Spring 2019

Failure to launch?: Advancing the case for financial literacy interventions in postsecondary education

Cathleen Snyder

Failure to Launch?:

Advancing the Case for Financial Literacy Interventions in Postsecondary Education

Cathleen Smith Snyder

A dissertation submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

in

Partial Fulfillment of the Requirements

for the degree of

Doctor of Philosophy

School of Strategic Leadership Studies

May 2019

FACULTY COMMITTEE:

Committee Chair: Dr. Benjamin S. Selznick

Committee Members:

Dr. Karen Ford

Dr. Jeanne Horst

Table of Contents

List of Tables and Figures

I. Tables

II. Figures

List of Appendices

Abstract

For college undergraduates, the thought of managing money is often new, exciting, and terrifying in the same breath. Some students have learned well from their parental and prior academic influences, and yet others may be overwhelmed by a lack of those same resources. As postsecondary institutions endeavor to level the proverbial playing field, helping college graduates launch into meaningful, financially independent lives, it begs additional consideration on the intervention methods that might be most impactful. This study examined a for-credit, curriculum-based intervention specific to personal finance topics. It attempted to answer several key questions: How knowledgeable are students relative to financial literacy and wellness upon entry to college?, What role do parents play in shaping that knowledge?, and, Beyond all prior influences, can a college course produce significant differences in students' knowledge, bolstering both their confidence *and* competence in handling their own financial affairs? Results indicate that intentional course content does indeed produce improvements in financial literacy and wellness, advancing the case for more curriculum-based intervention options. Implications for structuring campus-wide efforts and the leadership that governs those efforts are included as well, noting the benefits to a host of stakeholders when these efforts transition from campus initiatives to changes in campus culture.

Chapter 1

Since the 1990's, it has been consistently argued that more needs to be done to improve the abilities of young adults such that they can successfully navigate the increasingly complex world in which they live – particularly in relation to money matters (Bosshardt & Walstad, 2014; Chen & Volpe, 1998; Danes & Dunrud, 1993; Davis & Durband, 2008; Forte, 2012; Japelli & Padulla, 2013; Malcolm, 2014; Supiano, 2011; Supiano, 2013). In the United States, the call to action is still relatively new, especially in terms of mobilizing interest within the federal government. In 2002, the Department of the Treasury established the Office of Financial Education (OFE) and began to address the economic effects of an aging population, on-going state and federal budget deficits, credit concerns -- and the financial illiteracy that seemed prevalent across the generational cohorts that could both provide and benefit from relief (Knoll & Houts, 2012). The subsequent Fair & Accurate Credit Transactions (FACT) Act of 2003 gave birth to the Financial Literacy and Education Commission (FLEC), a combined effort of over 20 agencies named to coordinate resources and strive to solve what was then deemed a looming national crisis (Knoll & Houts, 2012; Schuchardt et al., 2009). By 2008, the President's Advisory Council on Financial Literacy (PACFL) was convened to continue to extend efforts and improve funding for financial literacy programs (Knoll & Houts, 2012).

The PACFL was in its infancy when, in 2009, the United States' markets began an undeniable economic free-fall. Big businesses needed government bailouts, the mortgage market was reeling from the 'burst bubble' of over-valued properties and under-invested homeowners, the stock market plummeted, and unemployment persisted at abnormally high rates. One solution: a renewed push to educate a larger portion of the

populace on the basics of financial principles, products, and behaviors that contribute to a higher standard of living, quality of life, and overall well-being.

By 2010, Gallup scientists began to echo similar sentiments and included Financial Well-Being in their list of "The Five Essential Elements of Well-Being," suggesting educators and employers alike utilize a more holistic approach to addressing health and wellness for adults (Rath & Harter, 2010). Their global study sought to describe aspects of individual lives wherein change is both plausible and valued. The addition of financial well-being specifically addressed individual needs to effectively manage one's economic life in conjunction with career pursuits, social relationships, physical health, and community engagement. Though 66% of respondents rated themselves as doing "well" in at least one of the five key areas, only 7% reported "thriving" in all five (Rath & Harter, 2010). Clearly, there was work to be done.

The Need for Postsecondary Leadership

Interestingly, postsecondary educators were not among those leading the financial literacy charge, despite the fact that all five Gallup wellness elements were and are translatable across emerging adult/college student populations. As leaders and administrators now endeavor to communicate the value of higher education to a host of student, parent, alumni, and community constituents, certainly concerns surrounding student retention, persistence, and civic engagement are not to be understated. However, the post-high school financial literacy gap, which underpins postsecondary retention, persistence, and engagement issues, is manifesting itself in alarming ways that can no longer be ignored and that merit increased postsecondary leadership (Fosnacht, Dugan, & Merckle, 2017). For example, approximately 70-76% of Americans live paycheck to

paycheck (regardless of income), over 50% have subprime credit scores, and less than 30% have long-term savings or investment plans (Coombs, 2016; Debt.com, 2017). So, although the market largely recovered by 2016 (as measured by S&P 500 growth), American households are clearly struggling to model the financial behaviors that would make that recovery sustainable (Egan, 2016).

Perhaps one of the most compelling reasons to expand financial literacy (and financial well-being) endeavors in postsecondary education centers on the explosion of student debt incurred to attend college. As early financial literacy initiatives were being developed, the national average for college student loan debt rose to over $30,000, reflecting increases between 4-6% per year with no signs of slowing down (Ellis, 2013; Lobosco, 2016; StudentLoanHero, 2017). Student loan debt now impacts 62% of college graduates, resulting in a national student loan debt load in excess of $1.3 trillion dollars, 11.5% of which is consistently delinquent (StudentLoanHero, 2017; U.S. Department of Education, 2017).

The implications for postsecondary leadership become even more palpable as institutions are held increasingly accountable for student loan cohort default rates, the sanctions from which include penalties up to and including ineligibility to participate in or expand federal student aid programs (U.S. Department of Education, 2017). When one considers that 30% of college students with loans drop out without a degree, and as recently as 2010, more individuals filed for bankruptcy than graduated from college (CEE, 2014), postsecondary institutions have to acknowledge that the status quo is not working.

Although the American Talent Initiative and groups such as the Coalition for Access, Affordability, and Success are working diligently to identify more high-performing, low-income students and introduce them to educational opportunities at selective colleges and universities, some with full scholarship funding, the lines between *access* and *affordability* are increasingly blurred for all students (Khadaroo, 2016). Access today encompasses much more than assurances that diverse, college-ready individuals will populate American college campuses and programs. For some, with the passage of the Access to Student Loans Act of 2008, *access* began to be translated as increased availability of funding (both federal and private student loans) that closed the gap between diminishing state subsidies and rising tuition—with delayed conversations about the consequences of whether those funds constitute an *affordable* choice in school selection and career pursuits (Webber & Boehmer, 2008).

In short, attempts to position college attendance and graduation as an *investment* fall short when general adult and student populations alike struggle to understand and manage credit and investment relationships as a whole. The Credit Card Act of 2009, although noble in its effort to limit youth access to credit products, could not legislate individuals – or families – into common sense practices (Campbell et al., 2011). If collegiate experiences fail to teach students about strategic acquisitions of credit-related or investment-specific products, the naivete of emerging adults has the potential to be exploited.

Lusardi (2017) cautioned, however, that describing financial products in postsecondary settings is not sufficient; students must be taught how financial products work such that a decision-making process can be established that will serve those

individuals for a lifetime. Per the latest National Financial Capability Study (NCFS), Lusardi (2017) explained that debt, interest compounding, risk diversification, and inflation are all concepts with which millennial audiences struggle. Although the NCFS estimates that Americans make most of their major financial decisions by age 40, only one in three can demonstrate mastery of financial planning concepts (Lusardi, 2017).

If the trend is not reversed, current and future college students are in grave danger of joining those underprepared ranks. Long-term, the increased probabilities of undesirable societal outcomes in the forms of longer loan repayment terms (student loans included), higher interest charges on credit products, credit report deficiencies, delays in home ownership and retirement funding, and reductions in one's quality of life as reflected by increased time in the workforce to offset delays in wealth accumulation are plausible prospects.

So, if postsecondary leaders were not collectively answering the national call for improved financial literacy efforts, countering the potentially undesirable outcomes, who was? At this juncture, it might be helpful to take a step back, examine how financial literacy has been defined by those early in the conversation and intervention realms, who the agents of change have been, and what programming challenges have looked like to date.

Financial Literacy Defined

Although multiple definitions of financial literacy currently exist, it is most commonly conceptualized as a knowledge-driven construct (Hung, Parker, & Yoong, 2009; Huston, 2010; Knoll & Houts, 2012; Redmund, 2010), evidenced by a skill set wherein individuals can "discuss money and financial issues…,plan for the future, and

respond competently to life events that affect everyday financial decisions, including events in the general economy" (Vitt et al., 2000). The official FLEC and PACFL's 2008 definitions are identical, positing financial literacy as "the ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being" (Knoll & Houts, 2012, p.383). Prominent advocacy groups, like the Jump$tart Coalition, have settled on similar sentiments as well. Built into Jump$tart's National K-12 Standards for Personal Financial Education is financial literacy as "the ability to use knowledge and skills to manage one's financial resources effectively for lifetime financial security" (Jump$tart Coalition, 2017). The nuances of "well-being" and "security" appear to be gaining traction, particularly internationally, where 'financial capability" is used interchangeably with 'financial literacy" (Jump$tart, 2017). Jump$tart and similar advocacy groups are in favor of acknowledging the social and emotional factors that guide behaviors and applications of financial knowledge, however, with youth, their primary focus domestically remains on improving core knowledge and skills first (Jump$tart, 2017). This issue of definitional clarity among governmental agencies, advocacy groups, and private organizations such as commercial banks and accountancy associations has been settled primarily within the last five years, allowing researchers to explore the relationship of financial knowledge (or lack thereof) to a variety of related constructs such as student indebtedness (student loans and credit cards) and other financial stressors (food security, family/community support, financial attitudes), offering insights to those that would seek to improve educational programming going forward (Fosnacht & Calderone, 2017; Matthewson, 2016; Montalto et al., 2016; Turner & Pendleton, 2017). For purposes of this study and continuing efforts to improve,

specifically, postsecondary educational efforts, financial literacy will continue to be operationalized as the commonly-accepted, knowledge-based construct noted above, with acknowledgement that *financial literacy* and *financial well-being* are intertwined educational objectives. Those terms may be used interchangeably as a result.

Initial Efforts Toward Improved Financial Literacy in the Educational Pipeline

In the last decade, the educational efforts of the FLEC/PACFL have translated into various forms of delivery, enforcement, and accountability at the secondary and postsecondary levels. Although financial literacy was and is positioned as a federal priority with the establishment of the FLEC/PACFL, there have been several noteworthy challenges. First, implementation and accountability for successful interventions remain dependent on state participation. Currently, only 22 states require high school students to complete courses that address financial issues, and even fewer (17 states) assess the learning outcomes associated with them (Council for Economic Education (CEE), 2016). Net additions to financial literacy programming nationwide reflect a sense of stagnation, with near-equivalent participation levels as in the previous CEE Survey of the States in 2014 (Council for Economic Education, 2014). This momentum falters in spite of commentary from noted public figures such as Alan Greenspan, Economist and former Chairman of the Federal Reserve, who describes the lack of financial literacy as "the number one problem in today's generation and economy" and Arne Duncan, former U.S. Secretary of Education, who asserts that "...graduating….financially literate is one of the biggest gifts we can give…"(Council for Economic Education, 2014; Duncan & Moser, 2012).

Second, because the federal accountability measures focus on state-level compliance, financial literacy initiatives have almost exclusively been targeted to compulsory, K-12 ranks wherein educational 'reach' objectives may be satisfied, but where participants may also lack the necessary life experience to fully appreciate the relevance of the topics at hand (GAO, 2011). Additionally, delivery of content is allowed to take shape within economics courses, stand-alone personal finance courses, and/or any similar combination of the same. Despite this pedagogical flexibility, K-12 teachers still report feeling only marginally competent to teach personal finance topics (Council for Economic Education, 2014), and they are not alone.

According to the CEE (2014), one-third of parents are more comfortable talking with their children about smoking, drugs, and bullying than about money. In fact, at least 40% of U.S. adults gave themselves average or failing grades related to their knowledge of personal finance (National Foundation for Credit Counseling, Inc., 2013). So, despite an overwhelming 81% of parents believing that it is their responsibility to teach their children about money and savings, the reality is that many feel as ill-equipped to actually do so as the K-12 teachers being compelled to answer the national call of accountability (Jump$tart Coalition, 2014; Moschis, 1985).

However, and in spite of their perceived inabilities, parents remain the default source of financial advice and behavioral guidance (Bandura, 1986; Danes & Dunrud, 1993; Koonce et al., 2008; Mimura et al., 2015). Interestingly, Shim et al. (2009) found that the role of parents was more influential than the roles of work experience and even well-intended K-12 education combined. Simply put, students perpetuate the attitudes, behaviors, and values they see modeled at home. Ben Bernanke, former Chairman of the

Federal Reserve System, shares sentiments expressed among many economists and employers -that financial literacy is a critically important life skill- for parents and students alike- and that ”financial education must be a life-long pursuit” (Bosshardt & Walstad, 2014; Chen & Volpe, 1998). As admirable as the existing K-12 efforts are - augmenting arguably disjointed parental messages- the federal government, advocacy groups, and postsecondary educators alike contend that K-12 efforts alone are insufficient and that financial education should not end with high school graduation (GAO, 2011; Crain & Ragan, 2012; Smith & Bodnar, 2013; Chinen & Endo, 2012; Mandell & Klein, 2009).

Framing the Postsecondary Response as an Institutional Outcome

To begin effectively addressing financial literacy gaps, some postsecondary institutions have made attempts to engage students in financial literacy initiatives not wholly unlike or apart from the multi-dimensional wellness programs that may be more regularly offered on college campuses. In fact, the most recent trends among postsecondary institutions that are endeavoring to tackle financial literacy is to position their efforts within either the holistic context of those existing wellness programs and/or specialized programming within Financial Aid or related Student Services (NASPA, 2017). To confirm the positioning, a Summer 2017 Google internet search yielded three times as many institutions referencing their efforts as *financial wellness* versus *financial literacy*. Perhaps the efforts are intentionally designed to mirror the international flavor and intent of improving financial capabilities. Perhaps it is more palatable to constituents to state the goal in a way that they leave “more well” versus enter the institution “less literate.” Either way, there is much work to be done, and that, perhaps collaboratively.

Although not exhaustive, the search yielded fewer than 50 institutions and community college systems nationwide that appeared to be embracing the idea that basic financial literacy (and well-being) principles should be included in collegiate programming as an intentional, advertised priority versus a nominal notation on their respective financial aid websites (See Table 1). For those institutions, financial literacy principles and best practices (along with concurrent discussions regarding stress, family interactions, and academic performance) are being taught across academic disciplines and within student services offerings in spite of popular views that financial products and investments are complicated – or only interesting and relevant to specific majors or segments of the collegiate audience. Implementations and programming recommendations have included the use of online modules and in-person classes to improve basic financial knowledge, student loan default prevention interventions, topic-specific, in-person workshops and seminars, and increased campus counseling alternatives (Fosnacht, Dugan, & Merckle, 2017; Matthewson, 2016).

Table 1

Collegiate Financial Education Programming

Institutions with Financial Literacy Programming	Institutions with Financial Wellness Programming	
Boston College (MA)	Colorado College (CO)	University of Cincinnati (OH)
Cambridge College (MA)	Colorado University (CO)	University of Illinois (IL)
Champlain College (VT)	Columbia University (NY)	University of Kentucky (KY)
City Colleges of Chicago (IL)	Emerson College (MA)	University of Louisville (KY)
Community College of Denver (CO)	Fox Valley Technical College (WI)	University of Maryland (MD)
Elgin Community College (IL)	Indiana University (IN)	University of New Hampshire (NH)
Iowa State University (IA)	Luther College (IA)	University of North Carolina – Chapel Hill (NC)
Kentucky Community & Technical College System (KY)	Marquette University (WI)	University of North Dakota (ND)
Victoria College (TX)	Miami University (OH)	University of Tampa (FL)
	Michigan State University (MI)	University of Wisconsin (WI)
	Southern New Hampshire University (NH)	University of Wyoming (WY)
	The Ohio State University (OH)	Weber State University (UT)
	University of California-Davis (CA)	Xavier University (OH)

In short, participating institutions recognize that the key to ultimately altering or transforming *behavior* is knowledge – sufficient enough to stimulate independent thought and transparent enough to assist individuals in recognizing their own limitations. Educating individuals, specifically the college-aged students institutions purport to benefit, to self-awareness is still a desirable end- and at least one way to begin better communicating the value of the educational experience to those individuals, families, or alumni funding it.

Although, collegiate financial literacy and well-being initiatives will not bridge every gap in skills sought by today's employers (Estalami, 2009; Willis, 2008), they can begin to address general career readiness, trainability, and worker productivity concerns (Garman et al., 1999; Joo, 1998; Kelly & McShane, 2013). These objectives are, or stand to become, central to student development on any college campus. The college years are a critical transition period in which students are emerging adults, perhaps not well-served by delayed financial well-being. Therefore, it behooves administrators within postsecondary education to explore ways to benchmark, intervene, and re-assess their efforts to improve their students' abilities to find value in their campus experience *and* functionality in the 'real world' when they leave.

Financial literacy and well-being initiatives, much like technology proficiencies of the late 1990's and early 2000's, offer one very viable alternative to meet those needs across populations - male or female, first-generation college student or multi-generational legacy beneficiary. Financial literacy represents a life skill set that is translatable across every program of study whose majors will make or manage money in the future. If postsecondary institutions fail to address these issues, the consequences could include a

new generation of consumers that continue to accumulate more debt than they can manage, save less money than they will need to live independently, and entrap themselves in an over-reliance on government programming- producing higher taxes to support those government programs and a languishing economy perpetually confused as to whom it should reward.

Chapter Summary

According to Wendy Garcia-Buchanan (CEE, 2014), 2013 Alfred B. Sloan Teaching Champion, "100% of our students will become financial decision-makers, like it or not, and the success of their decisions will be based on their economic and financial literacy or lack thereof." Postsecondary institutions need to be central to the conversation, assessment, and change mechanisms, modeling best practices before those best practices are defined, measured, and handed down by legislators in ways that may or may not be meaningful for college students and the adults they are becoming.

The purpose of this study was to examine a specific, curriculum-based intervention designed to improve financial knowledge among participating underclassmen college students. In Chapter 2, I review the international perspectives on financial literacy that position it as a global need and additionally examine financial literacy efforts at the secondary level, both of which have shaped postsecondary responses to date. In Chapter 3, I discuss how the study engaged participants, examined students' pre-college, entry-level financial knowledge, compared it to their post-intervention financial knowledge, and attempted to uncover the influential factors driving any change. I endeavored to discover whether a single course, offered early in a student's collegiate programming, was sufficient to make an appreciable difference in their adult

life skill set. Chapter 4 presents results from this study, and in addition to Chapter 5, serves as feedback to postsecondary leaders interested in framing more comprehensive, holistic-wellness programming beyond student support services alone. The results could likewise inform K-12 leaders relative to their financial literacy methods and the effectiveness of those methods persisting into students' college years, ideally closing some of the informational and intervention gaps that seem to persist when secondary and postsecondary institutions continue to work with silo approaches.

Chapter 2

Literature Review

In reviewing the contexts in which financial literacy and related well-being conversations have taken shape, it's important to note that the participants (and intended audiences) have been quite diverse. From commercial banking and accountancy professionals to government agencies to educators and for-profit educational industry partners, the variety of messengers is staggering. However, it is the disjointed nature of the messengers' efforts that likely have produced the effective educational stagnation noted earlier by the Council for Economic Education (2016).

Much discussion exists related to both the global need for intervention (Gardarsdottir & Dittmar, 2012; Ibrahim & Alqaydi, 2013; Sohn et al., 2012; Taylor & Wagland, 2011) and the experimentation that has manifested in the state-supported, K-12 realm of financial education (Mongellow, 2013; Nevada Department of Education, 2010; Sasser, Grimes, & Franklin, 2010; Teller Vision, 2009). To fully cover existing literature on the topic, it is a worthwhile endeavor to review the international landscape, understanding the financial literacy gap is not unique to the United States and that collaborative work need not be confined to or limited within domestic institutions. International perspectives, specifically, offer postsecondary leaders the insights that young adults everywhere represent vulnerable populations, struggling to competently adapt to complex financial products and markets and function as global citizens. For institutions seeking to bridge the gap, financial education posits an economic and timely response.

It is also a helpful framing exercise to examine what specific curricular or, in some cases, policy attempts have been made in the state-level, K-12 driven environments such that postsecondary interventions can be refined rather than re-invented. There is utility in modifying what exists from both collaborative and communication perspectives. Secondary leaders can share pedagogical strategies and assessment results, and postsecondary leaders can offer feedback as to whether those strategies produced durable results for college-preparedness relative to financial matters. If not, there is an additional opportunity to intervene prior to college completion. Through both lenses, international perspectives and secondary implementations, there is a consistent vision of postsecondary leaders more purposefully entering the financial literacy conversation, structuring engaging programming, and launching students more financially competent into life after graduation.

The International Landscape of Financial Literacy and Well-Being

As noted above, financial literacy and well-being are not challenges exclusive to young adults in the United States. Data from FINRA reports that, across eight countries- the U.S., Germany, the Netherlands, Sweden, Japan, Italy, Russia, and New Zealand- financial *illiteracy* is quite prevalent. In the U.S., less than one-third of the population could correctly answer questions related to interest rates, inflation, and risk diversification. In Germany, only 53% could do the same. Patterns also emerged relative to higher-risk segments of the population, regardless of country or degree of economic development: younger citizens, women, the unemployed, and those with lower levels of education were among the most vulnerable audiences identified as needing additional financial education (Journal of Financial Planning, 2013).

A review of additional international cohorts reveals that financial literacy initiatives around the globe continue to experience similar concerns. For instance, in Australia, the financial services industry is claiming that increased financial education is needed, not additional regulation – at least not as a first response. Brown (2013) argues that perhaps a little of each represents a more balanced solution- that increased financial education is desirable, but on occasion, so is a little more formal legislation when self-regulation fails. His primary assertion is that increased education is necessary, but not sufficient 'leadership' relative to financial products. His recommendations call for the Future of Financial Advice (FoFA) legislation to force the financial services industry to do what it should have done on its own to promote a more ethical, proactive, consumer-centric program, invariably with trickle-down implications for and partnerships with educational institutions. Taylor and Wagland (2011) foreshadowed this call to action when they compiled evidence of programming between Australia and New Zealand, noting the increased complexity within financial markets and the waning retirement preparedness of citizens in both countries. As noted earlier, advocates around the world tend to use the terms financial literacy and financial capability interchangeably, so their efforts were and are focused on comparing, combining, and coalescing the principles of mathematical literacy, financial understanding (how money works), financial competence (using basic financial services, understanding risk assessment), and financial responsibility (building confidence, making appropriate life choices, and enlisting support when things go wrong). Armed with better information about their current levels of intervention, the consensus appears to be that educational institutions need to join the efforts, and assessment of outcomes needs to be improved to include more than self-

assessments. To date, private industry has shouldered many of the educational responsibilities, and measurement tools have been too focused on ‘confidence’ in handling financial affairs rather than the ‘competence’ that allows government officials to make meaningful claims of actual change over time.

A study from the United Arab Emirates (UAE) (Ibrahim & Alqaydi, 2013) has reached out to educational institutions, K-12 and universities, for like reasons. Market complexity and borrowing propensities motivated the study, but the results were shockingly similar. UAE students had been expected to score near 50% averages on financial literacy competency items based on numerous, replicated studies of Chen and Volpe (1998). In this study, the authors found UAE students below average with scores of only 43% correct on similar issues and instruments. Although they did not find the gender biases shared by countries included in the FINRA report, the results were still not encouraging.

Results were not encouraging in South Korea either. Following economic crises centered on credit delinquencies, surges in personal bankruptcies, and regulatory changes trying to improve household stability, financial literacy education was still not fully integrated into countrywide programming. Math skills were still a priority prior to Sohn et al.’s (2012) study, but the application of those numeracy pre-requisites in a financial literacy-specific context was not. Subsequent testing of South Korean students on both the Jump$tart Coalition’s Survey instrument and their own *Korean Financial Literacy Test Survey* (KFLTS) revealed underwhelming results on both. Students scored an average of 49.8% of correct responses on the combined test, but lower than U.S. students (52.4%) on similar instruments in the same year. Additional factors under consideration

in the study related to socialization agents, money attitudes, values, and actual experiences. Some of those more theoretically-based themes also appeared in a study of students in Iceland (Sohn et al., 2012)

Icelandic researchers have shared concerns relative to debt accumulation and the money management skills that might help their citizens avoid excessive levels of debt. Rather than study raw scores and competencies alone, Gardarsdottir and Dittmar (2012) included effects of materialism and cultural influences. In both the South Korean and Icelandic studies, money attitudes and values (materialism) were significant predictors of financial literacy (Gardarsdottir and Dittmar, 2012; Sohn et al., 2012). In the end, Gardarsdottir and Dittmar (2012) continue to advocate for increased education, but emphasized that those educational efforts be mindful of the cultural values that represent the basis of financial well-being- or the root of deeper financial problems.

On a similar note, and in recognition of the value of training within the culture and curriculum of partner institutions, government-led committees within the United Kingdom have experimented with partnerships across the accountancy profession and within the financial services sector (AccountancyMagazine.com, 2008). Government agents support programs that recruit and train volunteers capable of capturing the desired essence of multi-stakeholder interests. Policymakers hope the initiatives will improve consumers' understanding of interest rates in general and, specifically, mortgage products, as the U.K. was not immune to the subprime housing market ripples felt worldwide. The desired end result focuses on empowering consumers to make more informed risk assessments of the financial products they utilize and to avoid a more "intrusive, paternalistic approach" (Mak & Braspenning, 2012) indicative of increased

regulation when education might offer an equally desirable answer to persistent financial mistakes across the population.

In summary, young adults, in general, are in desperate need of timely, culturally-sensitive programs offered by higher educational institutions - with less reliance on third party community and professional bodies to bridge the financial literacy gap. It is a global need and call for postsecondary leaders, everywhere, to be agents of change. The ability to craft meaningful interventions at *any* institution has implications for *all*.

Experimentation Within K-12 Initiatives on Financial Literacy and Well-Being

To begin addressing at least the Unites States' *national* concerns, a handful of proactive *states* charged themselves with finding educational solutions to financial literacy, most often within K-12 curriculum, augmented on occasion with industry partners. The state-level efforts met with several formidable challenges that have, perhaps, served as deterrents in extending programming into postsecondary environments. Difficulties related to content or program development, ownership, and accountability were common barriers to successful implementations. However, insights gleaned from these secondary educational experiences may better inform future postsecondary efforts in terms of content, timing, and structure.

In Connecticut, as early as the 1980's, the state legislature's Bank Committee created a task force to study mortgage lending based on the availability of Home Mortgage Disclosure Act data. What the task force discovered was that simple financial management concepts revolving around the knowledge of how to pay bills on time, an understanding of basic budgeting principles, an awareness of credit reporting agencies (and appropriate responses to those agencies), and the ability to initiate new accounts

(utilities, checking/savings, car loans, etc.) resulted in significantly fewer mortgage denials and foreclosures. Their proposal was to initiate a financial literacy curriculum in the 9th or 10th high school grades. The recommendation met with no response from educators at that time. Instead, a handful of bankers offered in-school branches, providing temporary solutions to the educational staffing issues and/or disinterest. After seven failed attempts to mandate more robust curriculum options, the task force accepted the partial solution of the in-school branches but continued to advocate for a stand-alone, statewide class (Mongellow, 2013). Overall, the efforts were laudable, but connecting basic financial competencies to the home-buying process did not resonate with the intended audience. The 9th and 10th grade high school students were more apt to think about getting their first job and/or their driver's licenses, not buying their first home. The topics felt irrelevant, and subsequent buy-in was notably poor.

In Oklahoma and Mississippi, legislators took another turn at fueling financial education efforts by way of augmented policy intervention. Sasser, Grimes, & Franklin (2010) highlight Oklahoma's state initiative, the Passport to Financial Literacy Act of 2007, which targeted students in grades 7-12 and designated 14 core topical areas of importance to be taught across those grades. In addition to what Connecticut sought to cover, Oklahoma attempted to address concerns related to online commerce, insurance, taxes, growing trends in bankruptcies as well as identity fraud/theft, and even more obscure topics like the financial implications and consequences of gambling. It was an ambitious agenda, and the goal was to require every high school graduate to receive instruction in all 14 topical areas at some point in their educational career. Several challenges the state encountered, however, included teacher resistance to training

opportunities. Most of the first-year recipients of financial literacy training workshops and conferences were administrators. Only in subsequent years did teachers begin to substantially populate the sessions. The 'flexible' integration, based loosely on Jump$tart recommendations, also hindered progress. No one grade level or content area 'owned' the content – or the end responsibility – so momentum was difficult to establish. As noted in similar efforts in Mississippi, teacher education programs typically exclude personal finance content. So, when given a standardized test on economic and personal finance topics, the K-12 teachers only answered 62% of the questions correctly. Merging the two experiences, the recommendations circled back to favoring a stand-alone class, taught by business-specific teachers, and left with those teachers whose confidence and competence earned an additional six percentage points on overall test performance (Sasser, et al, 2010).

Congresswoman Eddie Johnson (D-Texas), recognized that state-level legislation was necessary but not sufficient and instead volleyed partial responsibility for financial literacy back to the federal realm and introduced the National Financial Literacy Act of 2009 (Teller Vision, 2009)- another indirect, policy-driven method of affecting curricular change. The bill amended the existing Community Reinvestment Act and allowed banking institutions to receive compliance credits and special tax breaks for offering community-oriented financial education programs. Although the effort was not K-12 specific, it was one of the first large scale efforts that incentivized external partnerships. Later in 2009, Nevada began mapping their own K-12 financial education standards to Nevada Senate Bill SB-317, and the value of similar partnerships became significantly more transparent (Nevada Department of Education, 2010). Not only were learning

objectives mapped to content areas, but also to corporations, agencies, colleges, and non-profit coalitions offering resources and support to meet the needs of those teaching the content. Texas and Nevada actively advocated including allies in their financial literacy endeavors.

One particularly vocal ally and advocate that has emerged in the financial literacy arena is the Global Center for Financial Literacy (GCFL) at George Washington University. The GCFL's brief summarizing Financial Literacy Around the World (FLAT World) notes that there are several areas of interest when designing financial literacy programs. Based on survey findings, financial literacy knowledge patterns resemble an inverted 'U' relative to age factors (Lusardi, 2013). Literacy is lowest in younger populations, peaks with experience and middle age, and decays at older ages. Also, regardless of country studied, women, those with lower levels of education, those who are unemployed, and those of minority ethnicities also routinely score lowest on financial literacy assessments. These findings were replicated in a 2009 National survey *Financial Capability in the United States*, prepared for the FINRA Investor Education Foundation (Applied Research & Consulting LLC, 2009). Lusardi (2013) and colleagues (Alessie, van Rooij, & Lusardi, 2011; Lusardi, Mitchell, & Curto, 2010; Wagland & Taylor, 2009) were also able to glean that parental financial sophistication produced significant differences in knowledge related to risk diversification, and that parental involvement factors may make high school a more ideal entry point for financial education than postsecondary environments (for both students and parents in some instances). But, regardless of parental influences, financial literacy affects retirement planning, not the other way around. So, assuming financial literacy will blossom from necessity is not a

solid conclusion. Rather, financial literacy prompts differentiated behaviors that improve future well-being, and that remains an important distinction.

Several important insights can be gleaned from the various state experiences, the GCFL's work, and the FINRA-sponsored report in shaping postsecondary curricular intervention responses. First, stand-alone, personal finance classes are the preferred curricular choice. Second, those classes need to be developmentally appropriate with topics of relevance to the students in them, and designated instructors would benefit from content-specific training/experience, defined curriculum, and assessment ownership. Incorporating or incentivizing industry partners is a viable means to bridge gaps in instruction, funding, and program promotion, but may not represent a permanent solution to financial literacy concerns in itself.

In addressing financial education and product reforms in a more generic sense, Campbell et al. (2011) recommended a continued focus on both the principles *and* the people that need to apply them. Concentrating educational efforts in areas that alleviate high stake financial risks (housing and credit), reduce product confusion (credit cards and investment products), and/or improve financial capabilities that foster good decision-making in subsequent purchase environments are the areas in which broad policy interventions make sense.

Postsecondary Interventions Related to Financial Literacy and Well-Being

In extending financial education to collegiate settings, there appear to be several trends with respect to intervention selections. In a study of programs, the most common method of intervention and financial education among both first-year and senior-level college students is provided within student loan counseling functions (Fosnacht et al.,

2017). Counseling is federally mandated for borrowers, so participation is considerable, but not extensive enough to reach all who need instruction related to credit products. Matthewson (2016) noted that financial education (and wellness needs) indeed extend well beyond students who borrow to pay for college. As many students could benefit from student loan management and default prevention initiatives, many more could benefit from training related to risky credit card behaviors. However, where institutional resources are limited and/or buy-in to extended financial education is marginal, there is another venue of support found in several online tutorial resources that offer, or have offered, supplemental instruction and have established a degree of market dominance: SALT, CashCourse, and programming from the National Financial Educators Council (NFEC).

SALT, a once ready-made (now defunct) curriculum promoted by the non-profit organization, American Student Assistance, gave prospective college students the tools necessary to both *plan* to pay for college and *manage* those (student loan) payments with online tracking tools while in college and once graduated. CashCourse mirrors many of the prior SALT programming choices, but adds depth in fundamental areas such as savings, insurance, professional workplace transitions, life transitions (buying a home, starting a family, etc.), and financial emergency preparedness. The CashCourse curriculum is free to participating institutions because it is underwritten by the National Endowment for Financial Education (NEFE). However, it is specifically promoted to colleges and universities, targeted to persisting college students as opposed to prospective ones (cashcourse.org, 2017).

The National Financial Educator's Council (NFEC) is a hybrid. Although it offers a ready-made financial literacy curriculum in both complete-course and individual module-level increments, the value of association with the Council appears to be the access to a network of presenters/guest speakers, program design and marketing assistance, assessment feedback, and financial literacy campaign management.

In all three of these cases, however, the postsecondary benefits rest (or rested) in program affordability, turnkey curriculum, and the flexibility to offer critical information and advice in a technologically-driven environment that appeals to college students (financialeducatorscouncil.org, 2017). Users herald(ed) the program benefits of improvement in student financial health, wellness, and satisfaction with their collegiate 'investment,' engagement with both current students and alumni, and student loan default aversion (saltmoney.org, 2017).

The shortcomings, however, are that the courses – although stand-alone, as found more effective in K-12 experiences – are not embedded in degree requirements. They are embedded in a list of campus resource links, fail to be managed within any specific academic discipline, and depend significantly on self-selection.

Meier and Sprenger (2007) investigated this self-selection quandary. They wanted to better understand the individuals that, when offered, would enroll in financial literacy programs to improve their decision-making processes and financial acumen in general. The study staged a short credit counseling session at a Volunteer Income Tax Assistance (VITA) center in a low-to-moderate area outside Boston, MA. Only 55% of the 870 persons invited to attend the counseling session chose to accept, but of that group, several key findings were gleaned. The more individuals cared about the future, the more likely

they were to opt in to counseling. There were almost no demographic differences in the participant/non-participant groups, however, the group that participated was more likely to know what a credit score was and to believe that it was important to their lives. Those who participated were also more likely to have a credit card and a substantial amount of outstanding debt to accompany it. A sense that the topic had immediate relevance motivated individuals to participate. The implications of their study were that self-selection, however, would produce upward bias in results and induce a gap in reaching the individuals who, perhaps, needed the intervention the most. They advocated for more investigation into individuals' planning and motivation to position financial literacy programs within educational contexts, particularly noting health domains (Meier & Sprenger, 2007).

The Meier and Springer (2007) study essentially echoed the issues discovered in K-12 settings: timing matters; topics need to be developmentally relevant; and the efforts need to be anchored in academics rather than just administrative imperatives. To that end, limited loan counseling resources and default online tutorials fall short as means and ends in themselves, and the health and wellness academic contexts offer an additional, appealing way to supplement educational efforts and improve program reach. Whether the academic content is defined and guided by Gallup's (Rath & Harter, 2010) framework including Financial Well-Being or by a more traditional, National Wellness Institute (2017) conceptualization including Occupational Wellness, money management principles are central to conversations about work productivity and general life satisfaction, which are topics salient to all would-be college graduates.

Crain and Ragan (2012) further outlined the process to incorporate financial literacy courses in collegiate liberal arts curriculum. By examining the liberal education objectives of the Association of American Colleges and Universities' (AACU) Liberal Education and America's Promise (LEAP) initiative, intellectual and practical skills are both valued , as are opportunities for integrative and applied learning, critical thinking, and quantitative literacy. Financial literacy programs could also augment effective reasoning and civic knowledge and engagement outcomes. The authors' recommendations included focusing on the social sciences as a curriculum entry point, considering financial decisions, and "the implications of the collective decisions of individuals on society in general" (Crain & Ragan, 2012, p. 517). Courses could be designed to begin with basic tools and skills (using financial statements, managing cash and savings, understanding loans, acquiring auto and home assets, making investments for retirement), then on developing the ability to recognize key issues and question behaviors, articulating their social or economic implications as a result (Crain & Ragan, 2012). Making the course available in a General Education setting in any capacity is, therefore, a plausibly attractive option. Compelling students into an available course is another thing entirely. Meier and Sprenger (2007) warned that mandatory offerings risk irritating already responsible consumers/students…and only marginally affecting those who would have avoided the offering had it been voluntary.

It is a delicate balance indeed to position financial literacy within postsecondary education for the best possible outcomes, and perhaps is why Matthewson (2016) advocated for a range of interventions. No option alone appears sufficient to service all students, but when offered simultaneously, the three intervention methods noted above

(loan counseling, online tutorials, and academic course offerings) compelled 48% of first-year students and 52% of senior students into an intervention opportunity (Fosnacht et al., 2017). It's a start.

Theoretical Framework for Postsecondary Interventions

There is no singular, consistent theory to which all proponents of financial literacy subscribe in order to best discern the root of persistent financial mistakes (or their remedies). There are *economic* frameworks that have proven useful in examining the larger societal consequences when individuals and households fail at personal finance, such as higher credit costs and reduced savings (Banks, 2010; Bosshardt & Walstad, 2014; Davis & Durband, 2008; Jappelli & Padula, 2013). There are studies examining the *cognitive* frameworks that delve into the numeracy skills underlying savings behaviors (Banks, 2010) as well as memory functioning and risk awareness (sorting relevant information) related to financial decisions (Clark, 2013; Estelami, 2009), offering insight as well in terms of how skills and abilities "map into future human capital trajectories" (Banks, 2010). These studies maintain that individuals with more "domain-specific" information increase the degree of their [financial] sophistication and improve their abilities to discount environmental 'noise,' allowing for a more efficient and relevant way to process information for better decision-making (Clark, 2013). *Sociocultural* frameworks explore family structure as well as age-based, religious, and ethnic cohorts (Cudmore et al., 2010; Forte, 2012; Murphy, 2013; Taylor, Tisdell, & Forte, 2012).

Yet, regardless of the economic motivations, the cognitive abilities, and the sociocultural supports that make better decisions more *plausible*, the theoretical framework that is most relevant to, and thus chosen for, this study is that of *financial*

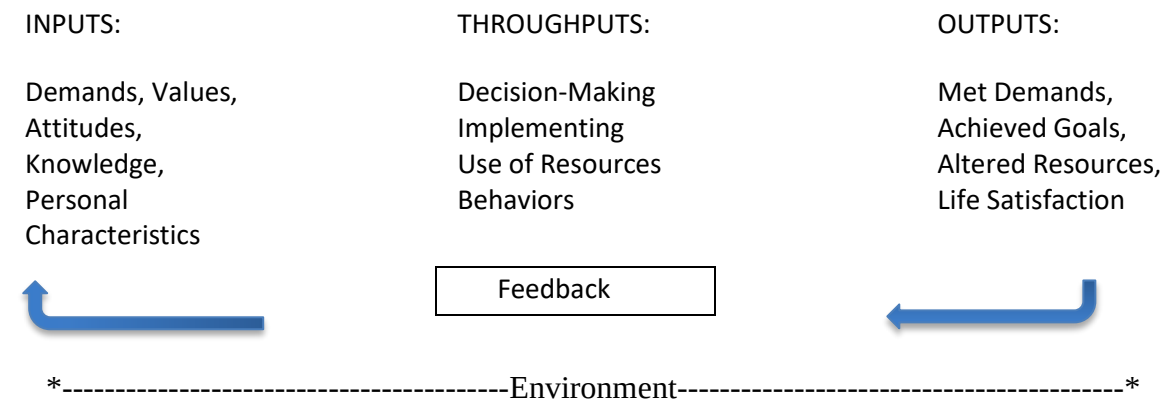
socialization (Jorgensen & Savla, 2010; Schuchardt et al., 2009; Shim et al., 2009; Shim et al., 2013; Sohn et al., 2012). Financial socialization studies explore how individuals acquire financial knowledge, use it in a decision-making context, and assess behaviors related to more *probable*, desired outcomes. By linking the *financial socialization* framework already prominent in promoting financial literacy endeavors to *student development theory*- specifically, Chickering & Reisser's (1993) key vector of *Developing Competence*- there is perhaps another useful way to frame financial literacy and well-being efforts in postsecondary contexts.

Although, some contend that financial socialization closely mirrors consumer economic socialization, Schuchardt et al. (2009) argued that financial socialization is "more inclusive than learning to function in the marketplace," rather it is more specific to the process of "developing values, attitudes, standards, norms, knowledge, and behaviors that contribute to financial viability and well-being." Consistent references to Bandura's (1986) social learning theory (Jorgensen & Savla, 2010; Shim et al., 2009), Danes' (1994) initial financial socialization model (Jorgensen & Savla, 2010; Shim et al., 2009; Shuchardt et al., 2009; Starobin et al., 2013), and even Deacon & Firebaugh's (1981) Family Resource Management Model below in Figure 1 have offered helpful ways to understand both the sources and sequencing of learned attitudes and behaviors as they apply in the context of financial literacy. Parents or parental influences could be viewed as environmental agents shaping the student inputs, or even as an additional layer of inputs at the beginning of the sequence.

The outcomes of the models hover around improved financial behaviors and, ideally, improved viability. Sequencing seems congruent with overarching financial

literacy and well-being endeavors across institutions that have begun to address them, and in fact, over the last few years, conversations have migrated to this more comprehensive view of what "financial wellness" can mean to postsecondary institutions.

Figure 1. Deacon & Firebaugh's Family Resource Management Model (1981)



Researchers with The Ohio State University's financial wellness program contended that financial literacy programs that focus only on financial behaviors or only student debt accrued are doing a disservice to their student populations (Shaulskiy et al., 2015). Shaulskiy et al. (2015) posited that financial matters are much more complex for college students and that financial issues and academic performance are significantly more intertwined than in K-12 experiences. Robb, et al. (2009, 2011) found that students with high levels of student loan and credit card debt were indeed more likely to reduce academic course loads or drop out of school entirely. Joo, Durband, and Grable (2008) found that financial stress was also linked to less desirable academic performance. When examining the recommendations of what should be considered for inclusion in collegiate financial wellness programming, Shaulskiy et al. (2015) recommended emphasis on

seven key factors: negative impacts on academics, financial stress, family interactions, debts and loans, financial planning, financial optimism, and financial freedom. Across both 2-year and 4-year institutions, the strongest relationships manifested between negative impacts on academics and financial freedom as well as stress and financial freedom (Shalusky et al., 2015).

A financial socialization framework allows postsecondary institutions to serve as additional environmental agents that shape input knowledge, related behaviors, and eventual goal achievement – or the 'financial freedom' noted above. This is highly consistent with Chickering & Reisser's student development model. Although the various developmental vectors are not strictly ordered, the model typically begins with *Developing Competence* (reflecting financial literacy advocates' interest with knowledge) with eventual movement through a *Managing Emotions* dimension, in which students learn to control impulsive behaviors and 'act on feelings in a responsible manner,' (Evans, Forney, & Guido-DiBrito, 1998). The next developmental stage, *Moving through Autonomy to Interdependence*, alludes to the relationship of financial literacy via increased confidence and individual sustainability. Though these three vectors do not represent the entirety of Chickering's developmental process, they speak to the life skill set desired by a myriad of constituents and support the work initiated at The Ohio State University relative to financial freedom.

In repeated studies, financial independence (freedom; autonomy) is noted as a desirable and necessary postsecondary outcome for students' successful transitions to adulthood and life in general (Arnett, 2011; Danziger & Ratner, 2010; Settersten & Ray, 2010; Schwartz et al., 2011; Shim et al., 2009; Xiao et al., 2014). The missing link is

understanding which intervention method(s) is/are most effectively shaping those desired behaviors and how. Fosnacht et al. (2017) noted that there is little evidence to support efficacy of financial educational programming efforts at large. So, with the end goal of improved financial behaviors and subsequent financial independence in mind, perhaps there is a need to backtrack, examine specific interventions that are designed to affect change exclusively in financial knowledge, habits, and/or attitudes, and find what works to produce those desired results. Being exposed to educational programming choices is altogether different than learning from them for long-term sustainability.

To that end, this study proposed a structured curriculum intervention to isolate and guide meaningful change in the financial knowledge (*Competence*) that supports improved behaviors and greater possibilities for a viable, independent life during and after college. A stand-alone, full semester, critical thinking course focused on basic personal finance concepts such as the time value of money, budgeting, credit, housing alternatives, taxation, and investments served as the content delivery vehicle. Students in the chosen course were compared to those with no curriculum intervention to measure what, if any, gains were made. Whether or not the stand-alone course proved successful, the stage was set to have purposeful conversations about both curricular methods of intervention and the student service functions that could augment them. It was an effort to transition any financial literacy and well-being movement from a place of "what is being done" to "what is being done *that works*" so best practice information could be shared, closing the feedback loop among leaders to affect positive change in both the secondary and postsecondary environments.

With an entire generation of students being labeled “boomerangs,” imagine the possibilities if colleges and universities could tout their ability to train young adults toward independence and have evidence to support those claims. The long-term prospects for institutional gains in loyal alumni, eager employers, and satisfied stakeholders were and are palpable. Even as students transition to off-campus living situations within their collegiate experience, increased financial education could prove useful in reducing stress, improving academic performance, and moving students one step closer to the eventual independence they seek for their own growth and personal development.

Chapter 3

Methodology

The purpose of this study was to evaluate the influence of an intentional, course-related financial literacy intervention among a mix of underclassmen students and to, ultimately, facilitate communication regarding the value of financial education in postsecondary settings. This quasi-experimental study was designed to measure financial knowledge and to examine group differences after a variety of demographic, experiential, and instructional controls had been imposed.

Hypotheses

> H1: Participant entry-level financial socialization scores will have a positive relationship with initial (*pre-test*) financial literacy scores, after controlling for gender, ethnicity, parental SES, parental educational level, anticipated student debt level, and prior financial literacy interventions.
>
> H2: Intervention participants will have higher *post-test* financial literacy scores, and the difference in scores will be significant compared to the control group, after controlling for gender, ethnicity, parental SES, parental educational level, anticipated student debt level, prior financial literacy interventions, financial socialization influences, and pre-test performance.

The rationale for Hypothesis 1 was to get a clearer understanding of the financial knowledge with which students enter college. Primary interest rested in examining what portion of that knowledge may be attributable to modeled behaviors and intentional parental instruction, as well as secondary educational influences, over and above the Gender, Ethnicity, Parental Educational Level and related SES and Debt concerns or expectations that may more typically dominate the literature. As noted earlier, parental relationships have been named the most influential predictor of the financial knowledge with which college students enter an institution, but represent an important piece of information currently missing from the literature and conversations surrounding the

construction of meaningful curriculum interventions. Hypothesis 1 endeavored to quantify the influence of parent-driven, financial socialization and prior educational experiences, effectively understanding entry financial knowledge in a more comprehensive way for the benefit of both secondary and postsecondary leaders.

The rationale of Hypothesis 2 was to test the effectiveness or influence of the structured curriculum intervention used in this particular study. Results could inform postsecondary leaders on the effectiveness of at least one collegiate curriculum intervention, thus spurring additional conversation and positioning those leaders to advance and improve student development objectives, the first being increased *Competence* as understood within the Chickering & Reisser framework (Evans, Forney, & Guido-DiBrito, 1998).

Participants

Study participants consisted of two primary groupings of full-time students, drawn from a 4-year university in the Southeastern region of the United States. The groups were designated as intervention-specific participants and control subjects based on their course enrollment. The intervention-specific students were enrolled in a freshman-level, general education critical thinking course that focused primarily on personal finance topics, with additional coverage of related business principles. The control subjects were enrolled in a freshman-level, general education health and wellness course.

The class sections selected included a convenience sample of four Fall 2017 sections of the general education critical thinking course with cumulative enrollments of 180 students. To ensure treatment validity, all courses were taught by one instructor. Student participation reflected a 74% response rate (N= 134), 91% of whom were freshman, with the remainder being a mix of sophomores (6%) and juniors (2.2%). No

seniors, as measured by credit hours completed, participated in the study during the fall semester. The students in the critical thinking course were representative of a diverse representation of campus majors, but in various proportions. Approximately 48% of the students enrolled and participating in this study indicated an intention to declare a Business major, although the ability to formally do so remained an average of two to three semesters away at the time of participation.

The remaining participants, the control participants, were drawn from a convenience sample of two Fall 2017 sections of the general education health and wellness course with cumulative enrollments of 320 students, also taught by one instructor, albeit a different instructor than the critical thinking course. Student participation in this grouping represented a 55% response rate (N=176), and half of the class participants were freshman. The majority of those remaining were sophomores (43.2%), but both juniors (5.7%) and seniors (1.1%) were represented in proportions consistent with the instructor's expectations. The control subjects were also representative of a wide variety of intended academic majors, although notably less inclined toward Business disciplines than the intervention group.

Students enrolled in the health and wellness course that were concurrently enrolled in the critical thinking course were included in the intervention group only. An additional 6 student participants who were enrolled in the health and wellness class, but who had already completed the intervention-specific critical thinking course in the prior academic year, were removed entirely to mitigate bias in the control group.

The selection and cooperation of the health and wellness instructor- and student participants- was important for several reasons. The first being, financial literacy

programming is garnering more attention under the banner of ‘financial wellness’ as noted earlier. In fact, multiple presenters at the 2017 NASPA Symposium on Collegiate Financial Well-Being concurred that the programs with the most campus ‘traction’ are fed from either Financial Aid offices and/or through existing campus wellness programs and initiatives (workshops, seminars, and stand-alone courses) (Boaz & Flowers, 2017; Conrad, 2017; Hoynacke, Jackson, & Woodlee, 2017). From that perspective, the Health and Wellness faculty offered a potentially substantive alliance pending the results of this study. The faculty regularly cites difficulties in garnering support for supplementary instruction and workshops related to Occupational Wellness, so their interest and participation could potentially create collaborative and enduring partnerships for years to come. Secondly, students enrolled in both course/participant groups are likely to be very similar in age, college progression, and cognitive development, with limited exposure to formal instruction on either set of life skills (general health or financial wellness) being presented. Freshman students are/were required to live on campus, and the sophomores that chose to move off campus, had less than three weeks of residential ‘independence’ at the beginning of the study and less than a full semester by the end of it. Financial naiveté was therefore deemed comparable across course and class standings.

Both groups were therefore introduced to concepts designed to help them navigate a meaningful life off-campus, both in college and beyond graduation. Both content areas are housed within General Education and offer skills that posit value for all majors and are not vocation-specific, yet allow all students to apply and adapt the materials to their chosen field as desired.

Data Collection

Student participants were offered extra credit within their respective courses and were offered eligibility to receive nominal gift cards if they completed both pre-test and post-test survey rounds. The extra credit offered varied by instructor but did not exceed ten points (on a 1000 point scale for the semester), and a total of five $25 gift cards were available to qualified participants. Random number generators were used to identify winners from the list of participants, which had been previously sorted by instructor. The winners were notified by e-mail and allowed to select a local restaurant of choice. The gift cards were then purchased based on winner preferences and hand-delivered by the appropriate instructor. After matching pre-and post-test responses, identifying and classifying duplicate participants, and removing four outlier cases (based on the calculation and examination of the distribution of Financial Literacy Pre/Post-test Change Scores), the final sample included 134 critical thinking, intervention-specific participants and 176 health and wellness, control-group participants for a total sample of 310 study participants.

Instrumentation

To maximize the pre-and post-test design, several scales were used in constructing survey instruments. The pre-test consisted of two parts: a section utilizing five sub-scales of the *Financial Socialization* (Shim et al., 2009) instrument (23 Likert-style items) and the *Jump$tart Coalition College Questionnaire* of financial literacy (Mandell, 2008); 31 multiple-choice, financial knowledge items as well as select demographic items. The five sub-scales of the *Financial Socialization* instrument included Parent Financial Behaviors (five items), Parent Direct Teaching (six items),

Adopting Parental Financial Role Modeling (four items), Parental Subjective Norms (five items), and the Financial Relationship with Parents (three items) wherein participants rated their responses on a five-point scale (1= strongly disagree; 5= strongly agree) to a grouping of statements. The pre-test survey was launched in Qualtrics during the third week of September 2017. This gave each instructor the ability to begin class, administratively move beyond the free drop/add enrollment deadlines, and set the pace for their respective courses. It was also still early enough in the intervention-specific grouping to not bias the survey results on prior financial knowledge.

The post-test repeated only the 31 financial knowledge items from the *Jump$tart* instrument, similar to prior uses in sections of the general education critical thinking course for course assessment purposes. The post-test was administered during the second week of November prior to the Thanksgiving break.

Evaluating the Validity of the Financial Socialization Instrument In A Pilot Study

To assess students' entry-level perceptions of parental influence on financial behaviors, Shim et al.'s (2009) study offered several viable sub-scales. The scales selected for this study, however, only represented approximately half of the scales/constructs used in Shim et al.'s (2009) original study. In order to evaluate the psychometric properties of the abbreviated number of scales selected, I conducted a Spring 2017 pilot study.

In a pilot study conducted in connection to a graduate course, I attempted to replicate the published factor loadings and sub-scale reliability coefficients with a convenience sample of 173 participants from across four sections of the same type of general education critical thinking course surveyed in the current study. The *Financial*

Socialization sub-scales noted above include items with factor loadings ranging from .55 to .91, with only 5 of the 23 items below .70 in the original published study. The Cronbach's alpha sub-scale reliability coefficients in Shim et al.'s (2009) study ranged from .78 to .94. The factor loadings in the Spring 2017 ranged from .54 to .94, with 9 items below .70 – still reasonably similar to the original study since, of those 9, only 3 were below .60. The Spring 2017 sample participants' scores also yielded similar sub-scale reliabilities with Cronbach's alpha values ranging .80-.90. Sub-scales from both studies differed by no more than +/- α= .04 with the exception of Parental Subjective Norms, the most discrepant. Regardless, the Parental Subjective Norms sub-scale still produced a Cronbach's alpha value of .84.

Overall, the results of the Spring 2017 course participants seemed quite consistent with Shim et al.'s (2009) original findings. A preliminary CFA on the sub-scales was also conducted using AMOS. Prior to running the CFA, the data were examined for normality. No issues were noted skewness or kurtosis, with the exception of Item 1 within the Financial Relationship with Parents sub-scale, which exhibited slight leptokurtic tendencies with a value of 4.175, the remaining 22 items handily within acceptable ranges relative to the sample size. Rather than remove the questionable item outright, maximum likelihood estimation was selected to accommodate the exception to normality as well as produce more conservative parameter estimates, if the model would be found to be misspecified (Olsson et al., 1999).

As noted above, individual factor loadings were examined for item retention across the five sub-scales. All factor loadings in the model were statistically significant ($p < .01$), and because all items had standardized regression weights above .50, all 23 items

were retained. When comparing the squared inter-construct correlations with the variances extracted by each construct, there is marginal, but acceptable discriminant validity between the closely related Parent Financial Behavior and Parental Financial Role Modeling constructs. From a *nomological validity* perspective, these two constructs being highly and significantly correlated is sensible as Behavior is the manifestation of Role Modeling expectations. Table 2 outlines the variance explained by each construct and the squared inter-construct (SIC) correlations that, together with the replicated Cronbach alpha coefficients, demonstrate acceptable levels of *convergent and discriminant validity* across the five sub-scales/constructs.

The statistical summary of model fit for the *Financial Socialization* scales used was ($\chi^2(173)=366.049$; CMIN/DF = 1.664; CFI=.929; RMSEA = .062, CI.051-.073), reflecting acceptable fit with all items retained (Hair et al., 1998; Hu & Bentler, 1999). Examination of the residuals indicated areas of local misfit relative to all three items of the Financial Relationship with Parents sub-scale and item 6 on the Parent Direct Teaching sub-scale. It is recommended for future research that these items be tested with multiple samples and that the misfit be re-evaluated.

Table 2

Convergent & Discriminant Validity Evidence – Financial Socialization, Spring 2017 Participants

Sub-Scale/Construct	Cronbach's Alpha (α)	Variance Extracted	SIC
Parent Financial Behavior	.89	.624	.308, .601, .073, .051
Parent Direct Teaching	.82	.441	.308, .373, .298, .057
Parental Financial Role Modeling	.90	.719	.601, .373, .068, .081
Parental Subjective Norms	.80	.464	.073, .298, .068, .002
Financial Relationship w/Parents	.82	.615	.051, .057, .081, .002
Reliability of Combined Scales	.87		

Validity of the Jump$tart Coalition College Questionnaire

In this study, the financial literacy measurement was reduced to a single-score/indicator of financial knowledge. As such, the instrument was reviewed more from face validity and content validity perspectives. Regarding *face validity*, the items are written by a non-profit coalition of educators, economists, and financial industry experts that specialize in improving financial literacy, particularly in K-12 environments, but in collegiate settings as well. All items in the questionnaire are multiple-choice format, with four plausible answer choices, none of which allow for an "I don't know" default option. The *Jump$tart* (Mandell, 2008) questionnaire consists of proportionately more items on

savings/budgeting and credit than on investments, taxes, and insurance, but all areas are represented.

This instrument has been used for some time in the general education course sections that focus on personal finance exclusively as the context for accomplishing university critical thinking objectives. Since the Fall of 2015, both in a low-stakes (optional homework), volunteer pre-test and a higher-stakes (assigned quiz), course-graded post-test setting, students have completed the *Jump$tart* assessment. Participation results have been stellar in both rounds yielding just shy of 750 cumulative matched participants to date (approximately 93% of the 800 eligible course enrollees). Although no formal scale reliability or other psychometric findings have been published by the survey authors, the national mean score was provided within the survey document's related *Jump$tart* (Mandell, 2008) report (M= 62.2%), reflecting that college participants' answer roughly 19 of the 31 items correctly on average. The national mean that is published is a one-time score and most closely aligns with the general education critical thinking course pre-test assessments. No prior knowledge is assumed or intentionally provided.

Before selecting this instrument for the current study, however, both mean scores and scale reliabilities were examined across the convenience samples of prior, pilot study students who had completed the assessment. Since the pre-test mean across all the surveyed sections of prior testing, regardless of fall or spring semester enrollment, hovered between 18-19 items (58.1% to 61.3%) correct of the 31 included, former student participants appeared to be very similar to their national counterparts. That the pre- and post-test Cronbach's alpha reliability coefficients are well within acceptable

limits (.78-.84 pre-test; .86-.90 post-test), and the post-test means reflected improved scores to an 83.9% to 93.5% correct response rate, made this an acceptable means by which to measure intervention success and start the conversation of value-added in General Education. The reliability of the scores from this instrument in the multiple replications to date suggests consistently satisfactory *content* validation and curricular value.

Variables

Dependent

The Financial Literacy Pre-Test Total Score, based on the 31 financial knowledge items of the *Jump$tart Coalition College Questionnaire* (Mandell, 2008) served as the dependent variable in testing Hypothesis 1. In testing Hypothesis 2, the Financial Literacy Post-Test Total Score, based on a repeat of those same financial knowledge items, acted as the dependent variable.

Independent

Financial Socialization scores from the five sub-scales of Shim et al.'s (2009) instrument were included as the independent variables of interest in testing Hypothesis 1. For Hypothesis 2, the independent variable was Course Taken by the participants (1= intervention-specific, 0= control). The Course Taken, with all other influential factors and variables serving as controls (including the Financial Socialization sub-scale scores and Financial Literacy Pre-Test Total Scores noted above), were tested to determine differences in the Financial Literacy Post-Test Total Score.

Control Variables

In accordance with the *Jump$tart Coaltion's College Questionnaire* (Mandell 2008), numerous demographic items were retained for control purposes. Those variables

include: Gender, Ethnicity, Parental SES, and Parental Educational Level of Achievement (as a proxy for first-generation cohort identification). There are several studies that have examined Gender as a factor in determining financial literacy and yielded mixed results (Alessie et al., 2013; Chen & Volpe, 2002; Fonseca et al., 2012; Wagland & Taylor, 2009). It was included here for comparison to previous studies and to account for its influence rather than serve as a primary context of interest (males=1, females=0).

Ethnicity within the convenience sample was not expected to be particularly diverse, but information was gathered to compare respondents to the national *Jump$tart Coaltion's College Questionnaire* (Mandell, 2008) cohort and to examine any influences that may be represented in either pre-or post-testing contexts of the current study (1=White or Caucasian, 2=Black or African-American, 3=Hispanic-American, 4= Asian-American, 5= American Indian, Alaska Native, or Native Hawaiian, 6= Other). To achieve accurate beta estimates given the data collected, this variable was dummy-coded to compare White/Caucasian respondents (82.3%) in the sample to those of other ethnicities (17.7%) in aggregate (White = 0; Non-White = 1). Sample participants who identified in non-white ethnic groupings were 5.8% Black/African-American, 3.5% Hispanic-American, 3.9% Asian-American, 0.6% American Indian, Alaska Native, or Native Hawaiian, and 3.9% Other/Non-listed.

Lower levels of Parental SES and Parental Educational Level of Achievement have also been linked to higher levels of debt, lower levels of college attendance/persistence, and lower propensities to save money and systematically accumulate wealth (Chinen & Endo, 2012; Elliott, 2012, Lusardi et al., 2010; Malcom,

2014; Mandell & Klein, 2009). They were included in this study as controls as they may shape participants' learning environments, but may have little to do with the participants' actual capacity to learn/improve related to financial knowledge. The survey items were identical to those gathered on the national *Jump$tart Coalition College Questionnaire* (Mandell, 2008) and originally coded as follows: Parental SES (1= less than $20,000, 2= $20,000-39,999, 3= $40,000-79,999, 4= $80,000 or more, 0 = don't know) and Parental Educational Level of Achievement (1= neither parent completed high school, 2= at least one parent completed high school, 3= at least one parent completed some college, 4= at least one parent completed college/is a college graduate, 0= don't know). In both instances, most respondents were able to answer, or make an educated guess, as to Parental SES and Educational Level of Achievement. There were no responses in the sample coded "0" (i.e. "don't know") for either category. These variables were then also subsequently dummy-coded, collapsing the data into effective 'high' (> $40,000 household income/yr.; some college or more) vs. 'low' (<$40,000 household income/yr.; high school graduation or less) categories based on the frequency breakdowns that appeared to mirror each other relative to answer choice ranges (lower two tiers vs. higher two tiers). The rationale for doing so was multi-faceted. First, the answer choice intervals of SES income were discrepant, so reaching 'higher' levels of Parental SES meant only that – family income was higher. There was no consistent 'leap' between income categories. Some answer options encapsulated $20,000 brackets, others $40,000 or more. Also, similar to the Ethnicity concerns and limitations, approximately 80-90% of the sample was represented by the higher income ranges (>$40,000/year or more; 83% of sample participants) and higher levels of parental educational achievement (some college

or college completion+; 92% of sample participants), and exhibited disproportionate, small numbers among the lower income brackets that would be most useful in identifying single parent/single income households and/or first-generational student status for which the educational attainment variable, specifically, was intended to be a proxy.

Additional control variables included elements of a student-specific financial profile: Expected Undergraduate Student Debt (0=nothing, 1=less than $5,000, 2= $5,000-9,999, 3= $10,000-19,999, 4= $20,000-29,999, 5= $30,000-49,999, 6= $50,000 or more), Prior High School Personal Finance Instruction (1= yes, 0= no), and Prior College Personal Finance Instruction (1=yes, 0=no). The Expected Undergraduate Student Debt variable exhibited some of the same frequency concerns noted above relative to Parental SES and Parent Educational Attainment. Given that the national average student indebtedness is estimated to be $30,000, "high" debt levels were defined to include the answer choices that most closely approximated and/or exceeded this dollar amount. This variable was then also dummy-coded into said 'high' ($20,000 or more; 29% of sample participants) and 'low' (<$20,000; 71% of sample participants) categories for more meaningful interpretations given disproportionate groupings.

The original sample of 320 participants was reduced to remove six participants in the control group who had already taken the intervention-specific course, in a prior academic year, as well as the four participants noted earlier who, upon examination of calculated pre/post-test Financial Literacy Change Scores represented outliers with change of +/- 15 points. The dramatic change, on either end of the testing process, was considered more indicative of respondent carelessness and/or disinterest than meaningful change in either direction. The resulting sample of 310 was further reduced to N=273

when cases with missing data were deleted listwise in the course of the regression analyses. A case to variables ratio of 22:1 was maintained in the testing of hypothesis 1, and a case to variables ratio of 19:1 was maintained in the testing of hypothesis 2, despite the sample size reduction.

Table 3

Summary Statistics for Demographic and Financial Profile Variables

Course Taken		Gender	Ethnicity	Parent SES	Highest Parent Education	Expected Debt	High School Finance Coursework	College Finance Coursework
Control	Mean	.25	1.46	3.62	3.72	2.77	.89	.44
	Median	.00	1.00	4.00	4.00	3.00	1.00	.00
	SD	.43	1.21	.67	.62	2.49	.31	.50
	N	176	176	149	176	176	176	176
	Range	1	5	3	3	7	1	1
Intervention	Mean	.49	1.47	3.65	3.67	2.34	.96	.69
	Median	.00	1.00	4.00	4.00	1.00	1.00	1.00
	SD	.50	1.16	.64	.70	2.60	.19	.46
	N	134	134	125	134	134	134	133
	Range	1	5	3	3	7	1	1
Total	Mean	.35	1.46	3.64	3.70	2.58	.92	.55
	Median	.00	1.00	4.00	4.00	1.00	1.00	1.00
	SD	.48	1.19	.66	.66	2.55	.27	.50
	N	310	310	274	310	310	310	309
	Range	1	5	3	3	7	1	1

Table 4

Summary Frequencies for Demographic and Financial Profile Variables

Variable	Grouping	Intervention (%)	Control (%)	Overall (%)	*N*
Gender					310
	Female	51.5	75.0	64.8	
	Male	48.5	25.0	35.2	
Ethnicity					310
	White/Caucasian	81.3	83.0	82.3	
	Black/African-American	6.0	5.7	5.8	
	Hispanic American	3.7	3.4	3.5	
	Asian American	5.2	2.8	3.9	
	American Indian/Native of Alaska or Hawaii	0.7	0.6	0.6	
	Other	3.0	4.5	3.9	
Parent SES					274
	Less than $20,000	1.5	1.7	1.6	
	$20,000-39,999	3.7	4.0	3.9	
	$40,000-79,999	20.9	18.8	19.7	
	$80,000+	67.2	60.2	63.2	
	Missing	6.7	15.3	11.6	
Highest Parent Education					310
	Did not complete High School	3.0	0.6	1.6	
	Completed High School	4.5	7.4	6.1	
	Some College	14.9	11.4	12.9	
	College Graduate+	77.6	80.7	79.4	
Expected Debt					310
	$0/None	44.8	30.7	36.8	
	Less than $5,000	11.2	16.5	14.2	
	$5,000-9,999	7.5	6.8	7.1	
	$10,000-19,999	9.0	15.3	12.6	
	$20,000-29,999	11.2	12.5	11.9	
	$30,000-49,999	6.7	10.8	9.0	
	$50,000+	9.7	7.4	8.4	
High School Finance Coursework					310
	Yes	96.3	89.2	92.3	
	No	3.7	10.8	7.7	
College Finance Coursework					309
	Yes	68.7	44.3	54.8	
	No	30.6	55.7	44.8	

Analysis

Two separate hierarchical regression analyses were performed to test the two hypotheses noted earlier. To test Hypothesis 1, I entered the variables in the following sequential models to estimate the effects of various demographic characteristics and environmental factors that could contribute to explained variance in the Financial Literacy Pre-Test Total Scores. Model 1 encompassed the demographic variables of interest and included Gender, Ethnicity, Parent SES, and Parent Educational Attainment. Model 2 estimated the effects of various student financial profile variables and included the contributions of Expected Undergraduate Student Debt, Prior Coursework – High School, and Prior Coursework-College over and above the demographic variables of Model 1. Model 3 isolated and estimated the effects of prior, parental Financial Socialization on Financial Literacy Pre-Test Total Scores, over and above both prior models inclusive of demographic variables and student financial profile variables.

In testing Hypothesis 2, I first estimated a mixed ANOVA on the participants' Financial Literacy Pre-Test and Post-Test Scores by Course Taken to examine mean differences in the intervention and control groups in an uncontrolled analysis. I then performed the second hierarchical regression analysis, entering variables in similarly sequential (nested) models to estimate the effects of the same demographic, environmental, and socialization factors' that could contribute to explained variance, in this case, to the Financial Literacy Post-Test Total Scores exclusively. Model 1 encompassed the demographic variables of interest and again included Gender, Ethnicity, Parent SES, and Parent Educational Attainment. Model 2 estimated the effects of student financial profile variables and again included Expected Undergraduate Student Debt,

Prior Coursework – High School, and Prior Coursework-College over and above the demographic variables of interest. Model 3 estimated the effects of prior, Parental Financial Socialization beyond that accounted for by the demographic and student financial profile variables of note in Models 1 and 2. Models 4 through 6 then incrementally added one new variable each. Model 4 examined demonstrated knowledge based on the Financial Literacy Pre-Test Total Scores, Model 5 then added Course Taken, and Model 6 examined the interaction of (centered) Pre-Test Scores by Course Taken - all models estimating effects beyond the contributions of demographic, student financial profile, and parent financial socialization factors. Course Taken (intervention or control) served as the independent variable in this context.

Limitations

A few concerns were noted in this process. The sample of participants used in this study was a convenience sample. Therefore, the results of the study may not be easily generalizable across or among institutions that serve, particularly, more ethnically or economically diverse student populations. The aggregated grouping of all non-White ethnicities, while not ideal, was utilized to detect *any* differences on the dependent variables that may have otherwise been indiscernible given the disproportionate size of the individual ethnic groupings compared to White/Caucasian participants. Stage and Wells (2014) noted that this challenge of capturing data relative to ethnic subgroups is not new to higher education research. They advocated for quantitative frameworks that intentionally distinguish between ethnic subgroups, such that the very individuals who may benefit the most from programmatic and policy changes have a greater chance of inclusion and a lower likelihood of neglect or marginalization. The attempt here, in the

convenience sample, was to determine if Ethnicity was a consistent predictor at all in either Pre- or Post-Test outcomes. If so, it would beg acknowledgement and ultimately alter the design of any follow-up study to widen the reach, deepen and diversify the participant pool, and attempt to uncover within which groups the more substantive discrepancies rest.

Similar concerns, noted earlier, existed within Parental SES and Parental Educational Attainment variables as well. A propensity score matching technique was considered to balance the samples in developmental terms (freshman vs. sophomores), SES, and perhaps even Pre-Test Scores. However, given the compromise to sample size that would result (primarily based on Gender in the intervention grouping), the decision was made to move forward with the full original sample in a hierarchical regression analysis instead.

Also, there were and are a very limited number of instruments with which to measure financial literacy that are nationally recognized and/or not written to be institution-specific. Although more, or open-ended, answer choices might be more ideal in terms of limiting participant guessing, the *Jump$tart Coalition College Questionnaire* (Mandell, 2008) instrument was/is still preferable over the existing selection of knowledge-based options that consist of primarily true/false items and/or questions with less than four answer choices – from both a format and depth of content perspective.

In summary, the current study offered a simplified starting point in framing and evaluating financial literacy curriculum interventions. By beginning the conversation with college student entry-level financial knowledge, and encompassing an understanding of the influences that shape it, postsecondary leaders will be in a much more desirable

position to affect developmental change and articulate that change back to the constituencies that both expect and value it.

Chapter 4

Results

Hypothesis 1

An ordinary least squares, hierarchical regression analysis was performed to evaluate the relationship of Parental Financial Socialization scores to the dependent variable of Financial Literacy Pre-Test Scores, controlling for the influence of demographic variables (Gender, Ethnicity, Parental SES, and Parental Educational Attainment) and other independent variables that provide insight into student participants' financial profiles (Expected Undergraduate Student Debt, Prior High School Personal Finance coursework, and Prior Collegiate Personal Finance coursework).

The variables entered in the model were examined for normality and no issues were noted relative to either the variable distributions or the plotted residuals. Multicollinearity issues were also reviewed and found within acceptable ranges. Individual variable Tolerance values ranged from .51 to .99, and VIF values ranged from 1.01 to 1.98.

Appendix A displays the correlations between the variables predicting Financial Literacy Pre-Test Scores, and Table 5 outlines the model summary R^2, R^2 change, adjusted R^2, and F-test significance for each subsequent block of variables added.

Table 5

Hierarchical Regression Model Summary for Predicting Financial Literacy Pre-Test Scores

Model	*R*	R^2	Adjusted R^2	R^2 Change	*F*	*p*-value
1	.252	.063	.049	.063	4.541	.001***
2	.269	.072	.048	.009	2.956	.005**
3	.387	.150	.111	.078	3.822	.001***

N=273, **p =.01; ***p < .001.

Table 6 highlights the standardized regression coefficients (β), and the standard error per variable for each subsequent model tested. Additional regression results that include the intercept and unstandardized regression coefficients (*b*), the 95% confidence interval for β, and the calculated semi-partial correlations (sr^2) for significant variables for each model are located in Appendix B.

Table 6

Parameter Estimates for Financial Literacy Pre-Score Prediction Hierarchical Models

		Undergraduate Sample *N*= 273		
		Model		
Construct	Variable	1 Beta *(SE)*	2 Beta *(SE)*	3 Beta *(SE)*
Demographic	Gender	.00 (.56)	-.01 (.57)	.01 (.56)
	Ethnicity	-.25*** (.74)	-.25*** (.74)	-.29*** (.73)
	Parent SES	-.07 (1.18)	-.07 (1.19)	-.05 (1.20)
	Parent Educational Attainment	.04 (1.05)	.03 (1.06)	-.01 (1.04)
Student Financial Profile	Expected Debt		-.09 (.11)	-.09 (.11)
	High School Finance Coursework		.00 (1.14)	.04 (1.12)
	College Finance Coursework		.02 (.56)	.00 (.55)
Parent Financial Socialization	Parent Financial Behavior			.00 (.10)
	Parent Direct Teaching			-.15* (.07)
	Parent Financial Role Modeling			-.09 (.11)
	Parent Subjective Norms			.19** (.07)
	Financial Relationship With Parents			-.17* (.12)

*$p < .05$; **$p < .01$;***$p < .001$.

R was significantly different from zero in each model progression, but after the five Parental Financial Socialization independent variables were entered in Model 3, R^2 = .15, $F(12, 260) = 3.82$, $p<.001$. Ethnicity remained the only consistently statistically significant contribution in the first two models, indicating that minority, non-White participants had lower financial literacy pre-test scores than White participants, and the differences in scores were statistically significant. The differences persisted as the Parental Financial Socialization variables were added to the regression equation. The adjusted R^2 value of .11 in the final model indicates that, conservatively, at least 11% of variance in Financial Literacy Pre-Test Scores is predicted by the combination of demographic, student financial profile, and parental financial socialization factors. In examining Model 3, specifically, the addition of Parental Financial Socialization increased the explained variance by 7.8%, over and above the demographic and student financial profile variables, in the outcome of Financial Literacy Pre-Test Scores. The effect sizes are medium in magnitude (Hemphill, 2003), but both Ethnicity and select Parental Financial Socialization factors (Direct Teaching, Parental Subjective Norms, and Financial Relationships with Parents) have a statistically significant effect. The relationship of Parental Financial Socialization factors on Pre-Test Scores was not a uniformly positive one, however.

Higher levels of Direct Teaching, Financial Role Modeling, and better Financial Relationships with Parents were associated with per unit of change decreases in student participant Financial Literacy Pre-Test Scores. Parent Financial Behaviors had no effect on Pre-Test scores, so the lone Parental Financial Socialization variable that produced a

positive per unit change in financial knowledge was that of Parental Subjective Norms – or parental *expectations* that students learn to manage their financial affairs.

Hypothesis 2

A 2x2 mixed ANOVA was performed prior to the second hierarchical regression analysis to evaluate mean differences on both financial literacy pre-and post-test scores by course taken (intervention-specific or control) in an *uncontrolled* analysis.

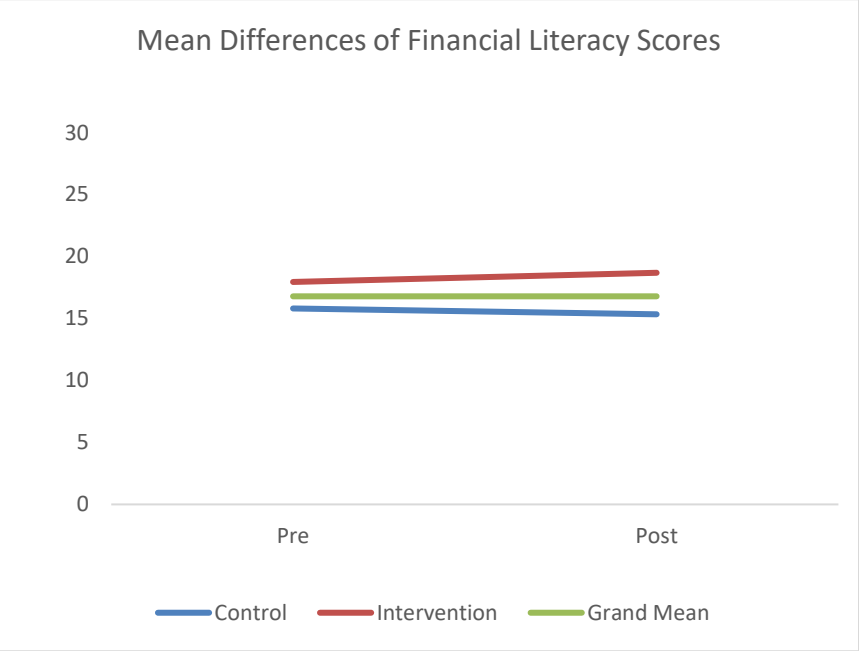


Figure 2. Mean differences in financial literacy scores by course taken.

The mean scores between the intervention and control groups differed in that the mean for the intervention group increased slightly from Pre-Test to Post-Test (*M* =17.95 to *M*=18.69), while the mean for the control group decreased slightly from Pre-Test to Post-Test (*M*=15.81 to *M*=15.34), see Figure 2 above. The interaction of Financial Literacy Mean Scores by Course Taken was statistically significant between groups, $F(1,308) = 27.670$, $p<.05$. The partial eta squared value, .082, reflected a medium effect

size. However, upon review of the simple effect contrasts, the differences between groups were significant in both the Pre-Test analysis as well. In the Pre-Test ($F(1,308) = 17.04$, $p<.001$), the partial eta squared of .05 reflected a small effect size, but the significance of the Pre-Test differences between groups suggested a degree, or at least the possibility, of selection bias in the Course Taken. As noted earlier, a larger portion of the intervention participants did indicate a greater inclination toward declaring Business-related majors. As such, a control was added in the next part of the analysis to examine what, if any, impact or significance the interaction of Pre-Test Score by Course Taken had in predicting Post-Test outcomes, wherein larger differences were both expected and desired.

To examine these group differences in a *controlled* analysis, and account for how much variance in the dependent variable, Financial Literacy Post-Test Scores, could be explained by the Course Taken, a second, hierarchical regression was performed, this time controlling for the influence of demographic variables (Gender, Ethnicity, Parental SES, and Parental Educational Attainment), student participants' financial profiles (Expected Undergraduate Student Debt, Prior High School Personal Finance coursework, and Prior Collegiate Personal Finance coursework), Parental Financial Socialization, and Financial Literacy Pre-Test Score performance.

Models 1 and 2 replicated the progression of variables used in predicting Financial Literacy Pre-Test Scores, wherein the demographic variables of interest were entered exclusively in Model 1. The student participants' financial profile variables were then added in Model 2. Parental Financial Socialization variables were once again entered in Model 3. Models 4 through 6 included one additional variable each, Financial

Literacy Pre-Test Scores, Course Taken, and the interaction term of Financial Literacy Pre-Test Scores by Course Taken, respectively.

The variables entered in the model were examined for normality and no issues were noted relative to either the variable distributions or the plotted residuals. Multicollinearity issues were also reviewed and found within acceptable ranges. Individual variable Tolerance values ranged from .50 to .93, and VIF values ranged from 1.08 to 1.99.

Appendix C displays the correlations between the variables predicting Financial Literacy Post-Test Scores, and Table 7 outlines the new model summary R^2, R^2 change, adjusted R^2, and F-test significance for each subsequent block of variables added.

Table 7

Hierarchical Regression Model Summary for Predicting Financial Literacy Post-Test Scores

Model	*R*	R^2	Adjusted R^2	R^2 Change	F	*p*-value
1	.164	.027	.012	.027	1.855	.12
2	.222	.049	.024	.022	1.964	.06
3	.410	.168	.129	.118	4.365	<.001***
4	.712	.507	.482	.339	20.503	<.001***
5	.727	.528	.503	.021	20.639	<.001***
6	.727	.528	.501	.000	19.194	<.001***

N=273, ***$p < .001$.

R was significantly different from zero in each model progression, 3 through 6, the final model reflecting $R^2 = .528$, $F(15, 257) = 19.194$, $p<.001$. However, the interaction term in Model 6, Financial Literacy Pre-Test Scores by Course Taken, was not individually statistically significant and yielded no additional variance explained in the outcome of Financial Literacy Post-Test Scores over and above that explained in Model 5, $R^2 = .528$, $F(14, 258) = 20.639$, $p<.001$, suggesting that the relationship between pre-test and post-test scores were the same for each course (no interaction).

Table 8

Parameter Estimates for Financial Literacy Post-Score Prediction Hierarchical Models

		Undergraduate Sample *N*=273					
		Model					
Construct	Variable	1 Beta (*SE*)	2 Beta (*SE*)	3 Beta (*SE*)	4 Beta (*SE*)	5 Beta (*SE*)	6 Beta (*SE*)
Demographic	Gender	.02 (.72)	.00 (.73)	.02 (.70)	.01 (.54)	-.02 (.54)	-.02 (.54)
	Ethnicity	-.13* (.94)	-.15* (.94)	-.19** (.90)	.00 (.72)	-.02 (.71)	-.02 (.71)
	Parent SES	-.06 (1.52)	-.07 (1.52)	-.05 (1.50)	-.02 (1.16)	-.02 (1.13)	-.02 (1.14)
	Parent Educational Attainment	.09 (1.35)	.09 (1.34)	.04 (1.29)	.04 (1.00)	.04 (.98)	.04 (.98)
Student Financial Profile	Expected Debt		-.02 (.14)	-.02 (.13)	.04 (.10)	.05 (.10)	.05 (.10)
	High School Finance Coursework		.01 (1.45)	.05 (1.40)	.03 (1.10)	.02 (1.06)	.02 (1.06)
	College Finance Coursework		.15* (.71)	.13 (.68)	.12** (.52)	.09* (.52)	.09* (.53)
Parent Financial Socialization	Parent Financial Behavior			-.01 (.12)	-.02 (.10)	-.03 (.09)	-.03 (.09)
	Parent Direct Teaching			-.11 (.09)	-.02 (.07)	-.01 (.07)	-.01 (.07)
	Parent Financial Role Modeling			-.14 (.14)	-.08 (.11)	-.08 (.11)	-.09 (.11)
	Parent Subjective Norms			.21*** (.09)	.10* (.07)	.11* (.07)	.11* (.07)
	Financial Relationship with Parents			-.25*** (.15)	-.14** (.12)	-.14** (.11)	-.14** (.11)
Entry-level Financial Literacy	Financial Literacy Pre-Score				.63*** (.06)	.60*** (.06)	.61*** (.08)
Curriculum Intervention	Course Taken					.16** (.54)	.16*** (.55)
	Financial Literacy Pre-Score * Course Taken						-.01 (.12)

*$p < .05$; **$p < .01$;***$p \leq .001$.

Table 8 highlights the standardized regression coefficients (β), and the standard error per variable for each subsequent model tested. Additional regression results that include the intercept and unstandardized regression coefficients (*b*), the 95% confidence interval for β, and the calculated semi-partial correlations (sr^2) for significant variables for each model are located in Appendices D through F.

Ethnicity remained a statistically significant contribution in Model 3, but in Model 4 when Financial Literacy Pre-Test Score performance was added as a control, it ceased to be a significant factor from that point forward in the prediction of Financial Literacy Post-Test Scores. Prior Collegiate Personal Finance Coursework, however, emerged in the new models as a significant factor in predicting Financial Literacy Post-Test Scores. Such prior coursework could have included a college-level, stand-alone, semester-long Personal Finance course, a freshman orientation seminar on money management, or a more formal/concurrent Economics, Finance, or Accounting course. Based on student participants' self-reports, prior collegiate coursework represented additional personal finance content exposure, from a variety of venues, separate from the intervention or control-specific course enrollment.

In the final models, higher (better) Financial Relationships with Parents still produced a per unit of change decrease in student participants' Financial Literacy Post-Test Scores, but Parental Subjective Norms also still produced a per unit increase in the same. The inclusion of Financial Literacy Pre-Test Scores as a control variable produced the most sizeable change in R^2. However, the addition of Course Taken still increased the explained variance in Financial Literacy Post-Test Scores by approximately 2% over and above that, and the change was significant.

Chapter 5

Discussion and Implications

Discussion

In the prediction of both Financial Literacy Pre-Test and Post-Test Scores, it was evident that different ethnic cohorts performed differently on the financial literacy assessments. Non-White/Causcasian participants had lower scores on the Pre-Test on average, and those differences were statistically significant - even as Parent Financial Socialization factors were added to the model. These differences persisted through the early models predicting Post-Test Scores as well.

Because Ethnicity was a statistically significant contributor to the prediction of Pre-Test Scores, it was not surprising that, as Pre-Test Scores were added as a control in predicting Post-Test Scores, Ethnicity concerns appeared to dissipate or become noticeably less pronounced. However, it is more likely that the contribution of Ethnicity to variance explained in Post-Test Scores was encapsulated or duly accounted for within the Pre-Test Scores, and that Ethnicity should remain a variable of interest for future studies. Addressing Ethnicity concerns would be particularly valuable among larger and more diverse populations wherein different cultural groupings can be more effectively disaggregated. Perhaps a comparable study at an urban, state-funded institution with lower concentrations of Caucasians, and more African-American, Native American, Hispanic, and /or Asian students would be insightful. These additional ethnic groupings are routinely small and relatively underrepresented populations at the sampling institution, so it would be helpful to partner with another institution wherein these diverse students both apply and attend in larger proportions.

Although not individually statistically significant, it is also interesting to note the relationship of numerous other Demographic and Expected Debt Profile variables on the prediction of Pre-Test and Post-Test Scores. For instance, in considering Gender, females had slightly lower Pre-Test scores on average, but then exhibited slightly higher Post-Test scores. In both scenarios, the differences in scores were very small, which is encouraging. That there are not huge, perceptible gaps is a gain for programmers and policymakers looking to structure common experiences with cost-effective deliveries. Fewer Gender differences permit the Ethnicity and cultural sensitivity concerns to remain a larger priority in program and intervention design.

Another point of interest in both the Pre-Test and Post-Test analyses, was the influence of Parental SES. In this study, the participants from higher Parental SES environments had lower financial literacy scores on average in both rounds. This was somewhat surprising until an additional, open-ended journaling assignment among the intervention group yielded anecdotal insights. It was very common for students from self-acknowledged, higher Parental SES households to comment how exceptional their parents had been relative to money management (living a comfortable lifestyle, sending the student to college relatively debt free, never giving an appearance of struggling with money, etc.) because they (the parents) never talked about money or caused the student stress around money issues. Students were equating a lack of conversation about money with a superior skill set in managing the same. When responding to an optional prompt of "What are you most confident about related to money?," an overwhelming number of participants acknowledged the need to save. Unfortunately, many also followed up their statements with thoughts akin to "I know I need to save, but I have no idea how to do

that." It's plausible in higher Parental SES households that money is genuinely less of a short and/or long-term concern, and, therefore, delayed conversations about it are deemed appropriate. Perhaps there is a larger safety net to buffer mistakes or bad choices. In either case, it was interesting to note the difference in tone among students from self-identified, lower Parental SES households. Those participants commented on the burdens of financing the entirety of their education with student loans, working more hours during the school year as well as in summer months, and providing for family members at home so similar opportunities might be available to any number of siblings behind them in the educational pipeline. Intuitively, one would expect that access to -and more opportunities around- managing money would produce per unit increases in financial literacy scores. However, in this study, the gains in financial literacy scores appeared to be more easily associated with the participants whose awareness of money (or the lack thereof) had already influenced household conversations before and during the early collegiate experience.

Similar to Parental SES, higher levels of Parental Educational Attainment produced lower financial literacy scores on average in at least the Pre-Test analysis. The differences in participant scores were less pronounced than with the Parental SES factor in that round, but they still existed. Only in the Post-Test round did Parental Educational Attainment produce per unit increases in financial literacy scores on average, the advantage resting with participants whose parents had at least some college experience. It is possible that as participants navigated their own collegiate experiences, they found valuable common ground and reference points in their parents' experiences as well. The concern from this point forward would be in prioritizing the connection of students from

lower SES households, specifically first-generation students, with campus mentors or counselors. Those, or similar, reference points may help bridge the gap in communications that propelled higher SES students to higher levels of performance on average.

An additional, Pre-Test to Post-Test turnaround included the pattern of change in financial literacy scores related to Expected Debt. Initially, in the Pre-Test analysis, participants with higher levels of Expected Debt had lower scores on average than participants with lower debt expectations. This was concerning, as higher levels of educational debt would eventually warrant an increased degree of savvy in personal financial management. Although the negative effect of higher debt expectations on financial literacy scores was relatively small, by the Post-Test round, the difference was moving in a proportionately small but positive direction, yielding higher financial literacy scores on average for those facing higher educational debt levels.

The emergence of High School Finance Coursework as a predictor of per unit of change increases in both Pre-Test and Post-Test scores provides an interesting point of conversation in closing some of the secondary to postsecondary communication gaps. Although, not statistically significant in either analysis, exposure to personal finance topics in high school had a moderate, but positive impact on sustainable competency into the collegiate experience. It perhaps loses (or lost) some impact in the timing of the high school intervention, however. Anecdotal, in-class comments from the intervention participants suggest that the high school finance coursework is typically offered in freshman and sophomore experiences, so a reasonable amount of time has passed before college admission and attendance. The immediacy effects of the high school intervention,

therefore, get somewhat muted, but still appear to benefit those who had an intervention over those who did not.

The statistical significance and almost three-fold per unit of change increase in, specifically, Post-Test Scores attributable to College Finance Coursework is even more encouraging for postsecondary leaders. It essentially denotes student financial literacy benefits from repetition. So, whether the repetition takes the shape of an Economics class or a Student Services-sponsored event- or something in between- *some* exposure is significantly better than *none*. Options and offerings abound- and could certainly vary widely depending on institutional budgetary support. However, for-credit, finance-oriented courses, budgeting/off-campus living themed workshops, and professional development series focused on understanding employer benefit packages would be developmentally appropriate and could certainly begin to lay the foundation for creating a campus culture wherein financial competency and wellness are a more visible priority.

Further exploration of the Parental Financial Socialization factors yielded some unexpected results related to the prediction of Pre-Test and Post-Test Scores, as not all components proved individually statistically significant. Overall, the addition of Parent Financial Socialization into the models predicting both Pre-Test and Post-Test Scores improved the variance explained in the respective scores being tested. However, three variables (Parental Direct Teaching, Parental Financial Role Modeling, and Financial Relationship with Parents) produced per unit decreases in Financial Literacy in both scenarios. Plausibly, students lack experience in managing financial matters, and what they have seen modeled has not been fully tested in their own decision-making process. Perhaps the frequency of conversations and lessons have not been perceived as a

welcome approach to learning financial principles, or the students' relationships with their parents reflect a sense of security that, even if they do fail, there remains a source or solution to get them back on track.

What did produce per unit of change increases in both Pre-Test and Post-Test Scores was the element of Parent Subjective Norms (or parent expectations). So, perhaps it is not enough to simply show students the mechanics of what to do. It may be more impactful to communicate that they can- and will- have to manage finances for themselves, and the expectation of those they value is that they will do it well.

The most encouraging component in this study, Course Taken, intentionally added late in the model predicting Post-Test scores, also produced a statistically significant gain in financial literacy scores for intervention participants. That effect, above and beyond the demographic, debt profile, prior parental financial socialization, and pre-test score performance represents an appreciable gain in the communication of intervention efficacy. By comparing the Health and Wellness participants (control group) with the Critical Thinking personal finance-driven participants (intervention group), it's clear that course content matters. It is one thing to talk about wellness in generalities and another altogether to deepen content knowledge in one aspect of that wellness. The depth of the coursework produced different and better results in the intervention group.

Combined with the insights gleaned from other model variables, it is increasingly clear that postsecondary efforts should be mindful of several considerations. First, intervention designs should be culturally sensitive and inclusive. Whether driven by ethnic diversity (neglected or marginalized populations) or economic diversity (Parent SES, higher levels/concerns of Expected Debt), those markers are potentially significant

predictors of programmatic needs. Additionally, although postsecondary leaders cannot control the secondary learning environments from which their students originate, they can provide feedback on the inclusion – and perhaps timing recommendations- of high school intervention coursework. More importantly, postsecondary leaders can intentionally promote collaborative campus relations that offer a variety of intervention opportunities in both student services and academic contexts. Specifically, offering a for-credit academic course as one of those options augments learning and increases financial competency in such a way that could have discernable, immediate impact as students test their independence on and off campus.

Implications for Practice

Now that there is preliminary evidence from this study to support the inclusion and efficacy of a stand-alone, for-credit course, there is now perhaps room to speculate on *why* this particular intervention course was modestly successful. First, this course has been framed as a *critical thinking course* for the entirety of the ten years in which financial literacy themes have been incorporated. As mentioned earlier in Chapter 2, the personal finance topics have been presented as the content anchor, mindful of the broader purpose and appeal of critical thinking learning objectives. Though this course, specifically, is not mandatory of every student, it is one of only six critical thinking offerings on campus. All students must choose *a* critical thinking course, and as a result of availability, this one services approximately 1,200 students per year. At least a third of those 1,200 students opt into the personal finance-themed sections of the course.

Several studies to date have suggested that critical thinking courses such as the intervention course here are an optimal choice for financial literacy and wellness

initiatives. Arling, Kirby, & Saajasto (2015) noted that students' prior coursework helped determine their general financial knowledge as they entered the workforce. Unfortunately, when transitioning into the their chosen careers post-college, new and younger employees had shockingly low participation rates in company-sponsored savings plans such as 401(k) options. In fact, almost one quarter of eligible employees- of all ages- failed to enroll at all, and those who did enroll tended to contribute at rates half or one-third the recommended level for financially secure futures (American Benefits Council, 2013; Clark, 2013; Munnell, 2012). Arling, Kirby, & Saajasto (2015) found that students from all majors benefitted from business-related coursework wherein they could develop critical thinking skills in a practical context. Where financial principles and data were consistently and frequently employed, students reported being more inclined to increase their retirement savings rates and support their future financial well-being. The authors echoed sentiments of Bernheim and Garrett (2003) and Willis (2011) that the coursework must have an on-going component, however (Arling, Kirby, & Saajasto, 2015). One-time classes and workshops/seminars may impact knowledge, but to meaningfully impact behavior requires intentional, extensive reinforcement –up to and including mandatory participation (Willis, 2011).

Sherraden et al. (2017) noted similar value in blending critical thinking skills, financial education, and applied contexts. The group's study served as a follow-up to a 2012 implementation of financial education components nested within social work training programs. Overall, they found social work students receptive to financial training as it directly enhanced their abilities to counsel at-risk families facing harsh realities of predatory lending practices, un/underemployment, and income inequality. The *students*

had actually sought to make the coursework mandatory (Sherraden et al., 2007). It gave them a practical context to improve their own skills and behaviors and, in turn, more effectively assist their clients. The social work faculty were supportive of the curriculum modifications as the inclusion of financial education produced gains in student confidence and knowledge as well as improvements in financial behaviors. The additional training provided an opportunity for students to reflect on their own financial experiences and challenges and approach their clients more empathetically than if the content been optional or omitted.

Second, this course – and particularly this study – was structured to be a *collaborative effort*. The control participants were specifically chosen to make the connections between critical thinking/financial education and campus wellness more transparent. Promoting a message or call-to-action in an isolated course is not a sustainable model, even if the for-credit course provides a higher-stakes environment than, for example, a more generalized workshop. By combining forces with another academic unit, particularly one with an established calendar of wellness-minded extracurricular programming, the financial wellness conversation can move forward in terms of both competency and campus norms. Healthy practices need encouragement, consistency, and reinforcement.

Chan and colleagues (2012) concur. In their study of college students, over 20% of participants cited financial concerns negatively affecting academic work. Students had a higher tendency to drop out when academic and financial pressures combined or collided. So, when financial education and wellness are unaddressed, or over-estimated, the results can be counterproductive to student development. Chan, Chau, & Chan (2012)

asserted that campus programs must focus on improving both financial knowledge *and* healthy practices, but more importantly, attract a wide audience and become ingrained in campus culture.

A few examples of nationally-known collaborative efforts, striving to strike that campus cultural cord, would include those promoted by Indiana University, the Kentucky Council on Postsecondary Education (for state institutions), and the Kentucky Community and Technical College System (KCTCS); Kentucky Council on Postsecondary Education, 2018; Hoynacke, Jackson, & Woodlee, 2017). Additionally, numerous Texas institutions (Texas A & M, University of North Texas (UNT), and Sam Houston State University, specifically) have also experienced momentum in their financial wellness endeavors (Goebel & House, 2018; Klepfer & Kilmer, 2018; Vienne & Goebel, 2018; Woodlee, 2018).

Indiana University launched the MoneySmarts program in 2012 and is considered a pioneer and innovator in addressing financial wellness among undergraduate student populations. Their financial wellness activities, resources, and program implementation efforts are centralized, and they offer a wealth of online educational options as well as in-person contact points via student peer mentors and full-time counselors. Their website offers cost calculators as a initial point of entry/inquiry, but augments the educational value with a vast library of topic-specific webinars and promotion of academic courses ranging from 1- 3-credit hours (MoneySmarts, 2018).

In Kentucky, student financial wellness has followed suit to support a litany of student, workforce, and economic development objectives. It is, however, a state-level (versus an institutional-specific) strategic priority to promote the long-term well-being of

graduates as they transition into both careers and the establishment of their own families. Beyond the publication of net price calculators, and like Indiana University, Kentucky state colleges and universities are taking steps to improve financial wellness by having multiple, on-going conversations about understanding the cost of college, what responsible borrowing behaviors look like, how to meet degree requirements and graduation objectives on time, and how to transition from campus life to the workplace. At the University of Kentucky (UK), there is a designated MoneyCats team wherein student ambassadors serve in peer counseling and coaching roles, and those efforts are augmented by faculty and staff that provide training, offer organized workshops and classroom presentations, engage in in-depth counseling activities, and design and implement additional student programs. The University of Kentucky and Western Kentucky University have central hubs through which they promote these activities – Financial Wellness Centers that regularly collaborate and partner with Financial Aid, Counseling, and Student Affairs offices. The University of Louisville partnered with external provider, SALT, to accomplish similar tasks, and Northern Kentucky University created a financial wellness program within what is known as the University Connect and Persist initiative. Within the Kentucky community college system, there is a movement afoot to mandate a first-year experience course. In the course, financial wellness topics would be standardized and supplement individual counseling and presentation options already available. Currently, the course is optional on some campuses and/or offered only to students with identified developmental needs on others. In all instances, however, Kentucky students can get - or are getting- access to information, in new and creative ways that help them navigate and align their academic and financial lives. It’s early in the

developmental stages of all the programs, but the methods are yielding progress in student reach and communicating the importance of regular conversations on financial topics (Kentucky Council on Postsecondary Education, 2018; Hoynacke, Jackson & Woodlee, 2017).

Similar to the Indiana and Kentucky experiences, a number of colleges and universities in Texas are improving financial wellness via centralized operations as well. Texas A& M has a MoneyEducation (ME) center, and both Sam Houston State and The University of North Texas operate Student Money Management Centers as either a part of student health services or as a more direct extension of Student Affairs. They strive to improve campus exposure to financial wellness topics, offer counseling and presentation services, provide independent learning opportunities via online educational tools, and move students toward greater confidence and financial empowerment. Presenters from Texas A & M specifically noted improved retention and graduation rates as a direct result of these efforts in a recent HEFWA conference. (Klepfer & Kilmer, 2018)

The collaborative examples are numerous. However, the efforts with the most momentum and campus culture ‘presence’ have several identifiable markers for aspiring programs: (1) *centralized offices* that provide both in-house consulting and the coordination of resources across varied campus offices and services. Having a hub of activity appears critical in whether or not the efforts are physically seen by the students who could benefit most from them. (2) Those centers of activity, staffed by both professionals and *student peer counselors*, further increase visibility as they branch out to run workshops, provide in-class and group presentations by invitation, and augment campus counseling and financial aid coaching functions. (3) Although not all institutions

are to the point of having *stand-alone, for-credit academic courses*, the options are already present in the most experienced programs. Where those classes are offered (i.e. in Business, General Education, or University Outreach, etc.) may vary, but they exist, and as this and earlier studies have shown, they are an important contribution to financial wellness efforts. (4) A true bonus to any program is *a mandatory element* that compels students to *demonstrate their competency*, and that preferably over time. If a student can do that via incremental online tutorials, that is a viable option when classroom space and instructional faculty are limited. A student who can complete a series of for-credit courses- or 'badge'/certification courses and workshops- is even better. More face-to-face accountability should ensure more program integrity and marketability of the student population with these new credentials or endorsements.

Of particular note relative to collaborative efforts, they should not be limited to the functional silos of student services *or* academics alone. Programs should be integrative in nature, and championed among the upper echelons of both Student *and* Academic Affairs. Efforts most likely to fail will likely garner support from one or the other, but not both. In any case, financial wellness runs the risk of 'initiative fatigue' wherein faculty, staff, and students alike tire of the frenzy to address the latest postsecondary or political hot-topic of interest. To combat that risk, financial wellness efforts need to be framed as an endeavor that resonates as part of an institution's identity. Financial wellness programs need to be positioned to communicate value, and that value needs to be as inclusive of academic learning objectives (higher, demonstrable competence) as student development gains (less stress/more confidence, higher retention and graduation rates, more institutional loyalty). To incorporate both considers the

variety of stakeholders that can both benefit from and support the sustainability of the program.

Implications for Leadership

Financial wellness endeavors, inclusive of both academic and student affairs participants, will almost certainly invoke leadership challenges as change agents find themselves positioned to lead, functionally at least, from the middle of their institutions. Marshall's (2012) study of New Zealand postsecondary educators found that even among successful programs, middle leaders felt "caught in between" senior administrators to whom they were accountable and the peers and subordinates with whom they shared collegial and functional responsibilities. However, those who emerged from within the organization and peer group yielded better responses from staff members as there was a perceived fluidity to their role (a leader when needed, a colleague in times of trouble or change) and a values-based bond that facilitated acceptance and forward movement on change initiatives (Marshall, 2012). The ability to bond and move quickly seems particularly salient when institutional dynamics include competing initiatives, limited resources, and complex academic and administrative structures to navigate in the process.

The navigation of those plausible impediments has made shared leadership a common point of interest in relation to the middle leader (Barclay & Bell, 2007; Cawthorne, 2010; Inman, 2009; Jackson, 2000; Thornton et al., 2018). Barclay & Bell (2007) advocate for distributed leadership so that desired change becomes more than just an aspiration. They believe that widespread communication of the change vision, an inspired staff following, and a cohort of early, committed, disbursed, and supported champions, are essential to any change effort where functional skill development is

sought (Barclay & Bell, 2007). These thoughts are echoed in Jackson's (2000) shared leadership framework wherein *partnership* and *ownership* are two central tenets to the consensus-driven decision making process that helps initiatives gain institutional traction.

Inman (2009) believes that shared leadership is likely easier to facilitate in higher education than in other organizations (as a carryover from academic faculty practices), but cautions an increasing trend toward 'managerialism.' Managerialism exists when institutions are given greater degrees of autonomy but are then subjected to increasing external market pressures and expected to manage the 'continuous improvement' of institutional performance. Loosely translated, change happens for the sake of change, and therefore 'change' can quickly become transactional instead of relational, shared, and transformative (Inman, 2009; Rudhumbu, 2015).

Franken et al. (2015) and Griffith (2006) weighed in on the challenges of leading from the middle in higher education, and both noted the necessity of maintaining that relational lens. Griffith (2006) specifically focused on the supply and development of middle leaders as faculty and administrators frequently transition between and across those functional lines. Still, communication, shared governance, and the management of both the quality and quantity of stakeholder relationships were/are critical. The middle leader's (whether academic unit heads, deans, or student affairs directors) dependence on others' expertise to promote values, execute initiatives, and create a cohesive culture never ends. Branson et al. (2016) reiterated the difficulty of reconciling power and control with support and guidance. The authors stated that, particularly in higher education, middle leaders form authority "within the nature of their relationships," and

that creating an authentic, sustainable culture necessitates “trust, transparency, and consistency” (Branson et al., 2016).

So what are the markers of leadership development *programs and processes* that actually help middle leaders establish the credibility, momentum, and sustainability necessary to see their initiatives through to institutional cultural change? Williams et al.’s (2012) study surveyed hundreds of colleges and universities with AACSB-accredited business schools and pointedly asked about the existence of leadership development programs and, if programs existed, whether the content encouraged the enhancement of interpersonal skills and the mitigation of self-defeating behaviors. What the authors found was that training programs tended to be short (over 70% were 2 days in length or less), and most (88%) happened in face-to-face contexts versus more flexible formats. Additionally, what programs did exist still tended to focus on the mechanics of administrative tasks rather than the development of both human and social capital. For a successful program, they recommended a reboot with future efforts inclusive of *content specific to team-building, coaching, and counseling*, delivered in a *variety of formats*, and perhaps even requiring a *mandatory element*. Otherwise, efforts risk remaining stymied in the transactional details that tend to derail would-be leaders and thwart the relational aspects that propel both leaders and their efforts forward (Williams et al., 2012).

Pepper & Giles (2015) interviewed Australian postsecondary educators in middle leadership roles and noted similar themes. Middle leaders (in this case, academic unit heads and associate deans), in general, felt unprepared entering or transitioning to administrative ranks, and when asked about their challenges, task-oriented mechanics were subordinate to feelings that the nature of their role was overwhelming, relatively

powerless, isolating, and reactive. The support structures they identified as helpful were indeed relational: *professional networking and access/engagement with faculty support systems* (Pepper & Giles, 2015). Albeit a more K-12, secondary school-driven study of middle leadership development, Naylor et al. (2006) echoed the benefits of a relational strategy as well. When training focused more on the development of *interpersonal skills* and sought to empower leaders to improve student performance (competence), the authors found that leaders were better able to thoughtfully reflect on their own role in the change process, improve their delegation skills, and bolster their confidence-simultaneously increasing their awareness of their teams' collective function and gaining clarity in the tasks required to achieve goals (Naylor et al., 2006).

Interestingly, and particularly in light of this study's financial literacy and wellness focus, there was a recent study about educational cultural change led by numeracy advocates. Jorgensen's (2016) study of middle leaders, again, comes from within a secondary education environment, but offers potential insights for leaders in postsecondary education as well. In transforming the numeracy/mathematics culture in the subject school, leaders utilized a scaffolding technique that employed classroom observations, feedback, lesson modelling, data collection to help identify quality learning experiences, curriculum support, and development opportunities for anyone in the organization who might need or exercise influence over numeracy interventions. Leadership responsibility was shared, or distributed, and authenticated only when numeracy skill, pedagogical techniques, and assessment practices aligned.

This method would be easily translatable across postsecondary lines if, as the institution endeavors to improve quantitative and financial literacy in college students, it

offers parallel learning experiences for all faculty and staff interested in the same. The more advanced faculty and staff financial skills become, the more qualified they will feel to interact with students when, or if, money matters begin to impact academic or student engagement pursuits. Online formats for these individuals may represent attractive options when participants prefer anonymity, have time constraints, or both. Regardless, offering any training to faculty and staff would expose a wider constituency to the overall effort, which in itself is an opportunity to demonstrate the need for improved financial literacy and communicate a sense of urgency in addressing it. If additional formats are layered (or scaffolded) in - in-person deliveries to hybrid configurations - these alternatives become avenues of feedback and data collection that could serve as informative pilot vehicles for implementing high quality student programs.

So, to create a meaningful leadership development program for any initiative that begins, ends, or functionally lives in the middle of an organization, Franken et al. (2015) summarized the components well. Programs and processes need to *augment shared leadership practices* to be more than the transference of task knowledge, forms, and policies. Instead, intentional, *contextualized learning interactions* need to be prioritized to foster a more complete understanding of the institutional events, artifacts, and relationships that can collectively facilitate leader appointment, transition, and effectiveness.

Coalescing the advice from existing programs, previous studies, and leadership theories, what might a brand new program, trying to establish a campus presence and launch a cultural shift actually look like? To begin, it would be helpful to have a *centralized office* or physical base of operation in an area of high student foot traffic.

Visibility of an actual activity hub would require leaders to spend less time advertising the existence of the office and more time speaking to the services around improved competencies and counseling outlets. Physical activity, in general, would be more appealing and engaging than a static web presence alone. Even if online materials were well done, timely, and offered flexibility in terms of topical exploration, they are not *relational*. Alone, those materials would fall short in servicing students who need or desire one-on-one conversations or may be facing atypical financial difficulties or complexities. In short, build it, put it in their daily path, and the students who need it most might actually come.

To the point of shared, distributed leadership, advocating for *at least two leaders/directors* –particularly for large campuses- would be a relatively novel approach. These leaders would need to be more of Lewin's democratically-oriented, consensus builders as perceived dissention or discord could quickly stymie productivity when the objective is to gain momentum quickly and create a transformational environment (Becker, 2018; Kavanaugh, 2018). Becker (2018) noted that what Rooke & Torbert (2005) referred to as 'action logics' might hold multiple possibilities in defining the leadership traits more suited to these joint leadership roles. If one can be part Alchemist (empathetic, desires profound, positive impact, and balances short and long-term goals well), part Diplomat (promotes stability, facilitates a team orientation), and part Expert (establishes undeniable subject-area credibility), a good institutional fit may be easier to identify.

Start-up initiatives might be tempted, for budget reasons, to err toward only one director. However, that director could easily spend more time building relationships and

establishing credibility across student affairs or faculty lines than designing and delivering helpful services and programs. It would be unique, based on examination of existing financial wellness programs, to have a start-up office or center employ a director from the academic side of institutional operations in addition to a director from the student affairs side. However, if each side of the traditionally competitive parties within postsecondary education had a representative, both with established (plausibly internal) credibility as noted in Marshall (2012), they could perhaps more effectively expedite and elevate the functionality of the entire financial wellness endeavor. Collaboration would be more obvious, and the ownership and success of the entire project would be more inclusive by default.

In addition to the directors, at least *one full-time administrative support person* to provide scheduling assistance, website maintenance, and budget accountability would be preferred. Support via a staff of *at least 3-5 peer mentors* of sophomore to senior-level standing would also offer consistent representation of the diverse needs of students from early-college to career transitions. The peer mentors could be deployed to provide travelling workshops, residence hall and student organization presentations, peer counseling coverage, and feedback on appeal/usability of web content. To attract top student talent, it would be best if these mentor positions were paid positions. However, depending on funding models, it may be possible to attract quality mentors with unpaid internship designations or elective credit opportunities.

Because competition for internal or government-based funds could delay, however unintentionally, the formation and/or development of a campus initiative, external funding models may present an alternative route for initial start-ups. Networking

with alumni, local businesses (particularly financial institutions), employment recruiters, or any combination of similar, willing partners would extend the context of partnership and joint ownership. Both large, nationally known financial institutions, as well as more localized groups such as credit unions, have Community Reinvestment Act-related objectives to accomplish. It would be a natural extension for these institutions to support numerous learning opportunities: budgeting workshops, credit management seminars, the pros/cons of student loans and consolidation practices, and/or panels on basic investing questions. Given that the community re-investment requirements are annual mandates, it's plausible that funding could be secured repeatedly – perhaps even contractually – from the same source(s). Of course, engaged alumni may also wish to provide or help secure capital gifts and scholarship funds as well. Professional organizations (i.e. accountancy groups such as were eager to assist in secondary education efforts) are yet another plausible, albeit not as intuitively renewable, source of funding that could be more expeditious than internal, institution-specific budget allocations alone.

Once a funding model, internal or external, is a known quantity, there are several additional components that need to be addressed to comply with what experienced practitioners and researchers have found useful: deeper *training experiences on soft skills,* the ability to design one-time (workshop) experiences, badge/certification series, as well as actual, for-credit *curriculum options*, and *provision of professional networking opportunities* to both develop and share best practices. Perhaps cross-training directors in both counseling and curriculum development would strengthen at least internal critique of any offering, and offer smoother transitions in the event there is a gap in coverage or a vacancy of either director at some point in the future. An on-going conversation, perhaps

annually, might address some of the inadequacies felt by administrators who have typically only been offered shorter, one-time, task-oriented training experiences. A lengthier retreat or training event series might be attractive on both director efficacy and leadership retention fronts. At the point that a financial literacy and wellness initiative establishes momentum, any opportunity to imbed an element of *mandatory instruction and assessment* is a boon to the endeavor and the institution's ability to communicate educational value on multiple fronts to multiple stakeholder groupings.

Opportunities for Future Research

As noted earlier, this study examined the efficacy of one specific curriculum intervention – an intentional, in-person, semester-long, 3-credit hour experience, addressing a variety of personal finance principles in the context of a critical thinking course. This offering was based in General Education programming, but there is certainly room for exploration of coursework provided by more discipline-specific faculty. Though this study answered fundamental questions relative to the value of parental inputs and structured, higher-stakes instruction, it would be interesting to compare the value added of any additional inputs/motivators (peer influences, perceived employer expectations), as well as additional curriculum option combinations: online tutorials, 1-credit hour courses or workshop series, or even additional 3-credit hour course options in the same environment. Offerings could even be examined at staged levels such as underclassmen vs. upperclassmen, opening the door to gauge the effectiveness of whatever intervention(s) may have been utilized in a longitudinal context as well.

If multiple instructional offerings existed to work with and around student availability, the variety of offerings could serve as unique data collection points for the

evaluation of which options offer the greatest returns on improved knowledge and skills and offer the most promising combination of opportunities for improved, sustainable behaviors. It would be interesting to see if student participants' or additional stakeholders' perceptions of leaders change with the presence of these intervention options focused on developing competence and strengthening life skills. Are leaders perceived to be more empathetic, relatable, in touch with the economic realities facing today's college students? Perhaps even more telling, would be exploration of whether the presence of instructional options and/or those related leadership perceptions translate into higher levels of alumni support and willingness to fund future campus initiatives.

Conclusion

Financial literacy and wellness are garnering increased attention at the national and state levels, as well as increasing *positive* attention to institutions that endeavor to address it. Clearly, parents of postsecondary students share in the influence on and shaping of student knowledge related to financial matters, above and beyond secondary educational programming. However, just as clearly, not all necessary training happens at home. It is time for postsecondary leaders to enter the conversation, offer supplementary programming, and help transition students to successful lives post-graduation. It is time to augment traditional academic programs and student services that support who the students *are* while they complete their degrees- and launch them more effectively into society and the workforce as the productive, enlightened citizens we know they *can be*.

References

Accountancy Magazine. (2008). Financial literacy learning for life. *July*, 108-113.

Alhabeeb, M.J. (1999). Allowances and the economic socialization of children. *Association for Financial Counseling and Planning Education*, *10*(2), 1-9.

Alessie, R., Bucher-Koenen, T., Lusardi, A., & van Rooij, M. (2013). Gender, confidence and financial literacy. *NeuroPsychoEconomics Conference Proceedings*, 16.

Alessie, R., Van Rooij, M., & Lusardi, A. (2011). Financial literacy and retirement preparation in the Netherlands. *Journal of Pension Economics & Finance*, *10*(4), 527-545.

American Benefits Council. (2013). Trends in 401(k) plans and retirement rewards. Retrieved from https://www.americanbenefitscouncil.org/pub/?ID=e613e2a9-cb3b-b159-6cff-6931bd1953a6

Applied Research & Consulting LLC. (2009). Financial capability in the United States: Initial report of research findings from the 2009 national survey. FINRA Investor Education Foundation, New York, New York.

Arling, P.A., Kirby, J., Saajasto, K. (2015). Spend now or spend later: The role of business education and critical thinking skills in increasing retirement plan saving rates for new, young enrollees. *American Journal of Business Education*, *8*(4), 259-270.

Arnett, J.J. (2011). Emerging adulthood(s): The cultural psychology of a new life stage. In L.A. Jensen (Ed.), *Bridging cultural and developmental approaches to psychology: New syntheses in theory, research, and policy* (pp. 255-275). New York, NY: Oxford Press.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs: Prentice Hall.

Banks, J. (2010). Cognitive function, financial literacy and financial outcomes at older ages: Introduction. *Economic Journal*, *120*(548), F357-F362.

Barclay, N. & Bell, S. (2007). Leading from the middle: Good practice guide. Report for Learning and Skills Network, London, England.

Becker, B. (2018, May 22). The 7 most common leadership styles & how to find your own. Retrieved from https://blog.hubspot.com/marketing/leadership-styles

Bernheim, B. D., & Garrett, D. M. (2003). The effects of financial education in the workplace: Evidence from a survey of households. *Journal of Public Economics*, *87*(7-8), 1487-1519.

Beutler, Ivan F. (2012). Connections to economic prosperity: Money aspirations from adolescence to emerging adulthood. *Journal of Financial Counseling and Planning*, *23*(1), 17-32.

Boaz, R. & Flowers, M. (2017, June). Utilizing alternative programming formats to engage millenials in financial literacy discussions. Presentation conducted at the NASPA Student Affairs Administrators in Higher Education Symposium on Collegiate Financial Well-Being, Washington, D.C..

Bosshardt, W. & Walstad, W.B. (2014). National standards for financial literacy: Rationale and content. *The Journal of Economic Education*, *45*(1), 63-70.

Branson, C.M., Franken, M., Penney, D. (2016). Middle leadership in higher education: A relational analysis. *Educational Management Administration & Leadership*, *44*(1), 128-145.

Brown, R.M.C. (2013, March). Dodgy promoters, and the role of investor education. *Charter*, 36.

Campbell J.Y., Jackson, H.E., Madrian, B. C., & Tufano, (2011). Consumer financial protection. *Journal of Economic Perspectives*, *25*, 91-114.

CashCourse (2017). CashCourse: Real-life money guide for students. Retrieved from https://www.cashcourse.org/info/About/About-CashCourse

Cawthorne, J.E. (2010). Leading from the middle of the organization: An examination of shared leadership in academic libraries. *The Journal of Academic Librarianship, 36*(2), 151-157.

Chan, S. F., Chau, A. W. L., & Chan, K. Y. K. (2012). Financial knowledge and aptitudes: Impacts on college students' financial well-being. *College Student Journal*, *46*(1), 114-133.

Chan, R. & Joseph, S. (2000). Dimensions of personality, domains of aspiration, and subjective well-being. *Personality and Individual Differences*, *28*, 347-354.

Chaplin, L.N. & John, D.R. (2010). Interpersonal influences on adolescent materialism: A new look at the role of parents and peers. *Journal of Consumer Psychology*, *20*, 176-184.

Chen, H. & Volpe, R.P. (1998). An analysis of personal financial literacy among college students. *Financial Services Review*, *7*(2), 107-128.

Chen, H., & Volpe, R. P. (2002). Gender differences in personal financial literacy among college students. *Financial Services Review*, *11*(3), 289-308.

Chickering, A.W. & Reisser, L. (1993). *Education and Identity*, 2nd ed. San Francisco: Jossey-Bass.

Chinen, K., & Endo, H. (2012). Effects of attitude and background on students' personal financial ability: A United States survey. *International Journal of Management,* 778-791.

Clark, G. L. (2013). Mapping financial literacy: Cognition and the environment. *Geografiska Annaler Series B: Human Geography*, *95*(2), 131-145.

College Savings Foundation. (2012, May 23). *College Savings Foundation Survey Shows Delay in Life Milestones for Recent College Graduates*, Retrieved from http://www.collegesavingsfoundation.org/pdf/GradsSurveyPressReleaseFinal5-23-12

Conrad, A.M. (2017, June). Five key factors for effective financial education. Presentation conducted at the NASPA Student Affairs Administrators in Higher Education Symposium on Collegiate Financial Well-Being, Washington, D.C..

Coombs, J. (2016, December 13). The top 10 most shocking personal finance statistics. Retrieved from https://www.gradmoney.org/single-post/2016/12/13/The-Top-10-Most-Shocking-Personal-Finance-Statistics

Council for Economic Education. (2014). Survey of the States. Retrieved from www.councilforeconed.org

Council for Economic Education. (2016) Survey of the States. Retrieved from www.councilforeconed.org

Crain, S.J. & Ragan, K.P. (2012). Designing a financial literacy course for a liberal arts curriculum. *International Journal of Consumer Studies*, *36*, 515-522.

Cudmore, B.A., Patton, J., Ng, K., & McClure, C. (2010). The millenials and money management. *Journal of Management and Marketing Research*, *4*, 1-28.

Danes, S. M. (1994). Parental perceptions of children's financial socialization. *Financial Counseling and Planning*, *5*(1), 27-146.

Danes, S. & Dunrud, T. (1993). *Children and money: Teaching children money habits for life* (Publication No. HE-FO 6116). Minnesota Extension: University of Minnesota.

Danziger, S.H. & Ratner, D. (2010). Labor market outcomes and the transition to adulthood. *The Future of Children*, *20*(1), 133-158.

Davis, K. & Durband, D.B. (2008). Valuing the implementation of financial literacy education. *Financial Counseling and Planning*, *19*(1), 20-30.

Deacon, R.E. & Firebaugh, F.M. (1981). *Family resource management principles and applications*. Boston: Allyn and Bacon.

Debt.com (2017). Personal finance and money management statistics. Retrieved from https://www.debt.com/edu/personal-finance-statistics/

Duncan, A. & Moser, J. (2012, September 6). Why we need financial education: Interview with U.S. Secretary of Education Arne Duncan. *The Motley Fool*. Retrieved from http://www.fool.com/investing/general/2012/09/06/why-we-need-financial-education-interview-with-us-.aspx

EconomyWatch. (2011). A dozen shocking personal finance statistics. Retrieved from www.economywatch.com/personal-finance/a-dozen-shocking-personal-finance-statistics.23-04.html

Kavanaugh, E. (2018). Three leadership models: Kurt Lewin, Hershey and Blanchard, and Edwin Friedman. Retrieved from http://earonkavanagh.ca/article_kavanagh-three.pdf

Egan, M. (2016, March 9). America's 7-year bull market: Can it last?. *CNNMoney*, Retrieved from https://money.cnn.com/2016/03/09/investing/stocks-bull-market-turns-seven/index.html

Elliott, III, W. (2012). We save, we go to college. (Creating a Financial Stake in College, Report III). Washington, D.C.: New American Foundation; St. Louis, MO: Washington University, Center for Social Development.

Ellis, B. (2013, December 5). Average student loan debt: $29,400. *CNNMoney*. Retrieved from http://money.cn.com/2013/12/04/pf/college/student-loan-debt/

Estelami, H. (2009). Cognitive drivers of suboptimal financial decisions: Implications for financial literacy campaigns. *Journal of Financial Services Marketing, 13*(4), 273-283.

Evans, N.J., Forney, D.S., & Guido-DiBrito, F. (1998). *Student Development in College: Theory, Research, and Practice*. San Francisco: Jossey-Bass.

Financial Educators Council (2017). Financial education solutions for those who seek to empower individuals, organizations, & communities. Retrieved from https://www.financialeducatorscouncil.org/

Fonseca, R., Mullen, K.J., Zamarro, G., Zissimopoulos, J. (2012). What explains the gender gap in financial literacy? The role of household decision making. *The Journal of Consumer Affairs*, *46*(1), 90-106.

Forté, K.S. (2012). *Educating for financial literacy: A case study with a sociocultural lens.* American Association for Adult & Continuing Education.

Fosnacht, K. & Calderone, S.M. (2017). Undergraduate financial stress, financial self-efficacy, and major choice: A multi-institutional study. *Journal of Financial Therapy*, *8*(1), 107-120.

Fosnacht, K., Dugan, B., & Merckle, R.T. (2017, June). Undergraduate financial knowledge and college financial education efforts: Initial findings from a multi-institutional study. Presentation conducted at the NASPA Student Affairs Administrators in Higher Education Symposium on Collegiate Financial Well-Being, Washington, D.C..

Franken, M., Penney, D., Branson, C. (2015). Middle leaders' learning in a university context. *Journal of Higher Education Policy and Management, 37*(2), 190-203.

Gardarsdottir, R.B. & Dittmar, H. (2012). The relationship of materialism to debt and financial well-being: The case of Iceland's perceived prosperity. *Journal of Economic Psychology*, *33*, 471-481.

Garman, E.T., Kim, J., Kratzer, C.Y., Brunson, B., Joo, S. (1999). Workplace financial education improves personal financial wellness. *Journal of Financial Counseling and Planning*, *10*(1), 81-91.

Goebel, P. & House, A. (2018). Assessment design for communicating powerful learning in collegiate financial well-being programs. Presentation conducted at the NASPA Student Affairs Administrators in Higher Education Symposium on Collegiate Financial Well-Being, Columbus, OH.

Goldberg, M.E., Gorn, G.J., Peracchio, L.A., & Bamossy, G. (2003). Understanding materialism among youth. *Journal of Consumer Psychology, 13*(3), 278-288.

Griffith, J.C. (2006). Transition from faculty to administrator and transition back to the faculty. *New Directions for Higher Education*, *134*, 67-77.

Hair, Jr., J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate Data Analysis*, 5th edition. New Jersey: Prentice-Hall, Inc.

Heckman, S.J. & Grable, J.E. (2011). Testing the role of parental debt attitudes, student income, dependency status, and financial knowledge have in shaping financial self-efficacy among college students. *College Student Journal*, *45*(1), 51-64.

Hemphill, J. F. (2003). Interpreting the magnitudes of correlation coefficients. *American Psychologist*, *58*(1), 78-79.

Hoynacke, B., Jackson, T., & Woodlee, T. (2017, June). The impact of innovative financial wellness interventions at two research universities. Presentation conducted at the NASPA Student Affairs Administrators in Higher Education Symposium on Collegiate Financial Well-Being, Washington, D.C..

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.

Hung, A., Parker, A., & Yoong, J. (2009). Defining and measuring financial literacy. *RAND Labor and Population Working Paper Series*. WR-708.

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

Ibrahim, M. E., & Alqaydi, F. R. (2013). Financial literacy, personal financial attitude, and forms of personal debt among residents of the UAE. *International Journal of Economics and Finance*, *5*(7), 126-138.

Inman, M. (2009). Learning to lead: Development for middle-level leaders in higher education in England and Wales. *Professional Development in Education, 35*(3), 417-432.

Institute of Chartered Accountants in England and Wales. (2008). Financial literacy learning for life. *AccountancyMagazine.com*, July.

Jackson, S. (2000). A qualitative evaluation of shared leadership barriers, drivers and recommendations. *Journal of Management in Medicine*, *14*(3/4), 166-178.

Jappelli, T., & Padula, M. (2013). Investment in financial literacy and saving decisions. *Journal of Banking & Finance, 37*(8), 2779-2792.

John, D.R. (1999). Consumer socialization of children: A retrospective look at twenty-five years of research. *The Journal of Consumer Research*, *26*(3), 183-213.

Joo, S. (1998). Personal financial wellness and worker job productivity [Abstract]. Retrieved from https://vtechworks.lib.vt.edu/handle/10919/30519

Joo, S. H., Durband, D. B., & Grable, J. (2008). The academic impact of financial stress on college students. *Journal of College Student Retention: Research, Theory & Practice*, *10*(3), 287-305.

Jorgenson, B. & Savla, J. (2010). Financial literacy of young adults: the importance of parental socialization. *Family Relations*, *59*, 465-478.

Jorgensen, R. (2016). Middle leadership: A key role of numeracy reform. *Australian Primary Mathematics Classroom*, *21*(3), 32-37.

Journal of Financial Planning. (2013, June). Financial literacy is a worldwide challenge. [Web blog post], 15.

Jump$tart Coalition. (2014). Making the Case for Financial Literacy: A collection of statistics. Retrieved from http://jumpstart.org/assets/files/Making%20the%20Case%202014_2.pdf

Jump$tart Coalition. (2017). National standards in k-12 personal finance education. Retrieved from http://www.jumpstart.org/national-standards.html

Junior Achievement/Allstate Foundation. (2013). Percentage of teens who think they will be financially dependent on parents until age 25-27 more than doubles, new survey finds, (March 27). Retrieved fromChttps://www.juniorachievement.org/documents/20009/20652/Teens-and-personal-finance-survey-2013.pdf/e4f6c2f0-0f94-4666- 8a7f-b87ecba367ed

Kasser, T. & Ryan, R.M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, *65*(2), 410-422.

Kasser, T., Ryan, R.M., Zax, M., & Sameroff, A.J. (1995). The relations of maternal and social environments to late adolescents' materialistic and prosocial values. *Developmental Psychology*, *31*(6), 907-914.

Kelly, A.P. & McShane, M.Q. (2013, February 18). Private money, public good. *The Chronicle of Higher Education*, Retrieved from http://chronicle.com/article/Private-Money-Public-Good/137289.

Kentucky Council on Postsecondary Education. (2018, January). Financial literacy efforts at Kentucky's public colleges & universities (Report on Addressing Student Debt & Improving Affordability).

Khadaroo, S.T. (2016, December 19). The push to help 50,000 more low-income students get degrees. *The Christian Science Monitor*, Retrieved from https://www.csmonitor.com/EqualEd/2016/1219/The-push-to-help-50-000-more-low-income-students-get-degrees

Kirk, C.M., Lewis-Moss, R.K., Nilsen, C., & Colvin, D.Q. (2011). The role of parental expectations on adolescent educational aspirations. *Educational Studies*, *37*(1), 89-99.

Klepfer, K. & Kilmer, N. (2018). Research to practice: Spring 2018 student financial wellness survey. Presentation conducted at the Higher Education Financial Wellness Summit, Portland, OR.

Knoll, M. & Houts, C. (2012). The financial knowledge scale: An application of item response theory to the assessment of financial literacy. *The Journal of Consumer Affairs*, Fall 2012, 381-410.

Koonce, J.C., Mimura, Y., Mauldin, T.A., Rupured, A.M., & Jordan, J. (2008). Financial information: Is it related to savings and investing knowledge and financial behavior of teenagers?. *Journal of Financial Counseling and Planning*, *19*(2), 19-28.

Lobosco, K. (2016, October 18). Students are graduating with $30,000 in loans. *CNN Money*, Retrieved from http://money.cnn.com/2016/10/18/pf/college/average-student-loan-debt/index.html

Lusardi, A. (2013). Insights: financial capability (Special report sponsored by the FINRA Investor Education Foundation). Washington, D.C..

Lusardi, A., Mitchell, O.S., & Curto, V. (2010). Financial literacy among the young. *The Journal of Consumer Affairs*, 44(2), 358-380.

Lusardi, A. & Willis, L.E. (2017, March 20). Should colleges require a financial literacy class?. *The Wall Street Journal*, Retrieved from http://www.marketwatch.com/story/should-colleges-require-a-financial-literacy-class-2017-04-03

Mak, V. & Braspenning, J. (2012). Financial literacy in European consumer credit law. *Journal of Consumer Policy*, *35*, 307-332.

Malcolm, H. (2014, April 8). Financial literacy education has lasting impact. *USA TODAY*. Retrieved from http://www.usatoday.com/story/money/personalfinance/2014/04/08/financial-literacy-college-students/7296185

Mandell, L. (2008). The financial literacy of young American adults: Results of the 2008 national survey of high school seniors and college students (Prepared for the Jump$tart Coalition for Personal Financial Literacy). Retrieved from http://views.smgww.org/assets/pdf/2008%20JumpStart%20Financial%20Literacy%20Survey.pdf

Mandell, L., & Klein, L. S. (2009). The impact of financial literacy education on subsequent financial behavior. *Journal of Financial Counseling & Planning, 20*(1), 15-24.

Marshall, S.G. (2012). Educational middle change leadership in New Zealand: The meat in the sandwich. *International Journal of Educational Management*, *26*(6), 502-528.

Matthewson, T.G. (2016). More colleges developing holistic supports for student financial wellness. Retrieved from https://www.educationdive.com/news/more-colleges-developing-holistic-supports-for-student-financial-wellness-1/417068/

Meier, S., & Sprenger, C. D. (2013). Discounting financial literacy: Time preferences and participation in financial education programs. *Journal of Economic Behavior & Organization, 95*, 159-174.

Mimura,Y., Koonce, J., Plunkett, S.W., & Pleskus, L. (2015). Financial information source, knowledge, and practices of college students from diverse backgrounds. *Journal of Financial Counseling and Planning, 26*(1), 63-78.

Mitchell, T.R., & Mickel, A.E. (1999). The meaning of money: An individual-difference perspective. *The Academy of Management Review, 24*(3), 568-578.

MoneySmarts. (2018). Three ways you can fight back against debt. Retrieved from https://moneysmarts.iu.edu/

Mongellow, T.S. (2013). Connecticut's grade on financial literacy. *Connecticut Banking Magazine*, Fourth Quarter, 4-5.

Montalto, C.P., Heckman, S., & Letkiewicz, J. (2016). Collegiate financial wellness: Understanding stress and worry. *Consumer Interests Annual, 62*, 1-5.

Moschis, G.P. (1985). The role of family communication in consumer socialization of children and adolescents. *Journal of Consumer Research, 11*, 898-913.

Munnell, A. H. (2012). *State and Local Pensions: What Now?*. Brookings Institution Press.

Murphy, J.L. (2013). Psychosocial factors and financial literacy. *Social Security Bulletin, 73*(1), 73-81.

NASPA Student Affairs Administrators in Higher Education (2017, June). Symposium on Collegiate Financial Well-Being, Washington, D.C..

National Foundation for Credit Counseling, Inc. (2013, April). NFCC and NBPCA financial literacy survey reveals consumers' top financial concerns. Retrieved from http://www.nfcc.org/newsroom/newsreleases/NFCC_NBPCA.cfm, http://www.nfcc.org/NewsRoom/FinancialLiteracy/files2013/NFCC_NBPCA_2013%20FinancialLiteracy_survey_datasheet_key %20findings_032913.pdf]

National Wellness Institute. (2017). The six dimensions of wellness. Retrieved from https://www.nationalwellness.org/page/Six_Dimensions

Naylor, P., Gkolia, C., & Brundrett, M. (2006). Leading from the middle: An initial study of impact. *Management in Education*, *20*(1), 11-16.

NerdWallet, (2014). American household credit card debt statistics: 2014. Retrieved from http://www.nerdwallet.com/blog/credit-card-data/averagecredit-card-debt-household

Nevada Department of Education. (2010). Financial literacy for high school students: A guidance document to assist Nevada's school districts in meeting the requirements under SB 317. Presentation given by the Financial Literacy Task Force, Carson City, Nevada.

Norvilitis, J.M., Szablicki, P.B., & Wilson, S.D. (2003). Factors influencing levels of credit-card debt in college students. *Journal of Applied Social Psychology*, *33*, 935-947.

Olsson, U.H., Troye, S.V., & Howell, R.D. (1999). Theoretic fit and empirical fit: The performance of maximum likelihood versus generalized least squares estimation in structural equation modeling. *Multivariate Behavioral Research, 34*, 31-58.

Pepper, C. & Giles, W. (2015). Leading in middle management in higher education. *Management in Education, 29*(2), 46-52.

Rath, T. and Harter, J. (2010). *The Five Essential Elements of Well-Being*. New York: Gallup Press.

Redmund, D. (2010). Financial literacy explication: The case for a clearer definition in an increasingly complex economy. *The Journal of Consumer Affairs, 44*, 276-295.

Robb, C. A. (2011). Financial knowledge and credit card behavior of college students. *Journal of Family and Economic Issues, 32*(4), 690-698.

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

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

Rooke, D. & Torbert, W.M. (2005). Seven transformations of leadership. *Harvard Business Review, 83*(4), 66-76

Rudhumbu, N. (2015). Managing curriculum change from the middle: how academic middle managers enact their role in higher education. *International Journal of Higher Education, 4*(1), 106-119.

Sallie Mae. (2013). Families report high college savings goals, but don't have a plan to meet them, reveals new national study from Sallie Mae. February 26, Retrieved from https://www.salliemae.com/about/news_info/newsreleases/2013/FamilieReport-High-College-Savings-Goals.aspx

Salt Money (2017). American student assistance. Retrieved from www.saltmoney.org

Sasser, S.L. & Grimes, P.W., & Franklin, P.W. (2010). Personal financial literacy: A baseline analysis of teacher knowledge in Oklahoma. *Business & Law Journal*, *3*, 68-82.

Schmeiser, M. D., & Seligman, J. S. (2013). Using the right yardstick: Assessing financial literacy measures by way of financial well-being. *Journal of Consumer Affairs, 47*(2), 243-262.

Schuchardt, J., Hanna, S. D., Hira, T. K., Lyons, A. C., Palmer, L., & Xiao, J. J. (2009). *Financial Literacy and Education Research Priorities.* Association for Financial Counseling and Planning Education.

Schwartz, S.J., Beyers, W., Luyckx, K., Soenens, B., Zamboanga, B.L., Forthun, L, Hardy, S.A., Vazsonyi, A.T., Ham, L.S., Kim, S.Y., Whitbourne, S.K., & Waterman, A.S. (2011). Examining the light and dark sides of emerging adults' identity: A study of identity status differences in positive and negative psychosocial functioning. *Journal of Youth and Adolescence*, *40*, 839-859.

Settersten, R.A. & Ray, B. (2010). What's going on with young people today? The long and twisting path to adulthood. *The Future of Children, 20*(1), 19-41.

Shaulskiy, S., Duckett, K., Kennedy-Phillips, L, & McDaniel, A. (2015). Exploring differences in college student financial wellness by institution type. *Journal of Student Affairs Research and Practice, 52*(3), 250-261.

Sherraden, M., Birkenmaier, J., McClendon, G.G., & Rochelle, M. (2017). Financial capability and asset building in social work education: Is it the big piece missing?. *Journal of Social Work Education, 53*(1), 132-148.

Sherraden, M., Laux, S., & Kaufman, C. (2007). Financial education for social workers. *Journal of Community Practice,15*(3), 9-36.

Shim, S., Barber, B.L., Card, N.A., Xiao, J.J., & Serido, J. (2009). Financial socialization of young adults: The role of family, work, and education. *Journal of Youth 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*(1), 128-152.

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

Smith, A. K., & Bodnar, J. (2013). Financial literacy: Does it work?. *Kiplinger's Personal Finance, 67*(4), 12-12.

Sohn, S., Joo, S., Grable, J. E., Lee, S., & Kim, M. (2012). Adolescents' financial literacy: The role of financial socialization agents, financial experiences, and money attitudes in shaping financial literacy among South Korean youth. *Journal of Adolescence*, *35*(4), 969-980.

Starobin, S.S., Hagedorn, L.S., Purnamasari, A., & Chen, Y.A. (2013). Examining financial literacy among transfer and non-transfer students: Predicting financial well-being and academic success at a four-year university. *Community College Journal of Research and Practice*, *37*(3), 216-225.

StudentLoanHero.com (2017, March 10). A look at the shocking student loan debt statistics for 2017. Retrieved from https://studentloanhero.com/student-loan-debt-statistics/

Supiano, B. (2011, October 4). Clark Atlanta U. invests in financial literacy- and not just for students. *The Chronicle of Higher Education*, Retrieved from https://www.chronicle.com/article/Clark-Atlanta-U-Invests-in/129275

Supiano, B. (2013, February 27). Teaching financial literacy is a challenge, both on campus and beyond. *The Chronicle of Higher Education*, Retrieved from https://www.chronicle.com/blogs/headcount/teaching-financial-literacy-a-challenge-on-campus-and-beyond/34083

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

Taylor, S. & Wagland, S. (2011). Financial literacy: A review of government policy and initiatives. *Australasian Accounting Business & Finance Journal*, *5*(2), 101-125.

Teller Vision (2009, July). Introduced legislation would encourage financial education. *1383*, 5-6.

Thornton, K., Walton, J., Wilson, M., & Jones, L. (2018). Middle leadership roles in universities: Holy grail or poisoned chalice. *Journal of Higher Education Policy Management*, *40*(3), 208-223.

Treiblmaier, H., Bentler, P.M., & Mair, P. (2011). Formative constructs implemented via common factors. *Structural Equation Modeling: A Multidisciplinary Journal*, *18*(1), 1-17.

Turner, T. and Pendleton, L. (2017, June). Community partners: Leveraging outside resources to directly impact students' success. Presentation conducted at the NASPA Student Affairs Administrators in Higher Education Symposium on Collegiate Financial Well-Being, Washington, D.C..

U.S. Department of Education. (2013, September 30). Default rates continue to rise for student loans. Retrieved from http://www.ed.gov/news/press-releases/default-rates-continue-rise-federal-student-loans

U.S. Department of Education. (2017). Student debt fast facts. Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=900

U.S. Government Accountability Office (GAO). (2011). *Financial literacy: A federal certification process for providers would pose challenges* (Report to Congressional Committees, Publication No. GAO-11-614).

Vienne, K. & Goebel, P. (2018). Reaching for the stars: Creating a collegiate financial well-being program from concept to reality. Presentation conducted at the NASPA Student Affairs Administrators in Higher Education Symposium on Collegiate Financial Well-Being, Columbus, OH.

Vitt, Lois, Carol Anderson, Jamie Kent, Deanna Lyter, Jurg Siegenthaler, and Jeremy Ward. (2000). *Personal Finance and the Rush to Competence: Financial Literacy Education in the U.S.*. Middleburg, VA: Institute for Socio-Financial Studies.

Wagland, S. P., & Taylor, S. (2009). When it comes to financial literacy, is gender really an issue?. *Australasian Accounting Business & Finance Journal, 3*(1), 13-25.

Webber, K.L. & Boehmer, R.G. (2008). The balancing act: Accountability, affordability, and access in American higher education. *New Directions for Institutional Research* (Assessment supplement), Winter, 79-91.

Wells, R. S., & Stage, F. K. (2014). Past, present, and future of critical quantitative research in higher education. *New Directions for Institutional Research, 2014* (163), 103-112.

West, J. (2012). Financial literacy education and behavior unhinged: Combating bias and poor product design. *International Journal of Consumer Studies, 36*(5), 523-530.

Williams, F.I., Campbell, C., McCartney, W., & Gooding, C. (2012). Leader derailment in academe: Does the training match the problems?. *Journal of Academic Administration in Higher Education, 8*(1), 43-48.

Willis, L.E. (2008). Against financial-literacy education. *Iowa Law Review, 94*(1), 197-285.

Willis, L. E. (2011). The financial education fallacy. *American Economic Review*, *101*(3), 429-434.

Woodlee, T. (2018). Program enhancement series: Financial wellness in the classroom. Presentation conducted at the Higher Education Financial Wellness Summit, Portland, OR.

Xiao, J.J., Ahn, S.Y., Serido, J. & Shim, S. (2014). Earlier financial literacy and later financial behavior of college students. *International Journal of Consumer Studies*, *38*(6) 593-601.

Appendix A

Correlations of Variables on Financial Literacy Pre-Test

	Financial Literacy Pre-Score	Gender	Ethnicity	Parent SES	Parent Educational Attainment	Expected Debt	High School Finance Coursework	College Finance Coursework	Parent Financial Behavior	Parent Direct Teaching	Parent Financial Role Modeling	Parent Subjective Norms	Financial Relationship With Parents
Financial Literacy Pre-Score	1.00												
Gender	0.01	1.00											
Ethnicity	-0.24	-0.03	1.00										
Parent SES	0.00	-0.05	-0.27	1.00									
Parent Educational Attainment	0.07	-0.04	-0.18	0.21	1.00								
Expected Debt	-0.10	-0.12	0.02	0.05	-0.04	1.00							
High School Finance Coursework	-0.00	0.07	0.00	0.06	0.10	0.00	1.00						
College Finance Coursework	-0.00	0.12	0.09	0.05	-0.00	0.00	0.14	1.00					
Parent Financial Behavior	0.02	0.02	-0.17	0.32	0.19	-0.20	0.12	-0.01	1.00				
Parent Direct Teaching	-0.09	0.05	-0.10	0.10	0.04	0.01	0.14	-0.01	0.35	1.00			
Parent Financial Role Modeling	-0.01	-0.05	-0.20	0.26	0.14	-0.16	0.15	-0.02	0.66	0.38	1.00		
Parent Subjective Norms	0.16	-0.03	-0.02	0.03	0.10	0.04	-0.00	0.08	0.16	0.29	0.14	1.00	
Financial Relationship with Parents	-0.17	0.07	-0.01	-0.09	-0.18	0.10	-0.01	0.01	-0.27	-0.06	-0.26	-0.15	1.00

Appendix B

Regression Results for Models Predicting Financial Literacy Pre-Test Scores

Model	Variable	*b*	β	*p*-value	95% CI Lower	95% CI Upper	Semi-Partial (sr^2)
1	(Constant)	18.12			15.27	20.97	
	Gender	.04	.00	.94	-1.07	1.15	
	Ethnicity	-3.01	-.25	.001***	-4.45	-1.56	.06
	Parent SES	-1.37	-.07	.25	-3.70	.96	
	Parent Educational Attainment	.64	.04	.54	-1.43	2.71	
2	(Constant)	18.56			15.16	21.96	
	Gender	-.09	-.01	.88	-1.22	1.04	
	Ethnicity	-3.02	-.25	.001***	-4.47	-1.56	.06
	Parent SES	-1.31	-.07	.27	-3.65	1.04	
	Parent Educational Attainment	.55	.03	.60	-1.53	2.63	
	Expected Debt	-.17	-.09	.12	-.38	.05	
	High School Finance Coursework	-.06	.00	.96	-2.31	2.19	
	College Finance Coursework	.22	.02	.69	-.88	1.32	
3	(Constant)	21.31			15.91	26.71	
	Gender	.09	.01	.88	-1.02	1.19	
	Ethnicity	-3.37	-.29	.001***	-4.80	-1.95	.07
	Parent SES	-1.01	-.05	.41	-3.38	1.37	
	Parent Educational Attainment	-.15	-.01	.89	-2.20	1.90	
	Expected Debt	-.17	-.09	.12	-.38	.04	
	High School Finance Coursework	.66	.04	.56	-1.56	2.87	
	College Finance Coursework	-.01	.00	.98	-1.06	1.09	
	Parent Financial Behaviors	.00	.00	.97	-.19	.20	
	Parent Direct Teaching	-.16	-.15	.02*	-.30	-.02	.02
	Parent Financial Role Modeling	-.13	-.09	.26	-.35	.09	
	Parent Subjective Norms	.22	.19	.01**	.08	.35	.03
	Financial Relationship with Parents	-.33	-.17	.01*	-.57	-.10	.03

***$p \leq .001$.

*$p < .05$; **$p \leq .01$;***$p < .001$.

Appendix C

Correlations of Variables on Financial Literacy Post-Test

	Financial Literacy Post-Score	Gender	Ethnic	Parent SES	Parent Educational Attainment	Expected Debt	High School Finance Course-work	College Finance Course-work	Parent Financial Behavior	Parent Direct Teaching	Parent Financial Role Modeling	Parent Subjective Norms	Financial Relationship With Parents	Financial Literacy Pre-Score	Class Professor
Financial Literacy Post Score	1.00														
Gender	0.02	1.00													
Ethnic	-0.13	-0.03	1.00												
Parent SES	-0.01	-0.05	-0.27	1.00											
Parent Educational Attainment	0.10	-0.04	-0.18	0.21	1.00										
Expected Debt	-0.02	-0.12	0.02	0.05	-0.04	1.000									
High School Coursework	0.03	0.07	0.00	0.06	0.10	0.00	1.00								
College Coursework	0.13	0.12	0.09	0.05	0.00	0.00	0.14	1.00							
Parent Financial Behavior	-0.01	0.02	-0.17	0.32	0.19	-0.20	0.12	-0.01	1.00						
Parent Direct Teaching	-0.07	0.05	-0.10	0.10	0.04	0.01	0.14	-0.01	0.35	1.00					
Parent Financial Role Modeling	-0.06	-0.05	-0.20	0.26	0.14	-0.16	0.15	-0.02	0.66	0.38	1.00				
Parent Subjective Norms	0.21	-0.03	-0.02	0.03	0.10	0.04	0.00	0.08	0.16	0.29	0.14	1.00			
Financial Relationship with Parents	-0.24	0.07	-0.01	-0.09	-0.18	0.10	-0.01	0.01	-0.27	-0.06	-0.26	-0.15	1.00		
Financial Literacy Pre-Score	0.67	0.01	-0.24	0.00	0.07	-0.10	-0.003	0.00	0.02	-0.09	-0.01	0.16	-0.17	1.00	
Course Taken	0.29	0.23	0.01	0.02	0.02	-0.12	0.113	0.23	0.11	-0.01	0.06	-0.05	-0.08	0.20	1.00

Appendix D

Regression Results for Models 1 through 3 Predicting Financial Literacy Post-Test Scores

Model	Variable	*b*	β	*p*-value	95% CI Lower	95% CI Upper	Semi-Partial (sr^2)
1	(Constant)	16.85			13.20	20.50	
	Gender	.22	.02	.77	-1.20	1.64	
	Ethnicity	-1.94	-.13	.04*	-3.80	-.09	.02
	Parent SES	-1.46	-.06	.34	-4.45	1.52	
	Parent Educational Attainment	1.93	.09	.15	-.71	4.58	

Model	Variable	*b*	β	*p*-value	95% CI Lower	95% CI Upper	Semi-Partial (sr^2)
2	(Constant)	16.27			11.95	20.60	
	Gender	-.04	.00	.96	-1.47	1.40	
	Ethnicity	-2.20	-.15	.02*	-4.06	-.35	.02
	Parent SES	-1.76	-.07	.25	-4.75	1.22	
	Parent Educational Attainment	1.88	.09	.16	-.76	4.53	
	Expected Debt	-.04	-.02	.80	-.31	.23	
	High School Finance Coursework	.162	.01	.91	-2.70	3.02	
	College Finance Coursework	1.75	.15	.02*	.34	3.15	.02

*$p < .05$.

Model	Variable	*b*	β	*p*-value	95% CI Lower	95% CI Upper	Semi-Partial (sr^2)
3	(Constant)	20.69			13.98	27.40	
	Gender	.20	.02	.77	-1.17	1.57	
	Ethnicity	-2.78	-.19	.001**	-4.56	-1.01	.03
	Parent SES	-1.24	-.05	.41	-4.19	1.71	
	Parent Educational Attainment	.76	.04	.56	-1.79	3.31	
	Expected Debt	-.05	-.02	.72	-.31	.22	
	High School Finance Coursework	1.15	.05	.41	-1.61	3.90	
	College Finance Coursework	1.46	.13	.03	.12	2.79	
	Parent Financial Behaviors	-.02	-.01	.87	-.26	.22	
	Parent Direct Teaching	-.15	-.11	.09	-.32	.02	
	Parent Financial Role Modeling	-.24	-.14	.08	-.52	.03	
	Parent Subjective Norms	.31	.21	.001***	.14	.48	.04
	Financial Relationship with Parents	-.61	-.25	.001***	-.90	-.32	.05

**$p < .01$; ***$p \leq .001$.

Appendix E

Regression Results for Models 4 and 5 Predicting Financial Literacy Post-Test Scores

Model	Variable	*b*	β	*p*-value	95% CI Lower	95% CI Upper	Semi-Partial (sr^2)
4	(Constant)	3.77			-1.97	9.52	
	Gender	.13	.01	.81	-.93	1.19	
	Ethnicity	-.10	.00	.89	-1.53	1.32	
	Parent SES	-.44	-.02	.70	-2.72	1.83	
	Parent Educational Attainment	.88	.04	.38	-1.09	2.84	
	Expected Debt	.09	.04	.41	-.12	.29	
	High School Finance Coursework	.62	.03	.56	-1.50	2.75	
	College Finance Coursework	1.45	.12	.01**	.42	2.48	.01
	Parent Financial Behaviors	-.02	-.02	.81	-.21	.17	
	Parent Direct Teaching	-.02	-.02	.74	-.15	.11	
	Parent Financial Role Modeling	-.14	-.08	.18	-.35	.07	
	Parent Subjective Norms	.14	.10	.04*	.00	.28	.01
	Financial Relationship with Parents	-.35	-.14	.001**	-.58	-.12	.02
	Financial Literacy Pre-Test Scores	.79	.63	.001***	.68	.91	.34

*$p < .05$; **$p \leq .01$;***$p \leq .001$.

Model	Variable	*b*	β	*p*-value	95% CI Lower	95% CI Upper	Semi-Partial (sr^2)
5	(Constant)	4.16			-1.47	9.80	
	Gender	-.24	-.02	.66	-1.30	.82	
	Ethnicity	-.25	-.02	.73	-1.65	1.15	
	Parent SES	-.45	-.02	.69	-2.69	1.78	
	Parent Educational Attainment	.90	.04	.36	-1.03	2.83	
	Expected Debt	.10	.05	.32	-.10	.30	
	High School Finance Coursework	.41	.02	.70	-1.68	2.49	
	College Finance Coursework	1.07	.09	.04*	.03	2.10	.01
	Parent Financial Behaviors	-.05	-.03	.61	-.23	.14	
	Parent Direct Teaching	-.02	-.01	.77	-.15	.11	
	Parent Financial Role Modeling	-.15	-.09	.16	-.36	.06	
	Parent Subjective Norms	.17	.11	.02*	.03	.30	.01
	Financial Relationship with Parents	-.33	-.14	.01**	-.56	-.11	.02
	Financial Literacy Pre-Test Scores	.75	.60	.001***	.63	.87	.29
	Course Taken	1.84	.16	.01**	.78	2.91	.02

*$p < .05$; **$p \leq .01$;***$p = .001$.

Appendix F

Regression Results for Model 6 Predicting Financial Literacy Post-Test Scores

Model	Variable	*b*	β	*p*-value	95% CI Lower	95% CI Upper	Semi-Partial (sr^2)
6	(Constant)	3.93			-2.14	10.00	
	Gender	-.25	-.02	.64	-1.32	.81	
	Ethnicity	-.26	-.02	.72	-1.66	1.15	
	Parent SES	-.45	-.02	.69	-2.69	1.78	
	Parent Educational Attainment	.88	.04	.37	-1.06	2.82	
	Expected Debt	.10	.05	.32	-.10	.30	
	High School Finance Coursework	.42	.02	.69	-1.67	2.52	
	College Finance Coursework	1.08	.09	.04*	.04	2.12	.01
	Parent Financial Behaviors	-.05	-.03	.63	-.23	.14	
	Parent Direct Teaching	-.02	-.01	.78	-.15	.11	
	Parent Financial Role Modeling	-.15	-.09	.15	-.36	.06	
	Parent Subjective Norms	.17	.11	.02*	.03	.30	.01
	Financial Relationship with Parents	-.33	-.14	.01**	-.56	-.11	.02
	Financial Literacy Pre-Test Scores	.76	.61	.001***	.60	.93	.15
	Course Taken	1.82	.16	.001***	.73	2.91	.02
	Financial Literacy Pre-Test Scores * Course Taken	-.02	-.01	.84	-.25	.20	

*$p < .05$; **$p \leq .01$;***$p \leq .001$.