-218. DOI: 10.1016/j.jadohealth.2011.05.005

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological monographs: General and Applied, 80*(1), 1-28.

Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Counseling and Clinical Psychology, 43*(1), 56-67. DOI: 10.1037/h0076301

Salignac, F., Hamilton, M., Noone, J., Marjolin, A., & Muir, K. (2019, June). Conceptualizing financial wellbeing: An ecological life-course approach. *Journal of Happiness Studies.* Advance Online Publication https://doi.org/10.1007/s10902-019-00145-3

Schuyler, S., Buckley, E., & Lusardi, A. (2018). *Millennials and financial literacy: The struggle with personal finance.* Retrieved from Price Waterhouse Cooper https://www.pwc.com/us/en/about-us/corporate-responsibility/assets/pwc-millennials-and-financial-literacy.pdf

Serido, J., & Shim, S. (2014). *Life after college: Drivers for young adult success.* Arizona Pathways to Life Success for University Students (APLUS) Wave 3. Retrieved from https://static1.squarespace.com/static/597b61a959cc68be42d2ee8c/t/599cc1b96b8f5b243b0fe677/1503445434743/wave-3-report.pdf

Serido, J., & Shim, S. (2017). *Life after college: Drivers for young adult success.* Arizona Pathways to Life Success for University Students (APLUS) Wave 4. Retrieved from https://static1.squarespace.com/static/597b61a959cc68be42d2ee8c/t/598a844ecd39c31515c51c7f/1502250072075/APLUS_WAVE4.pdf

Serido, J., Shim, S., Mishra, A., & Tang, C. (2010). Financial parenting, financial coping behaviors, and well-being of emerging adults. *Family Relations, 59,* 459-464. DOI: 10.1111/j.1741-3729.2010.00615.x

Shapiro, M. (2007). Money: A therapeutic tool for couples' therapy. *Family Process, 46*, 279-291. DOI: 10.1111/j.1545-5300.2007.00211x

Sherraden, M. S. (2013). Building blocks of financial capability. In J. M. Birkenmaier, M. S. Sherraden, & J. C. Curley, J. (Eds.), *Financial capability and asset building: Research, education, policy, and practice* (pp. 3–43). New York & Oxford: Oxford University Press.

Shim, S., Barber, B. L., Card, N. A., Xiao, J. J., & Serido, J. (2010). Financial socialization of first-year college students: The roles of parents, work, and education. *Journal of Youth and Adolescence, 39*(12), 1457-1470.

Shim, S., Serido, J., Bosch, L., & Tang, C. (2013). Financial identity-processing styles among young adults: A longitudinal study of socialization factors and consequences for financial capabilities. *Journal of Consumer Affairs, 47*, 128-152. DOI: 10.1111/joca.12002.

Shim, S., Xiao, J. J., Barber, B. L., & Lyons, A. (2009). Pathways to life success: A conceptual model of financial well-being for young adults. *Journal of Applied Developmental Psychology,* 30, 708-723.

Solheim, C. A., Zuiker, V. S., & Levchenko, P. (2011). Financial socialization family pathways: Reflections from college students' narratives. *Family Science Review, 16*, 97-112.

Solomon, M. (2015). *2016 is the year of the millennial customer: Is your customer experience ready?* Forbes. Retrieved from http://www.forbes.com/sites/micahsolomon/2015/11/14/2016-is-the-year-of-the-millennial-customer-heres-how-to-be-ready/#4839dfea6e72

Tang, N., & Baker, A. (2016). Self-esteem, financial knowledge, and financial behavior. *Journal of Economic Psychology, 54*, 164-176. http://dx.doi.org/10.1016/j.joep.2016.04.005

Taylor, E. W., Tisdell, E. J., & Forte, K. A. (2012). Teaching financial literacy: A survey of community-based educators. *International Journal of Consumer Studies, 36*, 531-538. DOI: 10.1111/j.1470-6431.2012.01105.x

The Institute for College Access and Success (TICAS; 2018). *Students at greater risk of loan default.* Retrieved from https://ticas.org/sites/default/files/pub_files/students_at_the_greatest_risk_of_default.pdf

Todd, M. E., de Guzman, M. R., & Zhang, X. (2011). Using poverty simulation for college students: A mixed-methods evaluation. *Journal of Youth Development, 6*(2). Retrieved from the University of Nebraska Lincoln: https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1105&context=famconfacpub

Tokunaga, H. (1993). The use and abuse of consumer credit: Application of psychological theory and research. *Journal of Economic Psychology, 14,* 285-316.

Towson, M. (2013). *High school seniors' financial knowledge and outlook: A Discover pathway to financial success survey.* Retrieved from the Pathway to Financial Success https://www.pathwaytofinancialsuccess.org/wp-content/uploads/2014/04/Pathway-Financial-Knowledge-and-Outlook-Survey-Key-Findings.pdf

Tran, A. G. T. T., Lam, C. K., & Legg, E. (2018). Financial stress, social supports, gender, and anxiety during college: A stress-buffering perspective. *The Counseling Psychologist, 46*(7), 846-869. DOI: 10.1177/0011000018806687

U.S. Department of Education (2015). *Fact sheet: Focusing higher education on student success* [Press Release]. Retrieved from the Department of Education National Center for Education Statistics website: https://www.ed.gov/news/press-releases/fact-sheet-focusing-higher-education-student-success

Von Stumm, S., Gale, C. R., Batty, G. D., & Deary, I. J. (2009). Childhood intelligence, locus of control and behaviour disturbance as determinants of intergenerational social mobility: British Cohort Study (1970). *Intelligence, 37*, 329-340. DOI: 10.1016/j.intell.2009.04.002

Walpole, M. (2003). Socioeconomic status and college: How SES affects college experiences and outcomes. *The Review of Higher Education, 27*(1), 45-73.

Whitbeck, L. B., Simons, R. L., Conger, R. D., Lorenz, F. O., Huck, S., & Elder, G. H. (1991). Family economic hardship, parental support, and adolescent self-esteem. *Social Psychology Quarterly, 54*, 353-563. DOI: 10.2307/2786847

Xiao, J. J. (2008). Applying behavior theories to financial behavior. In J. J. Xiao (ed.). Handbook of consumer finance research (pp. 69-81). New York: Springer.

Xiao, J. J., Serido, J., & Shim, S. (2012). *Consumer knowledge and financial decisions: Lifespan perspectives international series on consumer science*. (D. J. Lamdin, Ed.). New York, NY: Springer.

Xiao, J. J., Tang, C., & Shim, S. (2009). Acting for happiness: Financial behavior and life satisfaction of college students. *Social Indicators Research, 92*, 53-68. DOI: 10.1007/s11205-008-9288-6

Yurchisin, J., & Johnson, K. K. P. (2004). Compulsive buying behavior and its relationship to perceived social status associated with buying, materialism, self-esteem, and apparel-product involvement. *Family and Consumer Sciences Research Journal*, *32*(3), 291–314.

APPENDIX A

INSTRUMENT PERMISSION

Cecy Brooks <cb559@msstate.edu>

FW: Financial Capability Survey

3 messages

Bryce Jorgensen <brycej@ad.nmsu.edu> Mon, Feb 20, 2017 at 1:48 PM
To: "cb559@msstate.edu" <cb559@msstate.edu>

Hello Cecy,

I am glad to hear of your interest in financial capability. You are welcome to use my Financial Capability of Emerging Adults – EAFCS (attached) or portions of the survey. Over the last five years, I have gathered data across multiple sites by collaborating with faculty and others like you. I am currently working with various research teams on manuscripts for publication. I am not sure what all of your goals are, but if you would like to use my data (as a secondary data set or to compare with the data you gather) and work together on a manuscript for publication or for other purposes, that might be beneficial for you.

I gathered pre/post surveys across 3 different personal finance courses at East Carolina University as well as at MSU, BYU, NIU, and NMSU (I currently have about 2000 pretest and posttest). I also have about 1500 survey responses from emerging adults in Portugal. Let me know if this is of interest to you. It would be great to gather data from your university as well. My survey is currently online using Qualtrics and I would be happy to share it with you.

If you decide to use the EAFCS, please site my articles that use the survey (attached, along with the fin knowledge answer key). Also attached is a sortable spreadsheet with the authors of the items/scales.

Two recent articles published using the EAFCS can be found here: http://link.springer.com/journal/10834/38/1?wt_mc=alerts.TOCjournals

Best of luck in your research. Let me know if you are interesting in collaborating in some way and which survey you plan on using.

> Jorgensen, B. L., Rappleyea, D. L., Schweichler, J. T., Fang, X., & Moran, M. E. (2016). The financial behavior of emerging adults: A family financial socialization approach. *Journal of Family and Economic Issues, 36*(4), 1-16. Doi:10.1007/s10834-015-9481-0
>
> Hancock, A., Jorgensen, B. L., & Swanson, M. S. (2012). College students and credit card use: The role of parents, work experience, financial knowledge, and credit card attitudes. *Journal of Family and Economic Issues.* doi:10.1007/s10834-012-9338-8

Bryce

Bryce L. Jorgensen, PhD

Family Resource Management Specialist

Assistant Professor

Department of Extension Family and Consumer Sciences

College of Agricultural, Consumer, and Environmental Sciences

New Mexico State University

APPENDIX B

IRB DOCUMENTS AND RECRUITING SCRIPTS

Email Scripts

Faculty recruitment email

Greetings,

As a Mississippi State University faculty/administrator we request your assistance in inviting undergraduate students to participate in the College Student Financial Literacy survey (weblink is enclosed at the end of this email).

The purpose of this study is to examine college students' financial capability through the relationship between socially acquired financial knowledge, attitudes, and beliefs, and the availability of financial resources based on their family of origin. This project also seeks to understand the influence of demographic backgrounds on the financial capability of college students.

The survey consists of 76 questions related to financial attitudes, financial behaviors, financial knowledge, access to financial institutions, and demographic information. This survey will take about 45 minutes to complete. Students who complete the survey can opt-in to participate in a raffle for one of four $25 gift cards.

I invite you to encourage students to participate in this pilot research study. You may ask questions about this research by contacting Cecy Brooks at 662-325-5841 or cb559@msstate.edu.

Cecy Brooks
PhD student, Graduate Research Assistant
Human Development and Family Sciences
Mississippi State University

Follow this link to the Survey:

Take the Survey

Or copy and paste the URL below into your internet browser:

https://msudafvm.co1.qualtrics.com/jfe/form/SV_82DCBUcTBf1rSHX?Q_DL=a5x39ZlMsPy6ewd_82DCBUcTBf1rSHX_MLRP_a2wlgQ3pfkYvw2h&Q_CHL=email

Student recruitment email

Welcome,

As a Mississippi State University student, we request your assistance in participating in the College Student Financial Literacy survey (weblink is enclosed at the end of this email).

The purpose of this study is to examine college students' financial capability through the relationship between socially acquired financial knowledge, attitudes, and beliefs, and the availability of financial resources. This project also seeks to understand the influence of demographic backgrounds on the financial capability of college students.

The survey consists of 76 questions related to financial attitudes, financial behaviors, financial knowledge, access to financial institutions, and demographic information. This survey will take about 45 minutes to complete. Students who complete the survey can opt-in to participate in a raffle for one of four $25 gift cards.

I invite you to participate in this pilot research study. You may ask questions about this research by contacting Cecy Brooks at 662-325-5841 or cb559@msstate.edu.

Cecy Brooks
PhD student, Graduate Research Assistant
Human Development and Family Sciences
Mississippi State University

Follow this link to the survey:

Take the Survey

Or copy and paste the URL below into your internet browser:

https://msudafvm.co1.qualtrics.com/jfe/form/SV_82DCBUcTBf1rSHX

Informed and Consent Form

Welcome!

Thank you for your participation in the College Student Financial Literacy Survey. This study is for residents of the United States over the age of 18. If you are at least 18-years-old and an undergraduate or graduate college student at Mississippi State University, please read the information below about the study before entering the survey.

Information and Consent Form

I invite you to participate in an exploratory research study concerning the financial capability of college students. The purpose of this project is to determine what factors influence a college student's personal money management and financial outcomes. The survey consists of questions related to financial attitudes, financial behaviors, financial knowledge, access to financial institutions, and demographic information. Please try to answer every question. If there is a question you do not feel comfortable answering, you may skip it.

The survey consists of 76 questions including demographic questions. This survey will take about 45 minutes to complete.

Only the primary investigators will see your answers. You will not be asked to give your name or any information that tells us who you are during the survey (although a separate screen at the end will invite you to submit your NetID and instructor if you are receiving extra credit for participating in the survey. This survey is anonymous for all respondents with no link between your answers and you. Your decision to participate in this research is voluntary. You can stop at any time. You may skip questions you do not want to answer.

There are no risks in participating in this research beyond those experienced in everyday life.

You may ask questions about this research by contacting Cecy Brooks at 662-325-5841 or cb559@msstate.edu.

By continuing with the survey and submitting it, it means you have read this form and are consenting to take the survey under the conditions described above. Before you begin, please note that the data you provide may be collected and used by Amazon as per its privacy agreement. The MSU HRPP has granted an exemption for this research. Therefore, a formal review of this consent document was not required.

Note: Amazon Mechanical Turk, Qualtrics, and Inquisit have specific privacy policies of their own. You should be aware that these web services may be able to link your responses to your ID in ways that are not bound by this consent form and the data confidentiality procedures used in this study. If you have concerns you should consult these services directly.

Would you like to continue to the survey?

APPENDIX C

SURVEY INSTRUMENT

Personal and Family Characteristics

1. Are you of Hispanic, Latino, or Spanish origin?
   - ☐ No, not of Hispanic, Latino, or Spanish origin
   - ☐ Yes, Mexican, Mexican American, Chicano
   - ☐ Yes, other Hispanic, Latino or Spanish origin (e.g. Puerto Rican, Cuban, Argentinean, Columbian, Dominican, Nicaraguan, Salvadorian) ________________________

2. What is your race?
   - ☐ American Indian or Alaska Native
   - ☐ Asian (e.g. Chinese, Filipino, Japanese, Korean, Vietnamese, Laotian, Thai)_____
   - ☐ Black or African American
   - ☐ White
   - ☐ Hispanic American
   - ☐ Native Hawaiian or Pacific Islander (e.g. Fijian, Tongan)
   - ☐ Other ________________________

3. Have you received a Pell Grant?
   - ☐ Yes
   - ☐ No

4. Are you the first person in your immediate family to attend a four-year college?
   - ☐ Yes
   - ☐ No

5. Upon graduation, would you be the first person in your immediate family to complete a four-year college degree?
   - ☐ Yes
   - ☐ No

6. From the following statements, select the option that best represents your transition from high school to post-secondary education
   - ☐ Enrolled directly from high school to a 2-year college
   - ☐ Enrolled directly from high school to a 4-year college
   - ☐ Delayed college for a year or more
   - ☐ Completed military service prior to enrolling in a college program

7. My education is paid by?
   - ☐ 100% self (loans, scholarships, grants, other financial aid)
   - ☐ 100% parents or other family member
   - ☐ Mostly self (more than 50%)
   - ☐ Mostly parents (more than 50%)
   - ☐ 50% self, 50% parents
   - ☐ Employer
   - ☐ Military

8. What is your housing arrangement?
   - ☐ On-campus
   - ☐ On-campus Greek housing
   - ☐ Off-campus living with roommates (paying rent)
   - ☐ Off-campus living without roommates (paying rent)
   - ☐ Off-campus living with/without roommates (parents own/or not paying rent)
   - ☐ Live with parents/relative
   - ☐ Other ______________________

9. How many years of working experience do you have? (Include full or part-time experience, internships, co-ops, summer jobs, etc.)
   - ☐ None
   - ☐ Less than 2 years
   - ☐ 2-4 years
   - ☐ 4-6 years
   - ☐ 6 years or more

10. Your monthly expenses are paid by?
    - ☐ 100% self (savings, income from work, excluding any type/form of financial aid)
    - ☐ 100% self (work-study, loans, scholarships, grants, any other form of financial aid)
    - ☐ 100% parents or other family member (including 529 plans e.g., pre-paid tuition and college savings plans)
    - ☐ Mostly self (more than 50%)
    - ☐ Mostly parents (more than 50%)
    - ☐ 50% self, 50% parents
    - ☐ Employer
    - ☐ Military

Financial Socialization (Jorgensen, et al., 2016)

11. How much did you learn about managing your money from the following?

	Nothing	Very little	Some	A lot
a. Parents	☐	☐	☐	☐
b. Friends	☐	☐	☐	☐
c. School	☐	☐	☐	☐
d. Books, media or the internet	☐	☐	☐	☐
e. Financial planner or counselor	☐	☐	☐	☐
f. Job	☐	☐	☐	☐
g. Life experience	☐	☐	☐	☐
h. Other	☐	☐	☐	☐

12. Please indicate how often you engage in the following activities

	Never	Rarely	Sometimes	Always
a. I talk about my credit card use with my parents	☐	☐	☐	☐
b. I keep my credit card use private from my parents	☐	☐	☐	☐
c. I make financial decisions based on what my parents have done in similar situations	☐	☐	☐	☐
d. I confide in my friends when I have financial difficulties	☐	☐	☐	☐
e. I have used my friends' financial advice because they have been in similar situations	☐	☐	☐	☐
f. My friends and I talk about our finances	☐	☐	☐	☐

13. Please indicate the extent to which you think your parents DIRECTLY (such as specifically discussing a topic or actively including you in the activity) taught you about the following topics

	Never	Rarely	Sometimes	Always
a. Budgeting	☐	☐	☐	☐
b. Bank accounts (savings, checking)	☐	☐	☐	☐
c. Taxes (sales, income, payroll)	☐	☐	☐	☐
d. Building good credit	☐	☐	☐	☐
e. Insurance (medical, life, auto, renter's, homeowner's)	☐	☐	☐	☐
f. Loans, debts, credit cards	☐	☐	☐	☐
g. Savings	☐	☐	☐	☐
h. Giving to charities	☐	☐	☐	☐
i. Work for what you receive	☐	☐	☐	☐
j. Distinguish between needs and wants	☐	☐	☐	☐

14. Please indicate the extent to which you think your parents INDIRECTLY (such as you observing your parents or mimicking their actions) taught you about the following topics

	Never	Rarely	Sometimes	Always
a. Budgeting	☐	☐	☐	☐
b. Bank accounts (savings, checking)	☐	☐	☐	☐
c. Taxes (sales, income, payroll)	☐	☐	☐	☐
d. Building good credit	☐	☐	☐	☐
e. Insurance (medical, life, auto, renter's)	☐	☐	☐	☐
f. Loans, debts, credit cards	☐	☐	☐	☐
g. Savings	☐	☐	☐	☐
h. Giving to charities	☐	☐	☐	☐
i. Work for what you receive	☐	☐	☐	☐
j. Distinguish between needs and wants	☐	☐	☐	☐

15. Where do you think that you learned the most about personal finance?

☐ From parents or at home
☐ From friends
☐ From school
☐ From books, media or the internet
☐ From a financial professional
☐ At work
☐ Learned on my own
☐ Other

16. Where do you expect to learn/increase your financial knowledge?

☐ From parents or at home
☐ From friends
☐ From school
☐ From books, media, or the internet
☐ From a financial professional
☐ At work
☐ From life experience
☐ Other

17. Comparing yourself to your parents, would you say that you are:

☐ Much more likely to save
☐ Somewhat more likely to save
☐ About as likely to save/spend
☐ Somewhat more likely to spend
☐ Much more likely to spend

18. How would you describe how finances were communicated in your family?
   - ☐ My parents usually argued about the finances
   - ☐ My parents explicitly taught me about finances (credit cards, debt, budgeting, saving)
   - ☐ We didn't talk much about finances but I learned from their examples
   - ☐ I didn't learn about finances from my parents
   - ☐ Other ____

19. Overall, I would classify learning from my parents regarding financial matters as
   - ☐ Positive
   - ☐ Neutral
   - ☐ Negative
   - ☐ I have not learned about financial matters from my parents

20. Which of the following classes have you had in High School?
   - ☐ A semester-length course in personal money management or personal finances
   - ☐ A portion of a course where at least a week was focused on money management or personal finance
   - ☐ Economics
   - ☐ Finance
   - ☐ Accounting
   - ☐ A portion of a course where at least one week was focused on economics, finance or accounting
   - ☐ None of the above

21. Which of the following classes have you had in College?
   - ☐ A semester-length course in personal money management or personal finances
   - ☐ A portion of a course where at least a week was focused on money management or personal finance
   - ☐ Economics
   - ☐ Finance
   - ☐ Accounting
   - ☐ A portion of a course where at least one week was focused on economics, finance or accounting
   - ☐ None of the above

Attachment (Collins, 1996)

22. In general, please indicate the extent to which you agree or disagree with each statement.

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. I find it relatively easy to get close to people	◻	◻	◻	◻
b. I find it difficult to allow myself to depend on others	◻	◻	◻	◻
c. I often worry that other people don't really love me	◻	◻	◻	◻
d. I find that others are reluctant to get as close as I would like.	◻	◻	◻	◻
e. I am comfortable depending on others	◻	◻	◻	◻
f. I <u>don't</u> worry about people getting too close to me	◻	◻	◻	◻
g. I find that people are never there when you need them	◻	◻	◻	◻
h. I am somewhat <u>un</u>comfortable being close to others	◻	◻	◻	◻
i. I often worry that other people won't want to stay with me	◻	◻	◻	◻
j. When I show my feelings for others, I'm afraid they will not feel the same about me	◻	◻	◻	◻
k. I often wonder whether other people really care about me	◻	◻	◻	◻
l. I am comfortable developing close relationships with others	◻	◻	◻	◻
m. I am <u>un</u>comfortable when anyone gets too emotionally close to me	◻	◻	◻	◻
n. I know that people will be there when I need them	◻	◻	◻	◻
o. I want to get close to people, but I worry about being hurt	◻	◻	◻	◻
p. I find it difficult to trust others completely	◻	◻	◻	◻
q. People often want me to be emotionally closer than I feel comfortable being	◻	◻	◻	◻
r. I am not sure that I can always depend on people to be there when I need them	◻	◻	◻	◻

Financial Experience (Jorgensen, et al., 2016)

23. Please indicate how often you have engaged in the following activities:

	Never	At least once	2-5 time s	6-10 times	More than 10 times/ regularly
a. I have used a pay day loan type service	◻	◻	◻	◻	◻
b. I have used a rent-to-own transaction as a way to buy an appliance or furniture	◻	◻	◻	◻	◻
c. I have used a check cashing service	◻	◻	◻	◻	◻
d. I have used a pawn shop for a small loan while the shop holds an item as collateral until I pay back the loan	◻	◻	◻	◻	◻
e. I have received an advance on a tax refund (“refund anticipation loan” or “rapid refund”)	◻	◻	◻	◻	◻
f. I have used an in-store 0% financing promotion to make a purchase	◻	◻	◻	◻	◻

24. Which of the following services have you used in the past 12 months? Select all that apply

☐ Checked bank account balance online

☐ Checked bank account balance on mobile device

☐ Transferred funds between my savings and checking account using online or mobile electronic funds transfer

☐ Received funds between my parents’ or relatives’ account and my account via online or mobile electronic funds transfer

☐ Used my mobile device to deposit a paper check to my account

☐ Used my bank’s online bill pay to submit payment to vendor

☐ Used my mobile wallet to pay a vendor in-person

☐ Other

☐ None

25. Are you using a 529 plan (pre-paid tuition or college savings plans) to pay for college?

☐ Yes

☐ No

☐ Don’t know

26. [If you do not have a bank account] Why do you not have a checking or savings account (Select all options that apply)?
    - ☐ Banks would not let me open an account
    - ☐ Do not have enough money to make it worthwhile
    - ☐ Do not like dealing with banks
    - ☐ Inconvenient hours or location
    - ☐ Do not want to share my personal information
    - ☐ Other ______________________________

27. Growing up, whenever I felt sick or needed to go to the doctor, I went to:
    - ☐ The emergency room
    - ☐ A free or discount clinic
    - ☐ A doctor's office and paid cash
    - ☐ A doctor's office and used private insurance
    - ☐ A doctor's office and used government health insurance (e.g., Medicaid)

28. Are one of your parents classified as (Select all options that apply)
    - ☐ My mother is underemployed (wants full-time work but is part-time) or unemployed
    - ☐ My father is underemployed (wants full-time work but is part-time) or unemployed
    - ☐ Both mother and father are underemployed or unemployed
    - ☐ Mother or father is retired
    - ☐ Both mother and father are retired
    - ☐ Mother or father is retired from military service
    - ☐ Both mother and father are retired from military service
    - ☐ Mother or father is disabled
    - ☐ Both mother and father are disabled
    - ☐ Mother or father has military disability
    - ☐ Both mother and father have military disability

Financial Influences (Jorgensen, et al., 2016)

29. Please rate your understanding of the following topics as Poor, Fair, Good, or Excellent.

	Poor	Fair	Good	Excellent
a. Savings	☐	☐	☐	☐
b. Taxes	☐	☐	☐	☐
c. Credit and debt	☐	☐	☐	☐
d. Insurance	☐	☐	☐	☐
e. Overall understanding of personal finance and money management	☐	☐	☐	☐

30. Please rate your agreement with the following statements:

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. As long as one meets monthly payments there is no need to worry about the length of time it will take to pay off outstanding debts	□	□	□	□
b. I am satisfied with the way I pay my bills	□	□	□	□
c. I feel credit cards are safe and risk free	□	□	□	□
d. I am afraid of credit and credit cards	□	□	□	□
e. I am comfortable with not paying my credit card bills in full each month as long as I make the minimum payment	□	□	□	□
f. I feel in control of my financial situation	□	□	□	□
g. How I manage my money right now works for me	□	□	□	□
h. I feel confident about my ability to manage my own finances	□	□	□	□
i. I feel capable of using my future income to achieve my financial goals	□	□	□	□
j. I am good at dealing with day-to-day financial matters such as checking accounts, credit and debit cards, and tracking expenses	□	□	□	□

31. Please rate your agreement with the following statements

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Saving money regularly is important	□	□	□	□
b. I feel satisfied with how I spend my money	□	□	□	□
c. It is important to keep track of where money is spent	□	□	□	□
d. Budgets take the fun out of spending	□	□	□	□
e. A written budget is absolutely essential for successful financial management	□	□	□	□
f. Keeping records of financial matters is too time consuming to worry about	□	□	□	□
g. Financial planning is an unnecessary distraction when families are just trying to get by today	□	□	□	□
h. If I have any money left after paying bills, I spend it	□	□	□	□

32. Please rate your agreement with the following statements (Richins, 2004)

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. I admire people who own expensive homes, cars, and clothes	◻	◻	◻	◻
b. The things I own say a lot about how well I'm doing in life	◻	◻	◻	◻
c. I like to own things that impress people	◻	◻	◻	◻
d. I try to keep my life simple, as far as possessions are concerned	◻	◻	◻	◻
e. Buying things gives me a lot of pleasure	◻	◻	◻	◻
f. I like a lot of luxury in my life	◻	◻	◻	◻
g. My life would be better if I owned certain things I don't have	◻	◻	◻	◻
h. I'd be happier if I could afford to buy things	◻	◻	◻	◻
i. It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like	◻	◻	◻	◻

Financial Action (Jorgensen, et al., 2016)

33. How do you grade yourself in the following areas?

	Poor	Fair	Good	Excellent
a. Controlling my spending	◻	◻	◻	◻
b. Paying my bills on-time	◻	◻	◻	◻
c. Planning for my financial future	◻	◻	◻	◻
d. Saving money	◻	◻	◻	◻

34. Please indicate the frequency with which you engage in the following activities

	Never	Rarely	Sometimes	Always
a. I compare offers before applying for a loan	◻	◻	◻	◻
b. I read over and understand apartment leases and loan agreements before I sign them	◻	◻	◻	◻
c. I make only minimum payments on a loan	◻	◻	◻	◻
d. I paid all my bills on time in the past year	◻	◻	◻	◻

35. Please indicate how often you have engaged in the following activities

	Never	Rarely	Sometimes	Always
a. I save money	◻	◻	◻	◻
b. I buy things with my credit card when I can't really afford them	◻	◻	◻	◻
c. I put money in a savings account that will be used for emergencies only	◻	◻	◻	◻
d. I rely on my parents to when I don't have enough money to cover a monthly expense	◻	◻	◻	◻
e. I rely on my parents when I don't have enough money to cover an emergency expense	◻	◻	◻	◻

36. How did you get your first credit card (Select all that apply)?
- ☐ I don't have one
- ☐ Parents' help
- ☐ Signed up in order to receive a free item in high school
- ☐ Signed up in order to receive a free item in college
- ☐ Compared cards, chose the best, and applied
- ☐ Mail offer
- ☐ Store card – to get a discount on a purchase
- ☐ I had to have a cosigner
- ☐ Other

37. What is the combined total balance owed on your credit cards (including store issued credit cards)?
- ☐ I do not own a credit card
- ☐ $0-$99
- ☐ $100-$499
- ☐ $500-$999
- ☐ $1,000-$1,999
- ☐ $2,000-$4,999
- ☐ $5,000 or more
- ☐ Don't know

38. What was your credit score the last time you checked?
- ☐ I have not checked my credit score
- ☐ Under 620
- ☐ 621-660
- ☐ 661-700
- ☐ 701-740
- ☐ Over 740

39. In the past 2 months, I have
- ☐ Saved for a car purchase
- ☐ Saved for an important event (e.g. concert, vacation, wedding)
- ☐ None of the above

40. When you finish your undergraduate education, how much do you expect to owe in student loans?
   ☐ Nothing
   ☐ Not sure
   ☐ $1-$1,999
   ☐ $2,000-$4,999
   ☐ $5,000-$9,999
   ☐ $10,000-$19,999
   ☐ $20,000-$49,999
   ☐ Over $50,000

41. What kinds of financial accounts do you have? Mark all that apply
   ☐ I do not have any type of bank account
   ☐ Savings account
   ☐ Checking account
   ☐ Certificates of deposit (CD)
   ☐ Other ___________

42. How much do you have in savings, excluding any financial aid awards?
   ☐ I don't have savings
   ☐ Under $249
   ☐ $250-$499
   ☐ $500-$999
   ☐ $1,000-$2,499
   ☐ $2,500 or more

43. Who makes the monthly car payments on the vehicle you drive?
   ☐ My parent(s) or relative
   ☐ Spouse or partner
   ☐ I make my own car payments
   ☐ I don't own a car
   ☐ The vehicle I drive is already paid for

44. Which of the following statements best describes the way in which you have made payments on your credit card over the last 12 months (Select all that apply)?
   ☐ I do not have a credit card
   ☐ I always pay off the balance each month
   ☐ I occasionally do not pay off the balance for a month or so when I am short on funds

- ☐ I generally have an outstanding balance, but occasionally am able to pay it off
- ☐ I seldom, if ever, pay off all my balances, but try to pay them down when I can
- ☐ I used my tax refund to pay off the balance
- ☐ I generally pay only the minimum required payment each month
- ☐ I occasionally make less than the minimum payment

45. In the past 12 months have you (Select all that apply)?
    - ☐ Been rejected for a new credit card
    - ☐ Cancelled a credit card
    - ☐ Been late making a payment
    - ☐ Opened a new credit card
    - ☐ Missed a credit card payment
    - ☐ Transferred the balance from one credit card to another
    - ☐ Made a payment that was less than the minimum payment required
    - ☐ Obtained a cash advance from your credit card company
    - ☐ Been contacted by a collection agency
    - ☐ Maxed out the limit on one or more credit cards
    - ☐ Exceeded my credit limit on one or more credit cards
    - ☐ None of these

46. Please indicate how often you have done each of the following things (Faber and O'Guinn, 1992)

	Very Often	Often	Sometimes	Rarely	Never
a. If I have any money left at the end of the month, I just have to spend it	☐	☐	☐	☐	☐
b. Felt others would be horrified if they knew of my spending habits	☐	☐	☐	☐	☐
c. Bought things even though I couldn't afford them	☐	☐	☐	☐	☐
d. Spent money when I knew I didn't have enough in the bank to cover	☐	☐	☐	☐	☐
e. Bought myself something in order to make myself feel better	☐	☐	☐	☐	☐
f. Felt anxious or nervous on days I didn't go shopping	☐	☐	☐	☐	☐
g. Made only the minimum payments on my credit cards	☐	☐	☐	☐	☐

Financial Knowledge (Jorgensen, et al., 2016)

47. How much money do experts recommend that you set aside in a short-term fund for emergencies?
    - ☐ 3-6 months of your income
    - ☐ 3-6 months of your expenses
    - ☐ Enough until you can find another job
    - ☐ You don't need an emergency fund because you can receive unemployment benefits

48. Many savings programs are protected by the Federal government against loss. Which of the following is not?
    - ☐ A U.S. Savings Bond
    - ☐ A certificate of deposit
    - ☐ A bond issued by one of the 50 states
    - ☐ A U.S. Treasury Bond

49. If you had a savings account at a bank which of the following would be correct concerning the interest that you would earn on this account?
    - ☐ Earnings from savings account interest may not be taxed
    - ☐ Income tax may be charged on the interest that you earn
    - ☐ Sales tax may be charged on the interest that you earn
    - ☐ You cannot earn interest until you pass your 18^{th} birthday

50. David just found a job with a take-home pay of $2,000 per month. He must pay $900 for rent and $150 for groceries each month. He also spends $250 per month on transportation. If he budgets $100 each month for clothing, $200 for restaurants and $250 for everything else, how long will it take him to accumulate savings of $600?*
    - ☐ 3 months
    - ☐ 4 months
    - ☐ 1 month
    - ☐ 2 months

51. If a consumer fails to pay personal debts, a creditor is allowed to do all of the following except*
    - ☐ Discuss the consumer's debts with his or her employer
    - ☐ Bring suit against the consumer
    - ☐ Tell a credit bureau that the account is delinquent
    - ☐ Turn the account over to a professional debt collector

52. The most important factor that lenders use when deciding whether to approve a loan are*
    - ☐ Marital status and number of children
    - ☐ Education and occupations
    - ☐ Age and gender
    - ☐ Bill-paying record and income

53. If you co-sign a loan for a friend, then you*
    - ☐ Become eligible to receive part of the loan principle
    - ☐ Vouch for the friend's reliability but have no legal obligation for the loan
    - ☐ Are responsible for repaying the loan if the friend defaults
    - ☐ Are in a better position to get a personal loan

54. If a credit card account has a balance carried over from the previous month, interest charges accrue
    - ☐ On the day of the purchase
    - ☐ One month after the date of the purchase
    - ☐ After a 2-week grace period
    - ☐ After a 2-month grace period

55. Many young people receive health insurance benefits through their parents. Which of the following statements is true about health insurance coverage?*
    - ☐ Young people don't need health insurance because they are so healthy
    - ☐ You are covered by your parents' insurance until you marry, regardless of your age
    - ☐ You continue to be covered by your parents' insurance as long as you live at home
    - ☐ If your parents become unemployed, your insurance coverage may stop, regardless of age

56. If an auto insurance policy has bodily injury limits of $100,000/$300,000, the insured person is covered for
    - ☐ Up to $100,000 for each accident but no more than $300,000 for the life of the policy
    - ☐ Up to $100,000 for medical bills but no more than $300,000 for hospital costs
    - ☐ Up to $100,000 for each person injured but no more than $300,000 for each accident
    - ☐ Up to $100,000 for people in the insured auto but no more than $300,000 for people outside of the insured auto

57. Insurance costs can be reduced by having higher deductible clauses in your policies.
    - ☐ True
    - ☐ False

58. Choose the type of insurance coverage that pays for the replacement of your car if stolen
   - ☐ Liability
   - ☐ Comprehensive
   - ☐ Collision
   - ☐ Uninsured motorist

59. Chelsey worked her way through college earning about $15,000 per year. After graduation, her first job pays $30,000. The total amount Chelsey will have to pay in Federal Income taxes in her new job will
   - ☐ Double, at least, from when she was in college
   - ☐ Go up a little from when she was in college
   - ☐ Stay the same as when she was in college
   - ☐ Be lower than when she was in college

60. Matt has a good job on the production line of a factory in his home town. During the past year or two the state in which Matt lives has been raising taxes on its businesses to the point where they are much higher than in neighboring states. What effect is this likely to have on Matt's job?*
   - ☐ Higher business taxes will cause more businesses to move into Matt's state, raising wages
   - ☐ Higher business taxes can't have any effect on Matt's job
   - ☐ Matt's company may consider moving to a lower tax state, threatening Matt's job
   - ☐ He is likely to get a large raise to offset the effect of higher taxes

61. Your take home pay from your job is less than the total amount you earn. Which of the following best describes what is taken out of your total pay?*
   - ☐ Federal income tax, property tax, and Medicare and social security contributions
   - ☐ Social security and Medicare contributions
   - ☐ Federal income tax, social security and Medicare contributions
   - ☐ Federal income tax, sales tax, and social security contributions
   - ☐ Federal income tax, social security and Medicare contributions, and state and local taxes

62. Is a $500 tax credit or a $500 tax deduction more valuable to you?
   - ☐ $500 tax credit
   - ☐ $500 tax deduction
   - ☐ They are the same
   - ☐ Depends on your bracket

Note. *Questions used for Manuscript 1 financial knowledge variable

Financial well-being

63. How well does each statement describe you or your situation? (CFPB, 2015)

	Not at all	Very little	Somewhat	Very well	Completely
a. Because of my money situation, I feel like I will never have the things I want in life	◻	◻	◻	◻	◻
b. I am just getting by financially	◻	◻	◻	◻	◻
c. I am concerned that the money I have or saved won't last	◻	◻	◻	◻	◻
d. I have money left over at the end of the month	◻	◻	◻	◻	◻
e. My finances control my life	◻	◻	◻	◻	◻

64. Please rate your agreement with the following statements (Jorgensen, 2016)

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. My personal financial situation makes me feel stressed on a regular basis	◻	◻	◻	◻
b. I think about dropping out of school because of financial stress	◻	◻	◻	◻
c. Because of my personal financial situation, I won't be able to finish my degree in 4 years	◻	◻	◻	◻
d. I worry about not being able to earn enough money to support myself	◻	◻	◻	◻
e. I worry about the debt I will acquire while I pursue a college degree	◻	◻	◻	◻
f. My academic performance has been affected by the financial stress of paying my tuition	◻	◻	◻	◻

65. Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you disagree or agree with each statement. (Rosenberg, 1965)

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. On the whole, I am satisfied with myself	□	□	□	□
b. At times I think I am no good at all	□	□	□	□
c. I feel that I have a number of good qualities	□	□	□	□
d. I am able to do things as well as most other people	□	□	□	□
e. I feel I do not have much to be proud of	□	□	□	□
f. I certainly feel useless at times	□	□	□	□
g. I feel that I'm a person of worth, at least on an equal plane with others	□	□	□	□
h. I wish I could have more respect for myself	□	□	□	□
i. All in all, I am inclined to feel that I am a failure	□	□	□	□
j. I take a positive attitude toward myself	□	□	□	□

66. How often do you feel…? (Rotter, 1975)

	Almost Never	Seldom	Sometimes	Often	Almost Always
a. There is really no way I can solve some of my problems	□	□	□	□	□
b. I am being pushed around in life	□	□	□	□	□
c. There is little I can do to change the important things in my life	□	□	□	□	□
d. I can do anything I set my mind to	□	□	□	□	□
e. What happens to me in the future depends on me	□	□	□	□	□
f. I feel helpless in dealing with the problems of life	□	□	□	□	□
g. I have little control over the things that happen to me	□	□	□	□	□

Demographics

67. What is your gender? ____________

68. What is your birth year? ___________

69. In which state did you live during your senior year of high school?_______________

70. What is your academic standing?
- ☐ First-year Freshman
- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior
- ☐ Graduate student
- ☐ Non-student

71. What is your marital status?
- ☐ Never been married
- ☐ Cohabitating
- ☐ Married
- ☐ Other ________________

72. Which of the following best describes your yearly income (not including student loans or scholarships)?
- ☐ 0
- ☐ $1-$9,999
- ☐ $10,000-$19,999
- ☐ $20,000-$29,999
- ☐ $30,000-$39,999
- ☐ $40,000 or more

73. After you finish your education and you begin to work full-time, how much do you expect to make per year before taxes (i.e., gross pay)?
- ☐ Under $30,000
- ☐ $30,000-$39,999
- ☐ $40,000-$49,999
- ☐ $50,000-$74,000
- ☐ More than $75,000

74. Which of the following best describes your major or area of interest in college?
   - ☐ Agriculture and Life Sciences
   - ☐ Architecture, Art and Design
   - ☐ Biological Sciences
   - ☐ Business
   - ☐ Engineering
   - ☐ Education
   - ☐ Other _______________

75. What is the highest level of education achieved by your father/male guardian?
   - ☐ Unsure
   - ☐ Less than high school
   - ☐ High school or GED
   - ☐ Some college
   - ☐ Associates/community college degree/trade school
   - ☐ Bachelor's degree
   - ☐ Masters, doctorate or professional
   - ☐ Military academy
   - ☐ Not Applicable

76. What is the highest level of education achieved by your mother/female guardian?

☐ Unsure
☐ Less than high school
☐ High school or GED
☐ Some college
☐ Associates/community college degree/trade school
☐ Bachelor's degree
☐ Masters, doctorate or professional
☐ Military academy
☐ Not Applicable

APPENDIX D

ADDITIONAL TABLES AND FIGURES FROM STATISTICAL ANALYSIS

Table 25 Correlations and descriptive statistics for personal characteristic and financial socialization constructs for all participants.

Factor	*M (S.D.)*	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Attachment	0.55 (0.50)	0.35^{**}	0.24^{**}	0.13^{**}	0.09^{**}	0.00	0.08^{*}	0.07^{*}	0.17^{**}	0.10^{**}	0.15^{**}	0.07^{*}	0.05	0.03
2. LOC	14.65 (3.37)		0.37^{**}	0.10^{**}	0.11^{**}	0.17^{**}	0.08^{*}	0.06	0.14^{**}	0.11^{**}	0.23^{**}	0.14^{**}	0.20^{**}	0.02
3. Self-Esteem	15.20 (2.83)			0.27^{**}	0.22^{**}	0.13^{**}	0.11^{**}	0.13^{**}	$.014^{**}$	0.24^{**}	0.43^{**}	0.37^{**}	0.26^{**}	0.11^{**}
4. Direct FFS	20.36 (6.66)				0.58^{**}	-0.07	0.10^{**}	0.04	0.16^{**}	0.36^{**}	0.33^{**}	0.37^{**}	0.10^{**}	0.09^{*}
5. Indirect FFS	19.42 (7.49)					0.06	0.12^{**}	0.05	0.12^{**}	0.28^{**}	0.26^{**}	0.28^{**}	0.12^{**}	0.04
6. Knowledge	4.08 (2.00)						0.14^{**}	0.16^{**}	0.09^{**}	0.00	0.15^{**}	0.07^{*}	0.36^{**}	0.03
7. Use Bank	3.45 (1.67)							0.39^{**}	0.22^{**}	0.06	0.10^{**}	0.07	0.10^{**}	0.14^{**}
8. Accounts	1.67 (0.63)								0.51^{**}	0.05	0.15^{**}	0.21^{**}	0.21^{**}	0.15^{**}
9. Savings	2.46 (1.92)									0.14^{**}	0.30^{**}	0.40^{**}	0.24^{**}	0.19^{**}
10. Understand	8.38 (3.32)										0.49^{**}	0.45^{**}	0.06	0.10^{**}
11. Abilities	20.30 (3.78)											0.67^{**}	0.30^{**}	0.17^{**}
12. Management	11.33 (3.89)												0.33^{**}	0.19^{**}
13. Compulsive	0.72 (2.56)												--	0.07
14. Saved	0.52 (0.50)													--

Note. N =851, $^{***}p \leq .001$, $^{**}p \leq .01$, $^{*}p \leq .05$.

Table 26 Correlation coefficients for all variables among participants in the focal group (n = 548) (above the diagonal line); and among the comparison group (n = 303) (below the diagonal line)

Factor	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Attachment	--	0.34^{**}	0.16^{**}	0.09^{*}	0.05	-0.04	0.07	0.03	0.11^{*}	0.10^{*}	0.09^{*}	-0.002	-0.01	0.004
2. LOC	0.33^{**}	--	0.28^{**}	0.01	0.06	0.16^{**}	0.07	0.02	0.08	0.04	0.11^{**}	0.00	0.13^{**}	0.01
3. Self-Esteem	0.36^{**}	0.58^{**}	--	0.26^{**}	0.25^{**}	0.11^{*}	0.12^{**}	0.09^{*}	0.06	0.22^{**}	0.41^{**}	0.35^{**}	0.22^{**}	0.19^{**}
4. Direct FFS	0.13^{*}	0.28^{**}	0.28^{**}	--	0.60^{**}	-0.16^{**}	0.06	-0.03	0.09^{*}	0.33^{**}	0.30^{**}	0.36^{**}	0.06	0.06
5. Indirect FFS	0.10	0.17^{**}	0.14^{*}	0.48^{**}	--	-0.01	0.09^{*}	0.00	0.06	0.32^{**}	0.28^{**}	0.30^{**}	0.10^{*}	0.03
6. Knowledge	0.01	0.16^{**}	0.16^{**}	0.10	0.18^{**}	--	0.12^{**}	0.13^{**}	-0.01	-0.07	0.11^{**}	-0.01	0.36^{**}	0.01
7. Use Bank	-0.05	0.00	0.03	0.09	0.09	0.13^{*}	--	0.40^{**}	0.17^{**}	0.07	0.11^{*}	0.05	0.08	0.13^{**}
8. Accounts	0.02	0.06	0.17^{**}	0.11	0.04	0.17^{**}	0.25^{**}	--	0.44^{**}	0.04	0.11^{*}	0.16^{**}	0.16^{**}	0.17^{**}
9. Savings	0.12^{*}	0.13^{*}	0.25^{**}	0.17^{**}	0.10	0.18^{**}	0.10	0.54^{**}	--	0.16^{**}	0.24^{**}	0.36^{**}	0.13^{**}	0.19^{**}
10. Understand	0.09	0.26^{**}	0.28^{**}	0.43^{**}	0.18^{**}	0.12^{*}	0.03	0.05	0.09	--	0.49^{**}	0.43^{**}	0.01	0.09^{*}
11. Abilities	0.16^{**}	0.44^{**}	0.44^{**}	0.34^{**}	0.15^{*}	0.17^{**}	-0.08	0.12^{*}	0.28^{**}	0.49^{**}	--	0.66^{**}	0.25^{**}	0.17^{**}
12. Management	0.14^{*}	0.43^{**}	0.40^{**}	0.35^{**}	0.17^{**}	0.19^{**}	-0.01	0.24^{**}	0.41^{**}	0.49^{**}	0.66^{**}	--	0.28^{**}	0.17^{**}
13. Compulsive	0.06	0.30^{**}	0.35^{**}	0.10	0.06	0.34^{**}	-0.01	0.17^{**}	0.33^{**}	0.16^{**}	0.35^{**}	0.40^{**}	--	0.04
14. Saved	0.07	0.03	0.15^{*}	0.13^{*}	0.03	0.06	0.16^{**}	0.10	0.18^{**}	0.13^{*}	0.16^{**}	0.24^{**}	0.13^{*}	--

Note. $^{***}p \leq .001$, $^{**}p \leq .01$, $^{*}p \leq .05$