First-Year College Students and Personal Finance:

The Roles of Knowledge, Attitudes, and External Influences

by

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Abstract

The financial context of American postsecondary education has come under increased scrutiny in policy circles and media outlets, covering a wide range of topics such as the role of colleges as stimuli in local economies to the fierce competition among universities for scientific research funding. However, no single concept has received more media attention than the financial barrier to attending college, both because this barrier has risen significantly in recent years and because these costs exacerbate inequalities in social and economic opportunity. However, the current body of academic research in this area contains three significant shortcomings: most research consists of restrictive hypothesis testing rather than an ecological analysis of students' overall financial lives, most studies stem from a quantitative-only analysis methods, and most works examine only traditionally-aged students on four-year campuses. This dissertation begins to fill these gaps, by looking at students' financial experiences more broadly, using both quantitative and qualitative methods, and examining both traditionally- and nontraditionally-aged students on two-year and four-year campuses. The results suggest that (1) the relationship between financial knowledge and financial behavior is heavily dependent on the behavior in question, (2) external influences play a larger role that financial knowledge or financial attitudes in the financial decision-making process, and (3) the effects of attending different types of institutions were revealed more fully in interviews than on surveys. These findings suggest that pursuing different types of research is necessary if academics hope to paint an accurate portrait of the financial burdens being faced by college students.

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Chapter 1: Introduction

Background

Policies aimed at reducing financial barriers to higher education take many forms, but most focus on reducing the direct costs of attendance. In 2008, for example, the U.S. congress passed an $819 increase to the maximum Pell Grant award. These policies are certainly beneficial to lower-income students and families, but despite their good intentions, price-centric policies alone are not a sufficient means of overcoming financial obstacles: regarding the 2008 Pell Grant increase, tuition and fee rates at the University of Wisconsin-Madison have risen by over $3000 since 2008[1], more than offsetting any benefits it provides. As the debate over price reduction continues, the financial barrier to college attainment might be reduced by other means. In particular, improving students' financial decision-making shows promise as a way of assisting low- and moderate-income (LMI) students and families.

More effectively managing one's personal income and expenditures could maximize the utility of limited resources and potentially lead to an improved college experience. Along these lines, research in personal finance consistently indicates that improvement is needed, in that financial misinformation is more common among LMI individuals generally (Jacob, Hudson, & Bush, 2000) and among LMI college students specifically (Chen & Volpe, 1998). This literature also suggests that, aside from financial knowledge levels, financial anxiety is more common in

[1] http://nces.ed.gov/collegenavigator/

the LMI community because of class-based social norms such as risk aversion and debt aversion (Grable, 2000).

These and other findings suggest that, when it comes to financial decision-making, LMI individuals may be at a disadvantage in both *objective* factors, such as financial knowledge, and *subjective* factors, such as financial stress. However, the overwhelming majority of prior research fails to account for both types of financial decision-making elements. This dissertation aims to do precisely this. More specifically, the following study hopes to make a unique contribution by pursuing a more comprehensive understanding of how college students make financial decisions. This will be accomplished by examining both knowledge and non-knowledge factors of students' financial decision-making processes – and doing so in diverse campus contexts that allow for comparisons between LMI and non-LMI students.

Research Purpose

The purpose of this dissertation is to provide insight into postsecondary students' financial decision-making, by addressing three key shortcomings in the current body of literature. Missing from the conversation about college students and personal finance is (A) a perspective on the decision-making process that extends beyond factual knowledge, (B) the inclusion of non-traditional and other under-represented student populations, most conspicuously students on two-year campuses, and (C) the use of qualitative research methods. More specifically, I address these shortcomings in the following manner.

- Whereas most research in this area focuses on how much personal finance knowledge a student possesses (for example, if a student knows the components of a credit score), this study takes a broader view of the decision-making process. In addition to the role of factual information, I hope to gain understanding of the psychological, social, and cultural norms that students bring to bear on financial choices.
- Whereas most research in this area covers only four-year students, who typically have access to more financial resources – both tangible and intangible – than their two-year counterparts, this study's sample includes an approximately equal number of two- and four-year students. Moreover, the participating campuses capture a degree of geographic and racial/ethnic diversity not typically available in published works on a single institution. Prior research has documented the ways in which two- and four-year students differ (e.g., Horn, et al, 2006), and hearing from each of these types of students lends an ear to voices that are often ignored in the research on college students and personal finance.
- Whereas quantitative data dominates the body of literature in this area, this study utilizes a mixed-methods analysis, drawing on both a quantitatively-oriented survey and qualitative interviews with students. Because there is little qualitative or mixed-methods research in this area of study, the qualitative interviews provided here offer a unique opportunity to explore questions that are difficult to ask on a survey, and to delve deeper into survey responses. By utilizing both methods, I hope to gather data that is more comprehensive than is typically available from a quantitative-only study.

Taken together, these steps aim to improve upon the prior body of work by shifting the conversation and expanding its subject matter. In doing so, this study strengthens our

understanding of the financial lives of college students, by delving deeper into the decision-making process and examining a wider range of college students. It should be noted that the relationships being explored in this study are not causal relationships, but exploratory relationships, i.e., the findings that are presented and the conclusions that are drawn are meant to describe correlations between conceptual topic areas, and are not meant to state that a particular variable or concept produces another. Given the comparative newness of the body of academic work in the field of college students' personal financial management, as well as the data limitations faced by the researcher, this type of study is an appropriate starting point for the analyses being presented here.

Research Questions

With this substantive background and research purpose in mind, the research questions underlying the study on which this dissertation will be built are:

RQ1. How is financial knowledge related to the financial decisions of first-year college students?

RQ2. How are financial attitudes related to the financial decisions of first-year college students?

RQ3. How are external influences (family, peers, media exposure) related to the financial decisions of first-year college students?

RQ4. How do the answers to these questions differ by institution type?

Together, the findings related to these questions could enhance our understanding of how college students make financial decisions. The first two questions broaden the scope of personal

financial management by focusing on *how* decisions are made (as opposed to *what* decisions are made), and provide a springboard from which we can expand the comprehensiveness of research in this area. The third question could shed light on possible best practices for stakeholders and policymakers, given that systems, policies, and interventions are most commonly designed with four-year students in mind, but that two-year comprise about half of all college enrollees.

Chapter 2: Analytical Context

Prior Literature

The existing body of research into college students' personal financial habits is primarily diagnostic in nature. Regarding inputs, overall financial capacity is typically defined by a student's financial knowledge level, which is assessed as the number of correct responses to a set of objective questions. Regarding outcomes, financial behavior is commonly defined as credit card usage or student loan accumulation. These relatively narrow definitions highlight the need for deeper and more varied ways of examining this complicated topic.

The following review will proceed in two sections, each of which is based on the prevailing norms of the academic research that has occurred: one which outlines literature on college students' financial knowledge and the relationship between financial knowledge and other personal finance concepts, and another which highlights published works on college students' financial behaviors and the links between these behaviors and other personal finance concepts.

College Students' Financial Knowledge

The lion's share of studies dealing with college students' financial knowledge strongly suggests that it is very low overall, and that some demographic student groups fare worse than others. For example, students at one four-year university exhibited inadequate knowledge about personal investing topics such as risk, diversification, and interest rates, among others

(Volpe et al., 1996). Knowledge levels were comparatively lower for female students and students not majoring in a business discipline, but were still quite low for males and business administration majors; these findings have been corroborated in more recent years and in larger samples of students (e.g., Peng et al., 2007). Testing a more extensive list of financial knowledge elements, a survey of nearly 1,000 college students in six states found low levels of financial knowledge in four separate topic areas: personal investing, saving and borrowing, insurance, and general knowledge (Chen and Volpe 1998; Chen and Volpe, 2002). These findings echoed the gender and business-major patterns observed in earlier research (Volpe et al., 1996; Peng et al., 2007), and uncovered consistent patterns for all four elements along other demographic lines: younger students (by both age and academic status year) were less knowledgeable, students with fewer years of work experience were less knowledgeable, and students not born in the United States were less knowledgeable. Interestingly, while no one racial/ethnic group consistently garnered the highest score on a consistent basis, scores for African-American students were consistently the lowest for all four knowledge elements.

Aside from research delving into specific financial topics, a more common form of academic research on college students is that of a generalized "financial literacy score" in which individual measures of financial management are aggregated and provided as a single measure. An example of this comes from a study of freshmen at one four-year university who were given a questionnaire with 25 knowledge questions from across the personal finance spectrum, with financial literacy was defined as the percentage of correct answers (Avard et al., 2005). Using this method, the authors discovered that the average score on the financial knowledge test was 35%, the median score was 33%, and that 92% of students scored below a "passing" grade of

60% – all very low numbers. Perhaps the most well-known examples of financial literacy work stems from Dr. Lewis Mandell and the survey of high school seniors that he developed for the Jump$tart Coalition for Personal Financial Literacy; the survey was first deployed in 1997 and has been given on a biennial basis since 2000. College students began taking the survey in 2008, and several publications have stemmed from the results (e.g., Mandell and Klein, 2007; Mandell, 2008; Mandell and Klein, 2009; Mandell, 2009). Beyond the predictably low overall knowledge scores, two themes from the Jump$tart-related publications are that scores are decreasing with each survey cohort, and that students gain financial knowledge (albeit in small doses) as they proceed through their college years.

Of course, financial knowledge is not an end unto itself and examining knowledge levels in isolation does not paint a sufficient picture of college students' financial lives. Rather, we must also analyze the relationship that financial knowledge shares with financial behaviors and other personal finance elements. For example, college students' knowledge has been positively correlated with financial behaviors such as keeping records and purchasing insurance (Chen and Volpe, 1998), and with financial attitudes such as feeling positively about investing and believing that keeping expenses lower than income is important (Chen and Volpe, 1998). However, a college student's financial knowledge does not appear to be associated with having taken a personal finance class in high school (Avard et al., 2005; Mandell and Klein, 2007; Mandell and Klein 2009) and credit knowledge has not shown itself to be related to credit card behaviors (Jones, 2006). Given the mixed nature of these findings, the work by Cliff Robb serves as perhaps the most applicable microcosm for how financial knowledge is linked to other outcomes, in that his work frequently puts forth both expected and unexpected findings

simultaneously. On one hand, one study (Robb, 2011) observed an empirical link between possessing *low* financial knowledge and engaging in so-called unhealthy credit card behaviors such as being at one's credit limit, regularly making the minimum monthly payment, and making a late payment. On the other hand, a different article (Robb and Sharpe, 2009) observed that having *high* financial knowledge was associated with higher credit card balances, and did not observe a link between financial knowledge levels and carrying an unpaid balance into a subsequent payment period.

Taken together, the complexity of these findings demands that researchers delve into the mechanics of financial knowledge, such as how it is obtained and the factors that mediate or moderate the knowledge-behavior relationship. Regarding the former, some findings suggest that parents and family networks provide informal learning channels that outweigh the impact of formal classroom contexts (Chen and Volpe, 2002), while others (Mandell and Klein, 2007) indicate that motivation plays a significant role is acquiring financial information. Regarding the latter, it has been hypothesized that gender affects the link between knowledge and behavior: beyond the studies that suggest male students' comparatively higher levels of financial knowledge, others have found that male students' *enthusiasm* for financial information and their *confidence* about their financial abilities tends to be much higher than those of their female counterparts (Chen and Volpe, 2002). Another possible mediator/moderator is financial attitudes, and on this front, some studies (Borden et al., 2008; Shim, et al. 2009) observed that attitudes such as risk aversion are more predictive of unhealthy financial behaviors than financial knowledge is, and that whatever effect knowledge does have is filtered through attitudinal factors. In sum, it appears that the jury is still out on the power of financial

knowledge elements, whereas psychological and other non-knowledge-related elements play a more significant role in college students' overall financial management.

College Students' Financial Behaviors

Financial behavior can be operationally defined in countless ways, but has become confined to a handful of categories in the body of past research. Credit card behavior is by far the most prominent of these categories, and published works have provided wide variance in the findings about credit card usage. On one hand, some studies (Adams and Moore, 2007; Lyons, 2004) found that only 13-16% of college students possessed as much as $1,000 in credit card debt and that nearly 70% of respondents either did not have a balance on their card or did not have a credit card at all; these results suggest that credit cards' impact, while not trivial, is not particularly extensive. On the other hand, some studies found that 66% of students at one four-year university had at least one credit card (Warwick and Mansfield, 2000), others found that the mean credit card debt among students across five separate campuses was indeed over $1,000, even when including students with a zero balance and students without a card (Norvilitis et al., 2006), and still others (Jones, 2006) found that incoming college freshmen who had a credit card in their name had an average balance of over $700 *by the time their college careers began*. Taken together, this research suggests that financial behavior varies widely by campus, and that overarching patterns are not yet apparent.

While far less common, financial behaviors unrelated to credit cards – such as debt management or record keeping – also get discussed in academic journals. One example comes from a survey at a single four-year campus (Henry et al., 2001) in which nearly 60% of students

reported that they did not keep a personal budget, and an additional 9% kept a budget but never followed it. Another example of financial behavior is the accumulation of overall debt, from both credit cards and other sources, and the news here is not promising: over 50% of incoming freshmen already possess some form of debt (Jones, 2006) and 70% of students of all students possess some type of student loan (Pinto and Mansfield, 2006). It is worth noting that reactions to the pervasiveness of student loans vary widely, with some viewing them as an appropriate form of cost sharing (Johnstone, 2006) while others emphasize the deleterious effects they have on college access and success (Williams, 2006).

A simple accounting of frequencies and amounts do not tell the full story of financial behaviors' impact on students' lives, and a body of work is starting to be built around on the relationship between financial behaviors and other personal finance outcomes. Predictably, a sizable share of this body emanates from studies on credit card usage, and similar to the results from research into the frequency of credit card usage, the findings from relationship-oriented data are wide-ranging. For example, some studies observed that credit card behavior is associated with a range of outcomes such as having non-credit-card forms of debt, with a subsequent analysis of *how* students obtained their card having downstream effects of possessing higher levels of card usage, debt, and payment delinquency (Lyons et al., 2005; Roberts and Jones, 2001; Robb 2011). Additionally, data has also suggested that credit card usage is related a host of non-debt-related outcomes, such as grade point average, hours of employment, and off-campus housing status as well as risky health behaviors drunk driving, having unprotected sex, and failing to regularly exercise (Adams and Moore, 2007), thereby suggesting that "unhealthy" decision-making is clustered within the credit card holder, and that

it is not solely the availability of debt that is causing deleterious outcomes. This hypothesis is bolstered by data about college students who either do not possess a credit card or possess a credit card with a zero balance, who are more likely to experience lower stress levels and to be good managers of stress when it does occur (Nelson et al., 2008). The overall pattern might be, then, that paying for college is a vicious cycle: the students most in need of assistance paying for college are those who take on the highest levels of personal debt, which makes less likely to engage in healthy credit card behaviors, which increases debt levels, and so on.

Compared to those examining credit card usage, a smaller number of academic researchers have studied other types of college student financial behaviors. One of the behavioral alternatives is "financial experience," an umbrella term that pulls from a wide swath of financial activities that college students might engage in – examples include possessing a bank account, owning stocks and/or savings bonds, having in-depth conversations with parents or friends about personal financial management, and witnessing members of family or social networks grapple with financial decisions, among others. A handful of studies in this area has linked overall financial experience to a range of positive student outcomes, from increased savings to paying bills on time and not writing bad checks (Peng, et al., 2007; Borden, et al., 2008; Cude, et al., 2006), with a lack of experience also being linked to several negative student outcomes such as sensation-seeking behaviors, failing to keep a personal budget, and not balancing one's checkbook (Worthy, et al., 2010; Cude, et al., 2006). Another behavioral alternative to credit card usage is overall debt, which has been linked to college dropout (Dwyer, et al., 2013). It is also quite intriguing that the debt-dropout relationship varies widely by gender and race/ethnicity, with traditionally marginalized groups experiencing larger

negative effects from student debt burdens (Borden, et al., 2008; Dwyer, et al., 2013), though even after controlling for demographics, financial experiences are still a significant predictor of financial health among college students (Gutter and Copur, 2011).

Limitations and Opportunities

Of course, no body of research is perfect, and that of college students' personal financial management is no exception – in no small part because personal finance generally has long been studied, but examinations of college students specifically is a more recent phenomenon. One tangible expression of this constraint comes from Sandra Huston's (2010) literature review of how "financial literacy" is operationally defined in peer-reviewed journals: in a paper containing references to 92 published articles, only eight articles featured college students in their sampling frame. Still, more research has occurred over the past several years, fueled perhaps by the rising costs of attending college and media interest in subsequent ramifications such as a rapidly inflating student loan bubble (e.g., Zumbrun and Torres, 2013) and a macroeconomic drag stemming from alumni debt loads (e.g., Lowery, 2013), among others. The upside of these conditions is that researchers are less beholden to past norms of published academic works, and are more free to take a holistic view of what new research is this area can and should look like. With this in mind, what follows here is an explication of the shortcomings endemic to the limited body of past research, alongside suggestions for the ways in which this research area can be improved.

Increasing Scope

Of the 35 research articles mentioned in this review, over half (18) of the data came from a one-campus context and two others emanated from two campuses. As such, insights from one study cannot truly be compared to the insights from another because the processes for gathering and analyzing data were not the same in each instance. Given the increasingly segregated nature of postsecondary institutions – not only academically but also ethnically, financially, and socioculturally – a far greater share of future research should occur on multiple campuses simultaneously. In this way, research findings can be more easily compared across campus contexts because the information processes are identical and implemented in parallel. To expand the scope of experiences contributing to the findings about college students' money management, his study was conducted on five campuses.

Including Two-Year Institutions

Of the 24 articles mentioned in the literature review section of this dissertation that specified institution type[2], only two articles discussed sampling frames that included students from two-year campuses, and one of those two examined a sample that was only 10% composed of two-year students. Given that nearly half of college students in the US attend two-year campuses, this lack of coverage is conspicuous and alarming. Moreover, two-year students are less "traditional" in ways that would shed light on the findings associated with four-year students – they tend to be older, are more likely to be married and have children, more often attend part-time or intermittently, and on average come from lower socioeconomic

[2] Five studies did not specify institutional type.

backgrounds. Given the financial hurdles inherent to these characteristics of two-year students, their personal financial patterns have the potential to be even more complex and insightful than the already complicated picture emerging from research on their four-year counterparts. To be inclusive of this growing sector of postsecondary education, this study gathered data from three two-year institutions.

Deploying Qualitative and Mixed-Methodologies

Only one of the articles mentioned employed any data-gathering method beyond a survey: Cude et al. (2006) followed-up their online survey with eight focus groups that included approximately 50-60 students in total. Although quantitative data is highly valuable, it does not provide a comprehensive view of the issues involved. Adding qualitative work to the mix, either as a stand-alone analysis or as part of a mixed-method study, would bring a different lens to the currently one-sided body of work. In fact, given that adolescents and young adults can provide inconsistent answers and less stable self-ratings than older subjects, an in-depth interview could generate more genuine data than is currently available. This study combines quantitative analysis of survey responses with qualitative analysis of individual interviews to provide both breadth and depth of understanding of college students' financial processes.

Accounting for Social and Cultural Norms

With few exceptions, existing studies of students' personal financial management decisions do not discuss psychological and sociological influences in depth. Yet prior research consistently finds that demographic background plays a role in financial decision-making, and a

likely mechanism for these effects is the social and cultural norms emanating from students' external influences. For instance, if working-class and low-income students have lower average levels of student loan debt, it may be because of a strict cost-benefit analysis leads those students to investing in a lower-cost option such as a community college – or it may in part be attributable to the relative prevalence of loan aversion among their families, peers, or communities of origin. While comparatively few finance researchers and experts emphasize the social-psychology of financial decision-making, those who do (e.g., De Bondt and Thaler, 1995) have risen in influence over the past decade. Their core argument challenges classical economic theory: social and psychological biases play a substantially significant role in financial decisions that "at this point it is appropriate for economists to consider the implications for public policy of imperfect rationality" (Daniel et al., 2002, p. 141). By this, the authors mean that educating ourselves on the depth and breadth of these biases is a necessary first step toward elevating financial health.

Yet this area of research remains largely untapped. To their credit, some researchers have discussed attitudinal issues in financial decision-making, but unfortunately they tend to do so in fairly limited terms. Hayhoe et al. (2000) and Norvilitis et al. (2006), for example, talk about the link between financial attitudes and financial behaviors but define attitudinal factors only at the individual level (i.e., how students feel about using credit cards) and exclude factors such as debt aversion, consumerism, and the manner in which the attitudes developed. One useful example that future researchers might want to emulate comes from Lucey and Giannangelo (2006), who extended a conversation about K-12 financial education by analyzing the need for programs and curricula that is sensitive to the peculiarities of urban students. This work

suggests that parental modeling and social spending pressures from new college friends would influence numerous college-going elements, from financial decision-making at the college level to the determinants of choosing a major. Ultimately, adding psychological and social elements to financial research is vital if advocates and stakeholders aim to improve the financial management skills and overall financial well-being of college students. This study incorporates these considerations by explicitly examining potential determinants of financial attitudes, including parents, siblings, and social networks, among others.

Utilizing a More Expansive Conceptual Structure

Financial decision-making is complex and frequently opaque, yet the available research on college students does not reflect this, and instead reduces the tangled thicket of managing money while in college to a set of thin and prescribed frameworks. (One notable exception is Shim, et al, 2010.) For example, a student's financial capacity is usually assessed through a set of short, diagnostic fact-based tests (e.g., Harter and Harter, 2010) and financial capability is then measured as the number of correct answers to these objective questions. Missing from the typical equation is evidence about *how* information is deployed, and what role subjective information plays in the decision-making process. This approach to studying college students' financial lives heavily relies on the rational actor model, in which financial actors are assumed to possess sufficient information to make a decision, the ability to process this information in a logical manner, and the willingness to do so (Smith, 1863, 1776). While this model is somewhat applicable, it is also inadequate: critics such as De Bondt and Thaler (1995) suggest instead that "[rational actor] theory has little to say about important aspects of economic behavior such as

the role of social norms. Thus, to make progress, one needs to better characterize behavior in the usual domains of finance theory…and to enrich the theory to incorporate new domains upon which finance has been silent."

The enrichment advocated for by De Bondt and Thaler could take numerous forms, but typically involve the integration of sociological, psychological, and human ecological elements with the rational actor model. Some examples include work whose findings suggest that factual information has the potential to do more harm than good to financial decision-makers (Caplin and Leahy, 2001), that decision are frequently arbitrary and/or rely on thin premises known as cognitive heuristics (Daniel, et al., 2002; Hirshleifer, 2001), and that financial actors have highly bounded decision-making abilities (Kahneman, Slovic, and Tversky, 1982; Rabin, 1998; Camerer, 1998, p. 180).[3] This dissertation will take some steps in the direction of expanding the conceptual context in which college students' financial decision-making is examined. In the process of doing so, I will refer to the psychological factors with the term "financial attitudes," and I will refer to social factors with the term "external influences." It is hoped that the inclusion of these concepts will move this study beyond a mere accounting of what students have done or how many facts they possess, and into a multifaceted analysis in which differing financial concepts are seen as ecologically interconnected.

[3] For a more detailed taxonomy of psychosocial biases prevalent in financial decisions, please see Karen Holden's *The Emotions and Cognitions Behind Financial Decisions: The Implications of Theory for Practice* (2010) and/or Robert Shiller's *Human Behavior and the Efficiency of the Financial System* (2001).

Summary

All told, the current body of published works hints at several possible topics for future research – both because of what has been previously covered and because of the gaps that still exist. This dissertation will pursue both of these avenues, in that it will attempt to both align its analyses to previous findings and to break new thematic ground about how college students manage their personal finances.

Regarding the patterns that were identified in prior literature, this dissertation will address six major "pathways" that affect college students' personal finances:

- The level of financial knowledge and its relation to demographic characteristics.
- How the relationship between financial knowledge and financial behaviors varies by the behavior in question.
- The role of financial attitudes in financial decision-making.
- How financial attitudes' impact on financial behavior varies by the behavior in question.
- The ways in which financial knowledge is gained and financial attitudes are developed.
- The role of external influences on the financial decision-making process.

These pathways contain opportunities for explicit findings to be confirmed or disconfirmed (e.g., financial knowledge levels are lower for females than for males), as well as opportunities for cloudy findings to be clarified (e.g., the uncertain link between certain financial attitudes and the likelihood of engaging in unhealthy financial behaviors). Each of these pathways will be pursued in this dissertation; the first two will be covered within the findings around RQ1, the second pair will be covered by RQ2, and the final two by be covered by RQ3.

Regarding the attempt to break new ground, the substantive gaps in the current body of literature reveals four areas that can be examined:

- A broader exploration of financial attitudes than is currently available.
- A broader exploration of external influences than is currently available.
- A deeper dive into each of financial knowledge, financial attitudes, and external influences.
- A categorization of findings into two-year and four-year institutions.

These pathways will also be pursued within this dissertation. The first will be covered within the findings around RQ2, the second will be covered by RQ3, the third will be covered by the inclusion of qualitative data-gathering methods for all four research questions, and the fourth will be covered by RQ4, which mandates the inclusion of community college students within the sample for RQs 1-3.

Chapter 3: Research Methods

To answer the research questions, a mixed-methods approach was used to obtain data from college students on a variety of campus contexts. All students completed a voluntary online survey, and one-on-one interviews were conducted with a purposive sample of survey respondents. Five institutions participated in the study. These campuses were chosen to provide geographic and racial/ethnic diversity to the sampling pool and the eventual sample. I will outline the manner in which the information was gathered and analyzed in three sections: Data Gathering, which explains the information-acquisition steps taken and the database that resulted from these processes; Data Analysis, which describes the steps taken to process and examine the information; and Data Limitations, which outlines the constraints inherent to the methods used and, therefore, the information and conclusions that stem from them.

Data Gathering

Sampling and Students

All the information presented in this study is composed of original data, gathered solely by the dissertator. The data were obtained at five public postsecondary institutions in the United States, located in three states. Table 1 provides basic information on these schools.

Table 1: Overview of Participating Institutions

Name[4]	Region	Location	Type
Big River University	Midwest	Urban, mid-size city	four-year, flagship
Chieftain College	Northwest	Urban, large city	two-year
Glacier Community College	Midwest	Rural, small city	two-year
Little River University	Midwest	Urban, mid-size city	four-year, non-flagship
Santo Poco Junior College	West	Rural, mid-size city	two-year

Starting in February 2013, I approached approximately 50 institutions in four states about the possibility of participating in the research project; these institutions were chosen because they would provide diversity regarding institution type and student body composition. Of these invitees, approximately 15 agreed to be initially considered. From this smaller group, the five selected institutions were chosen because their collective pool of students provided the comparatively highest level of diversity being sought for the study. Specifically, the collective student populations of the two four-year campuses approximates that of the three two-year institutions, and the predominantly White student populace of some institutions were balanced again the more varied ethnic/racial populace of others. Table 2 provides institutional-level descriptive statistics on the full potential sampling pool.

Table 2: Institution-Level Descriptive Statistics[5]

Name	Type	US Region	Undergraduate Enrollment*	% Part-time	% non-White	% age 25+	% Pell recipients
Big River	4-yr	MW	31,000	8%	24%	6%	14%
Chieftain	2-yr	NW	6,000	62%	54%	59%	41%
Glacier	2-yr	MW	11,000	74%	24%	49%	43%
Little River	4-yr	MW	7,000	37%	14%	26%	31%
Santo Poco	2-yr	W	23,000	69%	45%	40%	33%

** To reduce the identifiability of the institutions, these number have been rounded to the nearest 1,000 students.*

[4] To protect students' privacy, all institutional and personal names are fictitious.

[5] https://nces.ed.gov/collegenavigator/

At each institution, I invited all first-year students to participate via email; on four of the campuses I obtained a list of all first-year student emails from campus administrators and sent the email myself, while on the fifth campus (Santo Poco) I provided an administrator with the text of an email that was pasted into an email that she sent to students. A total of 810 students accessed the survey. Of this group, 51 students were dropped because they indicated that they attended a postsecondary institution prior to the 2014-2015 school year, and thus are not considered first-year students. Of the remaining 759 students, 249 signed the online research consent form (presented as the first page of the survey) but did not answer any of the substantive questions; these students were also dropped from the sample. The remaining survey sample consists of 510 students.

From the pool of survey completers, I constructed a sub-sample of students to participate in individual interviews via purposive sampling: the survey contained a question asking students if they were interested in completing an interview, and approximately two weeks after the survey was initially sent to students, I re-contacted those students who answered this question affirmatively. Of the 510 students who submitted a survey, 168 students (32.9%) indicated that they wished to be considered for a personal interview. The students chosen for interviews were consciously selected to satisfy a minimum number of three interviews per institution, and to provide gender, age, and racial/ethnic diversity. Ultimately, the interview sample consisted of 32 students

No participation incentives were provided for survey completion, though the introductory email mentioned that some survey completers could earn $20 by being chosen to

participate in follow-up interviews. Table 3 provides information about each step in the data-gathering process, delineated by institution.

Table 3: Participation Steps, by Institution

	Big River	Chieftain	Glacier	Little River	Santo Poco
Sent Email	9,093	4,709	4,401	1,140	3,302
Opened Email	3,442	823	945	332	N/A*
Completed Survey	224	16	41	21	208
Interviewed	14	4	5	3	6

** Because Santo Poco administrators sent the emails directly, it was not possible to record the number of original emails that were opened.*

Regarding the survey sample, it can be said that this study's students appear consistent with many of the prevailing trends in postsecondary education overall: female students were more prevalent than male students, and White students were more prevalent than students of color. Table 4 provides summary statistics for the background characteristics of survey students.

Table 4: Descriptive Statistics of Survey Students, by Institution

	Big River	Chieftain	Glacier	Little River	Santo Poco
Gender					
% female	68	43	67	74	63
Race/Ethnicity*					
% African-American	3	14	0	0	1
% Asian	7	43	14	0	6
% Hawaiian/Pacific Islander	0	0	0	0	2
% Hispanic/Latino	2	14	3	5	34
% Native American	1	0	0	0	3
% White	90	43	83	100	43
Financial Experience					
% Took HS Finance Class	63	17	70	84	75
% Completed FAFSA	73	50	71	95	58

** Institution-level percentages may sum to more than 100% because students chose to identify as multiethnic.*

Survey Instrument

The questions selected for the survey were chosen because of their perceived alignment with the four research questions guiding this study. More specifically, alignment with the research questions was affirmed if a survey item dealt with either previous research findings in this topic area or novel concepts that had previously gone underdeveloped. Both the prior and novel research avenues – each of which were outlined in the "Summary" section at the end of Chapter 2 – revolve around four constructs: financial knowledge, financial attitudes, external influences, and financial behaviors. In this study, "financial knowledge" is operationally defined as the set of objective, factual information that students possess about personal finance and how it works (e.g., knowing that grants do not need to be repaid but that loans do). "Financial attitudes" are defined as the set of personal and emotional ways that people think, feel, or believe about personal finance concepts (e.g., how important one feels it is to check bank balances on a regular basis). "External influences" are defined as members of one's social network that establish norms and expectations for how to financially behave (e.g., how one's friends choose to spend their money). "Financial behaviors" is defined as a set of external actions taken by students around managing money, be it either direct (e.g., applying for financial aid) or indirect (e.g., trying to learn about personal finance tips).

The survey instrument is predominantly an amalgam of questions in these four constructs from established, published surveys in the field. Within this group, several questions drawn from existing surveys were adapted to fit a college student context. These established items were also supplemented by a small number of original, more college-specific questions created for this dissertation, because most of the established surveys were not built specifically for

college students and I hoped to expand the survey to more fully account for the unique properties of this context. Whenever possible, I contacted and consulted with the person(s) or organization(s) responsible for the existing instruments, to inform construction of the study survey. The instruments and researchers accessed include:

- Arizona Pathways to Life Success: Transition to Adulthood (APLUS)
- Avard, et al. 2005 article (see Reference list)
- Chen & Volpe 2002 article (see Reference list)
- College Savings Foundation's State of College Savings Survey
- College Student Financial Literacy Survey
- Cude, et al. 2006 article (see Reference list)
- Education Longitudinal Study of 2002 (ELS2002)
- Financial Industry Regulatory Authority (FINRA)
- Inceptia/National Student Loan Program 2012 National Financial Capability Study
- Jump$tart Coalition Survey of Personal Financial Literacy Among Students
- Knoll & Houts 2012 article (see Reference list)
- Manton, et al. 2006 article (see Reference list)
- National Endowment for Financial Education (NEFE)
- National Financial Educators Council (NFEC)
- National Foundation for Credit Counseling (NFCC)
- National Longitudinal Study of Adolescent Health (AddHealth)
- Organisation for Economic Cooperation and Development (OECD)
- Personal correspondence with college administrators
- Visa Practical Money Skills for Life's Global Financial Literacy Barometer
- World Bank's Global Survey on Consumer Protection and Financial Literacy
- 2012 Consumer Financial Literacy Survey (CSFLS)

I winnowed a master list of nearly 400 potential questions to a working list of nearly 100 questions, and then to a final list of approximately 50 questions (the exact number of questions

cannot be determined because of some skip logic embedded in the survey instrument). When eliminating questions from the list, the overwhelming consideration used was that of parsimony: a consultation session with the University of Wisconsin Survey Center revealed that, because survey completion incentives were not offered, the survey instrument should be reduced to the point that it would take only 6-8 minutes to complete and feature only "clickable" responses. With this goal in mind, a preference was given to questions that were frequently included in other surveys, were commonly mentioned in personal communications with other researchers, and were likely to stimulate conversation during the interview process.

In addition to items measuring various aspects of the four constructs of interest, the survey includes items capturing student demographics. Demographic information was collected as a means of providing potentially meaningful insight about the data, and for the purpose of selecting a diverse pool of interview candidates. Finally, three open-ended questions were asked at the end of the survey: (1) What are some of the big things you learned about money this year?, (2) What are some of your important beliefs when it comes to managing your finances?, and (3) How financially stable are your college friends, and how do you think you fit in with them when it comes to money?. A text box was made available for students to write as much or as little as they wanted. For the full list of survey questions, please see Appendix A.

Personal Interviews

The second means of gathering data was through one-on-one personal interviews, conducted either towards the end of the spring – from late March to early May – of the student's first year of attendance, or during the summer immediately following the students'

first year. Approximately half of the interviews were conducted in person, at a semi-private public location of the student's choosing (most commonly, a coffee shop or casual restaurant). For the other half of the interviews, the students were given the option to conduct the interview over the phone, via a free online video chat service (such as Skype or Google Plus), or through an online keyboard/text-based chat service (such as Google Plus or any instant messaging forums of the student's choosing). Three students chose the phone interview option, while the remainder chose an online keyboard-based conversation; none chose the video chat option. The in-person and phone-based interviews typically lasted between 60 and 75 minutes, were recorded via a digital audio recording device, and were transcribed manually by me. The online text-based interviews typically lasted between 75 and 90 minutes, with the technology tool automatically providing a transcript of the conversation.

I utilized an open interview style, which precluded the development of a prescribed list of interview questions or talking points. As a result, the interviews collectively covered a wide range of issues, and no one interview could be said to have covered identical content as any other. However, because students were aware of the overall topic of the research and because I attempted to loosely funnel the conversation into the area of money management, some topic areas recurred regularly. These more-common topics include:

- The transition from high school to college (for traditionally-aged students), or the addition of college to work and/or family obligations (for nontraditionally-aged students).
- Managing stress in general, and managing financial stress in particular.
- Friendship circles, social and academic networks, and their possible influence.
- Financial temptations, instances when it was resisted, and instances when it was not.
- The ebbs and flows –both ordinary and extraordinary – of personal income and expenses.

The interviews tended to be conversational. In particular, I emphasized the request for anecdotes, both as a means of guiding the narrative of the interview and as a means of nudging the student to more deeply reflect on their lived experiences. (For reasons that will be made more clear in the Results section, most students were initially unable or unwilling to delve deeply when providing responses; walking an interviewee through a personal story helped him/her become more comfortable with me and provided a shared story that could be dissected more intimately.) There was some discussion of hypothetical scenarios and of projections on future events, but these instances were minimal.

Data Analysis

Quantitative Data

Data from the online survey was collected via Qualtrics, a web-based survey-hosting service with which the University of Wisconsin has a partnership. A survey for each of the five institutions was provided with its own web address, resulting in five separate output files. Upon closure of the surveys, the files were downloaded as a CSV file and translated into a Stata-compatible file using the data translation software Stat/Transfer. Once the files were loaded into Stata, I merged the files into a single dataset for cleaning and coding.

As previously mentioned, a detailed list of the survey questions can be found in Appendix A. From the questions provided on that list, I made several changes to the output stemming from the data file, to make the responses more efficient or more comparable across questions; these changes are outlined in Table 5. Perhaps most noteworthy among these change is the translation of several ordinal and categorical variables into dichotomous variables;

these changes were made to allow for the testing of these variables in both their more granular form (on the original scale) and in their simpler form (on the dichotomous scale). The rationale for testing these variables in both forms will be more fully explained in the Results chapter of this dissertation.

Table 5: Alterations Made to Survey Responses

Question(s)	**Alteration**
What was your approximate Grade Point Average (GPA) in high school? *and* Was your high school on a 4.0 GPA scale? *and* At your school, an "A" was worth how many points?	For those students who were not on a 4.0 scale, an adjustment was made to calculate the proportional equivalent of being on a 4.0 scale.
What is your gender?	From the original categorical response options, a binary variable was created with "female" is "1" and "male" is "0."
For each of the 10 Financial Knowledge questions.	From the original categorical response options, two new binary variables were created: 1. Indicating if the student provided the correct answer. 2. Indicating the total number of correct responses (0-10).
How many credit cards do you have? (do not include ATM or other debit cards)	From the original ordinal response options, a binary variable was created to indicate if the student had any credit cards.
For each of the following questions, whose response options were originally provided on a 5-point Likert scale:	From the original ordinal response options, a binary variable was created in which 0-3 responses are "0" and 4-5 responses are "1."

▪ When it comes to money issues, to what degree do you think your own behaviors are influenced by the following? ▪ How true are the following statements about your financial experiences? ▪ How interested are you in increasing your financial knowledge? ▪ Please indicate how you feel about each of the following activities. ▪ How confident are you that paying for college is a good investment in your future?	
How much of last year's college expenses were paid for by the following sources? [Student loans]	From the original ordinal response options, a binary variable was created in which "none" is "0" and any other response is "1."

The primary analyses conducted on this dataset are descriptive in nature. I first examined the answers themselves, with an emphasis on the frequency with which each item was provided. Then, I performed a series of Student's t-tests and Pearson's chi-squared tests on certain variables to gauge whether there were statistically significant differences in the sample by various measures. A complete list of the tests and their findings can be found in the Results section of this dissertation, but one example is that I tested if financial self-efficacy was correlated with the likelihood of paying bills late.

Finally, having tested the correlation between financial knowledge and financial behaviors, and between financial attitudes and financial behaviors, and between external influences and financial behaviors, I compared the findings produced here with the findings of prior academic research. Also, I provided some theoretical reasoning for the more innovative aspects of this dissertation, which are not covered by previous work in the area.

Qualitative Data

All interview transcripts were uploaded to NVivo 10 software, which was used in all steps of the qualitative analysis. The analysis consisted of numerous steps, all of which were designed to look for themes within the four stated research questions, as well as provide an opportunity for patterns from outside of these areas to emerge organically.

The first of these steps was to create categories (*nodes* in NVivo parlance) that correspond to each of the four conceptual areas of focus. In addition to these four categories, I created a fifth category – which I titled "emergent" – for items that I was likely to discover in the analytical process, but do not neatly conform to the four prescribed sections. Once this initial organizational scheme was complete, I conducted the first wave of analysis by reading through each transcript and placing all passages that conceptually belong to one or more of these conceptual elements into the corresponding category(s); transcript passages could belong to multiple categories simultaneously. During this process I referred to this step as "Phase 1 coding," and will use that terminology here as well.

Once the Phase 1 coding was complete, the next step was to re-read the passages in each of the five nodes, and to do so with two objectives in mind: (1) to confirm or disconfirm a passage's Phase 1 classification, and to remove the classifications for those passages that were deemed as ill-suited upon this second look, (2) to create another layer of sub-nodes that thematically group the passages together based on their connectedness to each other. I will refer to this second step as "Phase 2 coding," and it serves as a crucial analytical bridge between the prescribed categories present in Phase 1 coding and subsequent step(s) in the analytical

process. That is, the broadness of the initial five categories did not allow for particularly meaningful analysis, but trying to proceed directly to analyzing specific passages or patterns would have been too cumbersome a task. Therefore, the development of sub-nodes in Phase 2 coding created the opportunity for themes to be *partially* winnowed – with further analysis being necessary.

The third analytical step in the qualitative data process proceeded similar to the step preceding it: a re-reading of the Phase 2 nodes, with the dual objectives of confirming or disconfirming their Phase 2 categorization and of creating another sub-layer or categorization that places additional thematic specificity on the passages being examined. These "Phase 3" nodes serve as the final level of coding detail, though not by prescription – my plan was to recreate these phases until I felt that I had organically come to the endpoint of the passages' analysis, and this occurred after three rounds of analysis.

The final step taken for qualitative data analysis is to examine the Phase 3 codes holistically and search for patterns in the messages being provided by the interviewees. The primary analytical focus occurred within each Phase 1 category, but trends were also searched for among Phase 2 categories, as well as across categories; the coding scheme described above was meant to be instructive but not determinative. Ultimately, it is direct quotes from students that served as the true barometers of meaning in the survey sample – while much effort was expended on how the coding was structured, the significance of each interviewee's lived experiences was the overriding principle that guided the process.

Mixed Methods Analysis

Because the quantitative portion of the study was initiated before the qualitative portion, the intent of the quantitative survey was to be primarily exploratory in nature. That is, the results would be analyzed for broad patterns, which could subsequently be used to both guide the selection of interview questions and identify topics where the interviews could provide greater substantive depth for a narrower set of student participants. However, the chronological priority of the quantitative component should be interpreted as it being more functionally more important than the qualitative component, nor should the relatively more detailed trait of the qualitative component be interpreted as it being more important than the quantitative component. Rather, the design of the study was intended to exhibit that the types of methods are (A) equally important as the other, and (B) complementary to each other. By giving comparatively equivalent weight to each method and each step in the data-gathering and data-analyzing processes, it is hoped that the egalitarian nature of this study elevates the trustworthiness of its findings.

There is no shortage of ways that mixed methods research can be designed and deployed, and correspondingly, there are numerous taxonomies for the various means by which researchers can and have done so – for some examples, see Teddlie and Tashakkori (2006), Creswell (2013), or Mertens (2014), among others. Borrowing from one of these sample classification schemes, this dissertation's methods are an example of "QUAN-QUAL sequential sampling" (Teddlie and Yu, 2007, p. 90), in which "the methodology and results from the first strand inform the methodology employed in the second strand" (p.91). This is an appropriate classification for the methods used here, because of the chronological delay between the

surveys and the interviews, because of the utility of the surveys' findings with the interviews' structure, and because it is highly unlikely that the sample of students participating in both phases underwent a significant financial epiphany in the interim between the survey and the interview.

Data Limitations

As with any research study, there are issues with the data collected for this dissertation that the reader should keep in mind when considering the findings that will be presented here. For this study, the issues fall into three categories.

Non-Random Selection

Although *all* first-year students at the selected institutions were invited to complete a survey, the pool of survey completers may not be representative of neither the general population of college students nor of students at the participating institutions: participants self-selected into participation, and the students who completed the surveys and/or took part in the interviews may systematically differ from those who did not. This issue could not have been avoided preemptively because the study lacked survey participation incentives, thereby requiring the researcher to cast a non-targeted net when requesting students to participate.

One alternative approach would have been to construct a representative sample of survey responses using quota sampling – for example, by selecting students on demographic and other measurable characteristics. However, this would have required additional effort from the college administrators to provide not only an email list of all first-year students, but also

demographic or other data on students to inform sampling procedures. This increased burden would likely have resulted in many colleges refusing to participate. On balance, the researcher opted for the simpler request of only the email addresses, which would enhance the likelihood of student participation but eliminate any potential claims at representativeness.

Omitted Variables

There are two prominent variables that are missing from the data set, the first of which is students' socioeconomic status (SES). The study intended to use the responses from a Pell Grant status question on the survey to identify those students who are from lower- and moderate-income backgrounds, but the response rate to this question was unexpectedly low (approximately 22%), thereby precluding the use of SES as a lens through which the data could be analyzed. This omission is comparatively less impactful on the qualitative data, wherein the researcher was able to ascertain a student's income background by asking direct questions and/or inferring meaning from the student's responses to non-SES-related questions. Still, given that the constructs being explored here are at least somewhat likely to vary by a student's financial background, and that no variables could be found within the quantitative data that could sufficiently serve as a proxy for SES, this omission is a substantive gap that significantly hinders the analysis of the survey results.

The second missing variable that should be mentioned is math skill, which is often referred to as "numeracy." This variable has the potential to explain some of the patterns observed in research on personal finance, as there could be significant overlap between mathematic skills and the aspects of financial decision-making that consist of numeric

calculations – however large or small those aspects may be. It should be noted that prior research is most commonly ambivalent about the link between numeracy and financial knowledge or financial literacy (e.g., Lusardi, 2008; Lusardi, 2012), which may be the result of a lack of professional consensus around the operational definitions of terms such as "numeracy," "financial knowledge," and "financial literacy" (Hung, et al., 2009). Still, the possibility of a link between numeracy and personal finance suggests that math proficiency should be controlled for, and the omission of an explicit numeracy measure could have affected the results.

Lack of Qualitative Verifiability

The potential for researcher bias that always accompanies in-person qualitative data processes was accentuated in this study by the various lenses through which the researcher operated in the course of this project. Perhaps most prominent among these are age and education level, i.e., the interviewer was 20 years older than traditionally-aged college students, has never attended a two-year college, and has attained far more formal education than any of the study participants. As such, it is highly likely that a social and cultural dissonance exists between the researcher and the participants, and that this dissonance could prevent certain types of insights to occur during the interview process. Ultimately, the researcher's positionality created a distance that is likely to result in some disconnect between the concepts he felt were important and the concepts that are actually important to the interviewees.

While there is no way to avoid these positionality issues, one way to potentially mitigate the disconnect is to take a cautious approach to the interview analysis process. The researcher did this in three ways. First, he took an open approach to coding the interviews in NVivo, as a means of preempting any prescribed items or trends that he might be "looking for," and

allowing themes to reveal themselves. Second, he remained vigilant about keeping his lenses and biases in mind when coding the interviews, as a means of keeping the analysis process as objective as possible. Neither of these steps can undo the effects of potential researcher bias that occurred before or during the interviews, but it is hoped that they can reduce their impact.

Chapter 4: Quantitative Results

Because the process for gathering survey (quantitative) data was distinct from that of gathering interview (qualitative) data, the process for analyzing the findings from each of these methods was also distinct. The quantitative data were isolated from the qualitative data and examined in a stand-alone manner; this aligns with its data-gathering process, which asked prescribed questions about four conceptual elements (behaviors, knowledge, attitudes, and external influences), and did so before any interviews were conducted. Upon completion of these quantitative analyses, it appears that external influences share a strong relationship with financial behaviors, that financial attitudes share a weaker relationship, that financial knowledge shares an inconsistently strong relationship, and that the nature of these relationships vary by institution type in some intriguing ways.

RQ1 and RQ4: Financial Knowledge

Aside from the overall level of student loan debt, the level of financial knowledge possessed by college students is the aspect of postsecondary personal finance on which the most empirical research has been conducted. And while the financial knowledge portion of this dissertation's survey contains some questions that *overlap* with prior research, it is important to remember that this instrument does not *match* those from other published works, and that it includes survey items that have not been gathered before. With this in mind, Table 6 provides descriptive statistics about the number of correct answers to the 10 financial knowledge

questions. Additionally, it provides these statistics by several background characteristics. From the literature review section of this study, recall that male students typically outscore females, and that students with past training did not score differently from students without; it also bears mentioning that Table 6 provides data by two metrics that is not typically analyzed in academic research: institution type and FAFSA completion status.

Table 6: Number of Correct Financial Knowledge Responses (of 10)

Group	Mean	Median	Standard Deviation
All	5.7	6	2.1
Female	5.5	6	2.0
Male	6.0	6	2.3
Two-year student	4.7	4	1.9
Four-year student	6.5	7	1.9
No HS finance class	5.4	6	2.1
Took HS finance class	5.8	6	2.1
No FAFSA	4.8	5	2.1
Completed FAFSA	6.1	6	2.0

In addition to the descriptive statistics provided in Table 6, Figures 1 and 2 provide a visual depiction of the frequency with which students scored at each of the possible financial knowledge levels; Figure 1 illustrates frequencies for the entire sample, while Figure 2 divides the sample by institution type (in which the lefthand graphic provides scores for two-year students and the righthand graphic provides scores for four-year students).

Figure 1: Number of Students at Each Possible Financial Knowledge Score

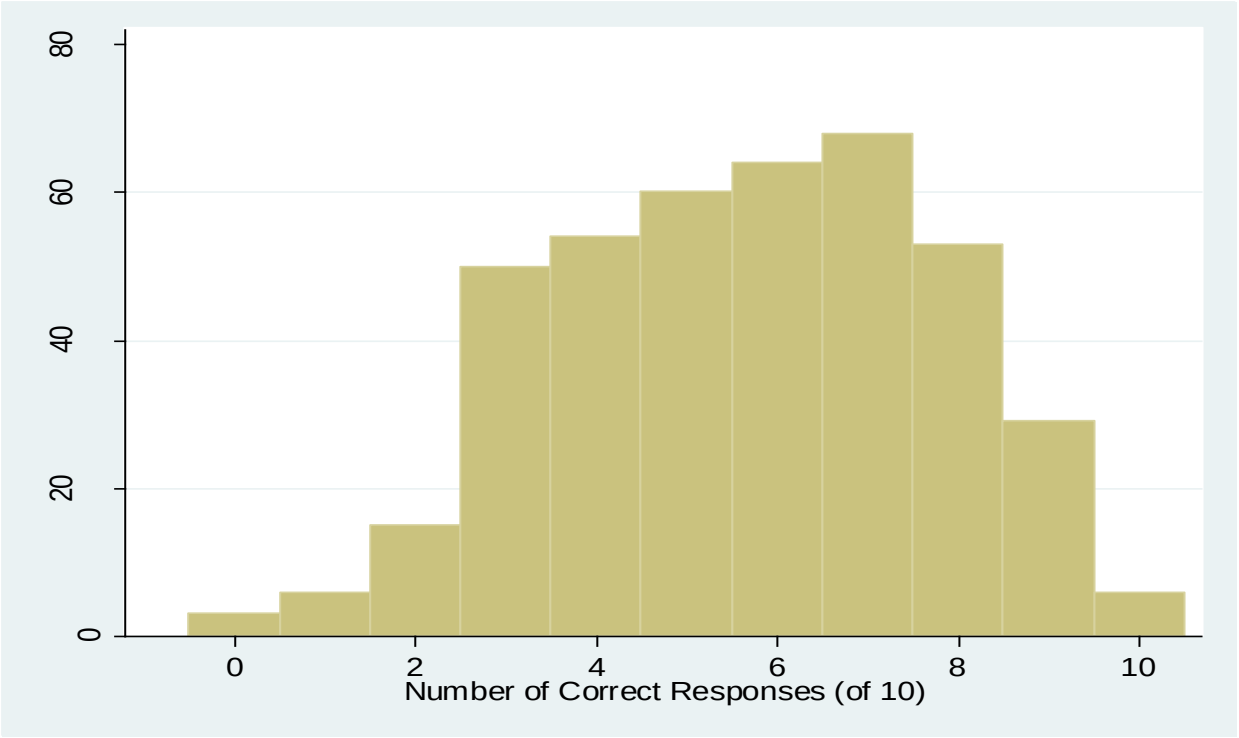
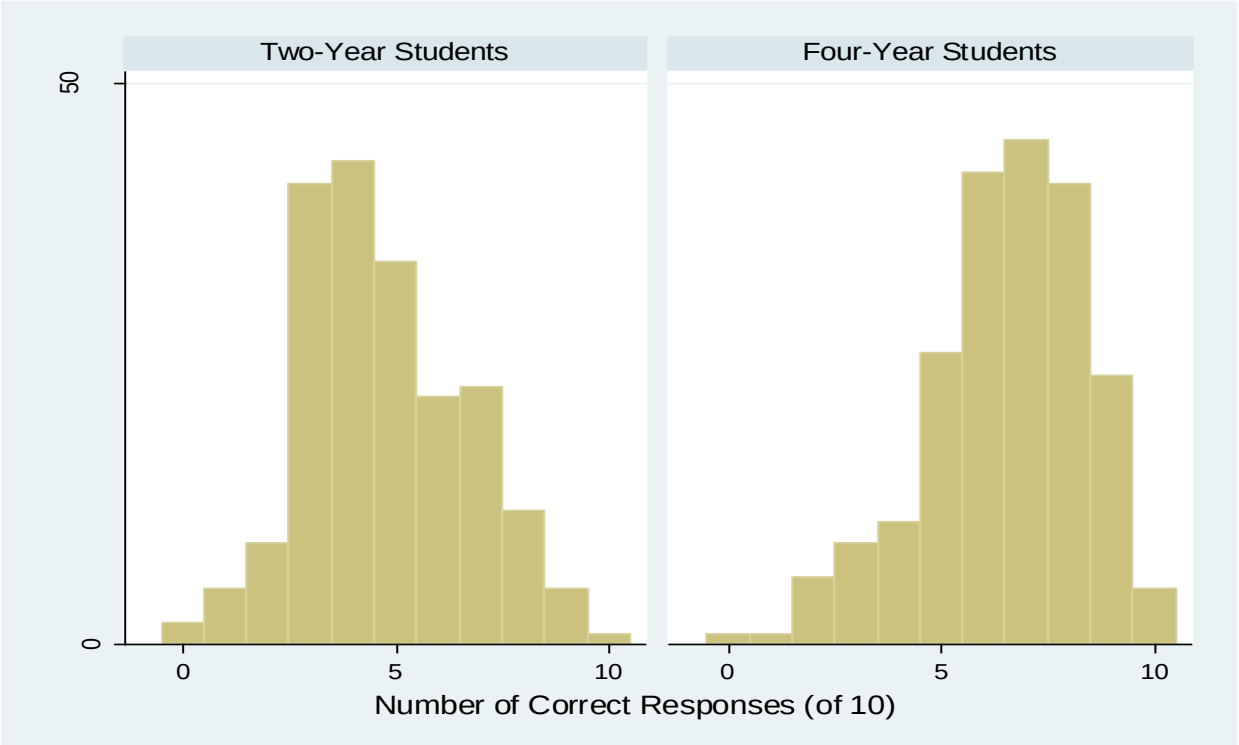


Figure 2: Number of Students at Each Possible Financial Knowledge Score, by Institution Type



From a visual perspective, it is easy to see that four-year students provided a larger number of relatively high scores than their two-year counterparts, which coincides with Table 6's differences in means and medians. Whether these differentiations stand up to more statistically-oriented analysis, however, is an open question.

To answer both prior research and RQ1, I conducted a Student's T-test for relationships proffered by past academic work and for relationship stemming from the financial behaviors present on the survey. The objectives of these tests were to (1) determine if the number of correct responses significantly differed by the two groups outlined by each variable, and (2) compare these findings with the findings from past research. Also, I conducted these tests for variables that are not typically examined within other research in this area: institution type and FAFSA completion status. In total, there are three tests relating financial knowledge with background factors and five tests relating knowledge with financial behaviors. The results can be found in Table 7.

Table 7: T-test Results for Financial Knowledge Scores

Background Groups	**Means Diff**	**P-Value**	
Four-Year Student vs. Two-year	1.79	<0.001	***
Female vs. Male	-0.50	0.024	*
Had Taken High School Finance Course vs. Had Not	0.39	0.089	
Behavior Groups	**Means Diff**	**P-Value**	
Makes a Personal Budget vs. Does Not	0.42	0.096	
Has Paid Bills Late vs. Has Not	-0.66	0.209	
Has Checking Account vs. Does Not	1.55	0.001	***
Completed the FAFSA vs. Has Not	1.35	<0.001	***
Thinks About Money vs. Does Not	-0.40	0.057	

As illustrated in Table 7, two of the three background tests (institution type and gender) appear to provide different knowledge scores by group membership, and two of five behavior tests

(checking account and FAFSA completion) do so. However, it bears mentioning that several other test approached the $p<0.05$ threshold that is common to education research, and that only the behavior test for paying bills late provided a p-value of over 0.10. Perhaps more importantly, the sign of the means difference follows an intuitive sense of how financial knowledge scores should relate to these factors: the signs are positive (indicating a higher knowledge score) for students who engage in active financial experiences, such as making a budget and having a bank account, and the gender and high school coursework signs parallel those from past academic research.

To closer examine the knowledge/behavior across campus types, per RQ4, I eliminated the background tests and looked solely at the behaviors-specific variables from Table 7. For students at each institution type, additional T-tests were conducted on five behavior variables. These results are available in Table 8.

Table 8: T-test Results for Financial Knowledge Scores, by Campus Type

Institution Type	Behavior Groups	Means Diff	P-Value	
Two-year	Makes a Personal Budget vs. Does Not	0.64	0.049	*
	Has Paid Bills Late vs. Has Not	0.66	0.284	
	Has Checking Account vs. Does Not	1.18	0.014	*
	Completed the FAFSA vs. Has Not	0.92	0.001	**
	Thinks About Money vs. Does Not	0.59	0.034	*
Four-year	Makes a Personal Budget vs. Does Not	0.42	0.199	
	Has Paid Bills Late vs. Has Not	-2.09	0.007	**
	Has Checking Account vs. Does Not	0.71	0.359	
	Completed the FAFSA vs. Has Not	1.25	<0.001	***
	Thinks About Money vs. Does Not	-0.37	0.165	

When looking at these results, two patterns stand out. The first is that the relationship between financial knowledge and financial behaviors appears stronger for two-year students than it does for four-year students; all but one behavioral reported significant differences at the two-year level. The second pattern is that FAFSA completion appears to be highly correlated with

financial knowledge; both institution types reported significant differences, and at thresholds beyond the traditional $p<0.05$ cutoff.

RQ2 and RQ4: Financial Attitudes

While they have been studied far less than knowledge has been, various types of *attitudes* about personal finance is slowly becoming a larger part of the conversation around college students and money management. In some ways, attitudinal factors are thought to mediate or moderate the relationship between some personal finance "inputs" and eventual personal finance behaviors. At other times, attitudinal factors are thought to have a more direct impact on behavior. Table 9 sheds some descriptive light on the financial attitudes of the college students in this sample, by providing data about how survey completers rated their feelings and beliefs.

Table 9: Response Percentages to Financial Attitude Questions

Attitude	**Response Category (%)**				
	Not at all true	Only a little true	Moderately true	Pretty true	Very true
I feel in control of my financial situation.	5	19	33	30	13
My finances are a significant source of worry or hassle.	11	27	23	22	17
Purchasing things is very important to my happiness.	22	41	23	10	4
	Not at all confident	A little confident	Somewhat confident	Very confident	Extremely confident
Paying for college is a good investment in my future.	3	11	24	32	30

NOTE: Subgroup amounts may not equal 100% because of rounding.

Interestingly, the attitudinal portrait painted by Table 9 does not strongly indicate that students are financially unhealthy: there are far more students that indicate positive feelings of financial

control (43%) and confidence in their college investment (62%) than there are students who report negative feelings (42% and 14%, respectively), while the opposite appears to be true for consumerism (14% versus 63%) and students responded approximately evenly to the questions about financial stress. With the increasing attention being paid to the financial burden being placed on today's college students, these ratings provide a more nuanced perspective. Perhaps examining the ratings by institution type, as is done in Table 10, will provide some additional insight.

Table 10: Response Percentages to Financial Attitude Questions, by Institution Type

Attitude	**Group**	**Response Category (%)**				
		Not at all true	Only a little true	Moderately true	Pretty true	Very true
I feel in control of my financial situation.	2-yr	8	22	31	25	13
	4-yr	2	16	34	35	13
My finances are a significant source of worry or hassle.	2-yr	12	24	22	22	20
	4-yr	11	31	23	22	13
Purchasing things is very important to my happiness.	2-yr	24	38	21	10	6
	4-yr	19	43	26	10	2
		Not at all confident	A little confident	Somewhat confident	Very confident	Extremely confident
Paying for college is a good investment in my future.	2-yr	5	15	27	29	24
	4-yr	1	7	22	35	35

Based on these ratings, it is not entirely clear if two-year and four-year students differ in their financial attitude ratings: on one hand, only two of the 20 cross-level comparisons differ by more than eight percentage points, but on the other hand, this eight percent threshold is arbitrary and its meaning in uncertain in a Likert scale context. As such, an additional layer of analysis is needed to provide better responses to RQ2 and RQ4.

To add this extra layer of analysis, I collapsed the 5-point ordinal rating scales into dichotomous indicators – in which a response of 0-3 was considered negative ("0") and a response of 4-5 was considered affirmative ("1") – and conducted a series of Difference-in-Proportions (DIP) tests[6]. This series examined the relationship between financial attitudes and financial behaviors by comparing the financial attitudes of students who performed various financial behaviors to the attitudes of students did not perform the behaviors. Specifically, the four financial attitudes outlined in Table 10 were tested on each of four financial behaviors: keeping a personal budget, paying bills late, having a bank account, and completing the FAFSA. If these attitudes and these behaviors share a relatively strong relationship, we would expect to see statistically significant differences between the proportion of students who performed the behaviors and the proportion of students who possess the attitudes. The results from these tests are provided in Tables 11-14.

Table 11: DIP Results for Financial Control, by Financial Behavior

Behavior	**Attitude: If a Student Felt in Control of Financial Situation**	
	Means Diff	P-Value
Makes a Personal Budget vs. Does Not	0.08	0.103
Has Paid Bills Late vs. Has Not	-0.06	0.025 *
Has Checking Account vs. Does Not	0.02	0.529
Completed the FAFSA vs. Has Not	0.01	0.814

[6] I also conducted a series of Pearson's Chi-squared Tests, in which the scales remained on their original 5-point spectrum, and the attitudes were tested for how students were distributed among each of the five levels. These results proved similar to those of the DIP tests; they can be found in Appendix B.

Table 12: DIP Results for Financial Stress, by Financial Behavior

Behavior	Attitude: If a Student Felt That Finances are a Source of Worry	
	Means Diff	P-Value
Makes a Personal Budget vs. Does Not	-0.04	0.388
Has Paid Bills Late vs. Has Not	0.04	0.164
Has Checking Account vs. Does Not	-0.02	0.501
Completed the FAFSA vs. Has Not	0.14	0.005 **

Table 13: DIP Results for Consumerism, by Financial Behavior

Behavior	Attitude: If a Student Felt That Buying Things is Important to Happiness	
	Means Diff	P-Value
Makes a Personal Budget vs. Does Not	-0.04	0.326
Has Paid Bills Late vs. Has Not	0.08	0.001 ***
Has Checking Account vs. Does Not	-0.01	0.637
Completed the FAFSA vs. Has Not	-0.01	0.849

Table 14: DIP Results for College Investment, by Financial Behavior

Behavior	Attitude: If a Student Had Positive Feelings about Investing in College	
	Means Diff	P-Value
Makes a Personal Budget vs. Does Not	0.05	0.425
Has Paid Bills Late vs. Has Not	0.06	0.082
Has Checking Account vs. Does Not	0.02	0.568
Completed the FAFSA vs. Has Not	0.10	0.151

Based on these results, very few relationships appear to exist between financial attitude status and financial behavior status – only three of the sixteen tests provided significant differences.

Perhaps the one element that warrants further investigation is the act of paying bills late, in that two of the five attitudes tested against it (financial control and consumerism) and a third attitude (positive feelings about the college investment) closely approached the traditional $p<0.05$ threshold. On the other hand, it is somewhat comforting to observe that most of the DIP statistics' signs follow an intuitive sense of their assumed direction, e.g., the negative coefficient between making a budget a feeling financial stress (-0.86) and the positive coefficient between having a bank account and feeling in financial control (+0.63).

Turning away from RQ2 and toward RQ4, I also tested the relationship between financial behaviors and financial attitudes by institution type. To the extent that the students on each campus type differ in financial experience, stressors, or other stimuli, it is possible that these differences would be hidden if we only examined the aggregated sample, and that patterns might avail themselves once students were delineated by campus type. The students were therefore separated by institution type, and DIP tests were conducted on the same series of four attitudes and four behaviors that were tested previously. Tables 15-18 provide the results of these tests.

Table 15: DIP Results for Financial Control, by Financial Behavior and Institution Type

Institution Type	**Behavior Groups**	**Attitude: If a Student Felt in Control of Financial Situation**	
		Means Diff	P-Value
Two-year	Makes a Personal Budget vs. Does Not	0.10	0.159
	Has Paid Bills Late vs. Has Not	-0.09	0.044 *
	Has Bank Account vs. Does Not	0.05	0.332
	Completed the FAFSA vs. Has Not	0.06	0.419
Four-year	Makes a Personal Budget vs. Does Not	0.07	0.294
	Has Paid Bills Late vs. Has Not	-0.02	0.495
	Has Bank Account vs. Does Not	-0.04	0.225
	Completed the FAFSA vs. Has Not	-0.09	0.230

Table 16: DIP Results for Financial Stress, by Financial Behavior and Institution Type

Institution Type	Behavior Groups	Attitude: If a Student Felt That Finances are a Source of Worry		
		Means Diff	P-Value	
Two-year	Makes a Personal Budget vs. Does Not	-0.09	0.197	
	Has Paid Bills Late vs. Has Not	0.03	0.449	
	Has Bank Account vs. Does Not	-0.02	0.599	
	Completed the FAFSA vs. Has Not	0.08	0.276	
Four-year	Makes a Personal Budget vs. Does Not	0.00	0.987	
	Has Paid Bills Late vs. Has Not	0.03	0.254	
	Has Bank Account vs. Does Not	-0.01	0.831	
	Completed the FAFSA vs. Has Not	0.20	0.002	**

Table 17:
DIP Results for Consumerism, by Financial Behavior and Institution Type

Institution Type	Behavior Groups	Attitude: If a Student Felt That Buying Things is Important to Happiness		
		Means Diff	P-Value	
Two-year	Makes a Personal Budget vs. Does Not	-0.01	0.881	
	Has Paid Bills Late vs. Has Not	0.08	0.072	
	Has Bank Account vs. Does Not	-0.01	0.804	
	Completed the FAFSA vs. Has Not	0.02	0.786	
Four-year	Makes a Personal Budget vs. Does Not	-0.07	0.223	
	Has Paid Bills Late vs. Has Not	0.09	0.001	**
	Has Bank Account vs. Does Not	-0.01	0.538	
	Completed the FAFSA vs. Has Not	-0.04	0.490	

Table 18:
DIP Results for College Investment, by Financial Behavior and Institution Type

Institution Type	Behavior Groups	Attitude: If a Student Had Positive Feelings about Investing in College	
		Means Diff	P-Value
Two-year	Makes a Personal Budget vs. Does Not	0.01	0.900
	Has Paid Bills Late vs. Has Not	0.10	0.080
	Has Bank Account vs. Does Not	0.02	0.648
	Completed the FAFSA vs. Has Not	0.17	0.059
Four-year	Makes a Personal Budget vs. Does Not	0.16	0.118
	Has Paid Bills Late vs. Has Not	0.04	0.439
	Has Bank Account vs. Does Not	-0.03	0.458
	Completed the FAFSA vs. Has Not	-0.14	0.192

Surprisingly, an even lower share of the tests displayed significant differences than were detected for the aggregated sample: three of thirty-two (~9%) compared to three of sixteen (~19%). Also surprisingly, it appears that several of the four-year student relationships did not produce coefficients that were charged in an intuitive direction, such as the negative statistic between having a bank account and feeling in financial control (-1.21). None of the statistics surpassed the traditional $p<0.05$ threshold, but it could warrant additional interest. And perhaps most interestingly, these counter-intuitive relationships did not occur among the results for this sample's two-year students.

RQ3 and RQ4: External Influences

The aspect of this dissertation is that is least-covered by prior research is precisely *how* a college student obtains personal standards or beliefs for how to financially behave. Some potential sources for financial origins are the familial, social, and professional networks of which a student is a member; these webs of influence could consciously guide behavior by creating expectations and providing "lessons," or could subconsciously guide behavior by modeling decisions and/or decision-making processes. According to the prior academic work that does exist in this area, these networks are thought to be key contributors to the formation of financial norms, which could be exhibited by the existence of a relationship between a student's behavior and the behavior of the people within his or her social field.

Regarding this sample of college-goers specifically, Table 19 provides some introductory information about the network/student relationship by highlighting the extent to which students perceived that various elements of their personal networks affect their financial habits.

Table 19: Rates of Perceived Influence Level on Student Financial Behavior

External Influence	Influence Level (%)				
	No	**Little**	**Moderate**	**Strong**	**Very Strong**
Parents or guardians	6	8	16	40	30
Friends	16	30	32	18	3
Websites, magazines, etc.	40	42	14	3	1
Financial Professionals	49	22	17	9	3

NOTE: Some sub-group amounts may not match the total amounts because of rounding.

Predictably enough, the perceived influence for those with close emotional ties to students (parents and friends) were reported as higher than those for social elements with more financial expertise but less intrinsic attachment. This appears to support the prior evidence that family members are crucial conduits for building financial habits, while educational contexts share a comparatively weak bond.

Once again, however, it could be that patterns for the overall sample belie more nuanced relationships within each institutional type. On this front, Table 20 provides a broad description of how financial influence ratings differ on two-year and four-year campuses.

Table 20: Rates of Perceived Influence Level on Student Financial Behavior, by Institution Type

External Influence	Institution Type	Influence Level (%)				
		No	Little	Moderate	Strong	Very Strong
Parents or guardians	two-year	10	10	20	37	23
	four-year	1	7	12	44	36
Friends	two-year	24	29	28	16	3
	four-year	8	31	37	21	3
Websites, magazines, etc.	two-year	48	36	13	4	1
	four-year	33	49	15	3	0
Financial Professionals	two-year	50	18	18	10	4
	four-year	47	26	16	8	2

NOTE: Some sub-group amounts may not match the total amounts because of rounding.

Unlike the descriptive data around financial attitudes (Table 10), which revealed an uncertain amount of cross-type differences, a visual inspection of external influence responses (Table 20) reveals larger and more frequent differences in the ratings of two-year and four-year students. At the same time, there does not readily appear to be any consistent manner in which these differences occur.

A purely visual examination, however, would be inadequate. As a means of ensuring that the apparent differences in Table 20 are statistically significant, and to directly address RQ3, I translated the five-category responses into a binary indicator and ran the full student sample through a series of Difference-in-Proportions (DIP) tests. These tests analyze if each external influence group provided an equal number of positive responses, by comparing every group to each of the other three groups. The results displayed in Table 21 indicate that students' perceptions of influence is not equivalent.

Table 21: DIP Test Results, by External Influence Group Comparison

Comparison Groups	Reported Influence on Students' Financial Behavior	
	Means Diff	P-Value
Parents or Guardians vs. Friends	0.48	<0.001 ***
Parents of Guardians vs. Websites, Magazines, etc.	0.66	<0.001 ***
Parents or Guardians vs. Financial Professionals	0.57	<0.001 ***
Friends vs. Websites, Magazines, etc.	0.18	<0.001 ***
Friends vs. Financial Professionals	0.09	<0.001 ***
Websites, Magazines, etc. vs. Financial Professionals	-0.08	<0.001 ***

These findings suggest that students feel their parents/guardians carry the most weight among groups of external influences, in that parents provided significantly more positive responses than each of the other groups measures. Also, friends produced the second-highest level of self-reported influence, followed by financial professionals, with financial media sources coming in last. To respond to RQ4, however, these tests for the overall sample must be re-run after students have been delineated into two- and four-year populations. Once these subgroup tests were completed, the results were predominantly – thought not entirely – similar to the full sample, as can be seen in Table 22.

Table 22: DIP Test Results, by External Influence Group Comparison and Institution Type

Institution Type	Comparison Groups	Reported Influence on Students' Financial Behavior	
		Means Diff	P-Value
Two-Year	Parents or Guardians vs. Friends	0.41	<0.001 ***
	Parents of Guardians vs. Websites, Magazines, etc.	0.55	<0.001 ***
	Parents or Guardians vs. Financial Professionals	0.46	<0.001 ***
	Friends vs. Websites, Magazines, etc.	0.15	<0.001 ***
	Friends vs. Financial Professionals	0.05	0.110
	Websites, Magazines, etc. vs. Financial Professionals	-0.09	<0.001 ***
Four-Year	Parents or Guardians vs. Friends	0.56	<0.001 ***
	Parents of Guardians vs. Websites, Magazines, etc.	0.77	<0.001 ***
	Parents or Guardians vs. Financial Professionals	0.69	<0.001 ***
	Friends vs. Websites, Magazines, etc.	0.21	<0.001 ***
	Friends vs. Financial Professionals	0.14	<0.001 ***
	Websites, Magazines, etc. vs. Financial Professionals	-0.07	0.002 **

The primary takeaway from the full-sample tests outlined in Table 21 – that parents/guardians exert the most influence on students' financial behaviors – is paralleled at each type of institution. Another parallel is that financial media sources provide the lowest level of influence. In fact, the only significant difference in the institution-type results is that, for two-year students, there is no statistically significant difference in the level of influence exerted by friends and that exerted by financial professionals; friends still outweighed professionals for four-year students. This could suggest that two-year students are less trusting of their peers, which is a possible trend that warrants further attention in more-detailed statistical tests, as well as in the interview transcripts.

While the survey question about social influences is explicit and asks for information in students' conscious perception, another aspect of norm development is the subtle, intangible, and frequently subconscious ways that social networks can shape students' habits. One of the mechanisms for this type of norm development is behavioral modeling, in which students build an affinity for – or aversion to – behaviors and attitudes that thy observe in others. In this vein, Table 23 details the frequencies with which students observed certain behaviors being performed by members of their social circle.

Table 23: Rates of Observed Financial Behaviors, by Social Group

Observed Behavior	External Influence	%
Made a personal budget and kept track of monthly expenses.	Family	69
	Friends	26
	Others	12
Paid bills late.	Family	27
	Friends	23
	Others	20
Regularly tried to learn about money management.	Family	31
	Friends	21
	Others	14

The primacy of emotional closeness appears once again: for all three behaviors, family members were the most frequently observed performers, followed (in all three cases) by friends, and finally (in all three cases, yet again) by "others." However, one inconsistency that appeared was the amount of difference between these groups, namely, that the personal budgeting behavior exhibited a wide gap between family and non-family, whereas the gaps for paying bills late and trying to learn about personal finance was much lower.

Continuing one of the conceptual strands of this dissertation, further analysis of observed behaviors also needs to be conducted according to institution types. Table 24 provides descriptive statistics about the frequency with which students at each institutional level observed various members of their social network perform three types of financial behaviors.

Table 24: Rates of Observed Financial Behaviors, by Social Group and Institution Type

Observed Behavior	Institution Type	%
Family made a personal budget and kept track of monthly expenses.	two-year	66
	four-year	72
Friends made a personal budget and kept track of monthly expenses.	two-year	28
	four-year	24
Others made a personal budget and kept track of monthly expenses.	two-year	12
	four-year	12
Family paid bills late.	two-year	29
	four-year	26
Friends paid bills late.	two-year	25
	four-year	22
Others paid bills late.	two-year	21
	four-year	20
Family tried to learn about money management.	two-year	30
	four-year	33
Friends tried to learn about money management.	two-year	23
	four-year	20
Others tried to learn about money management.	two-year	13
	four-year	14

A review of these data suggest that two-year students do not differ much from their four-year peers regarding their potential financial influencers' behaviors: the largest disparity between campus types occurs for observing family members keeping a personal budget, which differed by only six percentage points.

With these frequencies as a backdrop, I sought to answer RQ3 by clarifying if observing financial behaviors within one's social network is related to one's own behavior. One way to accomplish this is to conduct a series of DIP tests that tease out whatever differences might exist between those students who observed financial tasks and those who did not. Table 25 provides the results of this tests for the entire sample.

Table 25: DIP Results for Observing vs. Performing Financial Behaviors, Overall Sample

Observed Behavior	If the Student Performed the Observed Behavior	
	Means Diff	P-Value
Family Makes a Personal Budget vs. Does Not	0.15	0.001 ***
Friends Make a Personal Budget vs. Does Not	0.18	<0.001 ***
Others Make a Personal Budget vs. Does Not	0.07	0.258
Family Has Paid Bills Late vs. Has Not	-0.00	0.925
Friends Have Paid Bills Late vs. Has Not	0.07	0.012 **
Others Have Paid Bills Late vs. Has Not	0.11	0.011 **
Family Tried to Learn about Money vs. Did Not	0.20	<0.001 ***
Friends Tried to Learn about Money vs. Did Not	0.38	<0.001 ***
Others Tried to Learn about Money vs. Did Not	0.20	0.002 **

Overall, it does appear the financial behaviors performed by those within one's influence sphere is correlated with the likelihood of performing the behavior. More specifically, seven of the nine tests produced statistically significant differences, with the most noteworthy external influence appearing to be friends: all three friend-related tests produced significant differences.

But as always, responding to RQ5 requires that the results exhibited by the overall sample must be compared to the results within each type of institution. This was accomplished by segregating two-year students and four-year students, running the same set of DIP tests that were run on the entire sample, and observing how similar or dissimilar the results for each student type are. Table 26 provides the results of these tests.

Table 26: DIP Results for Observing vs. Performing Financial Behaviors, by Institution Type

Institution Type	Observed Behavior	If the Student Performed the Observed Behavior		
		Means Diff	P-Value	
Two-Year	Family Makes a Personal Budget vs. Does Not	0.15	0.026	*
	Friends Make a Personal Budget vs. Does Not	0.17	0.013	*
	Others Make a Personal Budget vs. Does Not	0.02	0.806	
	Family Has Paid Bills Late vs. Has Not	0.01	0.873	
	Friends Have Paid Bills Late vs. Has Not	0.15	0.002	**
	Others Have Paid Bills Late vs. Has Not	0.19	0.008	**
	Family Tried to Learn about Money vs. Did Not	0.18	0.014	*
	Friends Tried to Learn about Money vs. Did Not	0.47	<0.001	***
	Others Tried to Learn about Money vs. Did Not	0.26	0.009	**
Four-Year	Family Makes a Personal Budget vs. Does Not	0.17	0.007	**
	Friends Make a Personal Budget vs. Does Not	0.18	0.007	**
	Others Make a Personal Budget vs. Does Not	0.12	0.169	
	Family Has Paid Bills Late vs. Has Not	-0.02	0.602	
	Friends Have Paid Bills Late vs. Has Not	-0.01	0.749	
	Others Have Paid Bills Late vs. Has Not	0.03	0.531	
	Family Tried to Learn about Money vs. Did Not	0.23	<0.001	***
	Friends Tried to Learn about Money vs. Did Not	0.27	<0.001	***
	Others Tried to Learn about Money vs. Did Not	0.16	0.070	

The cross-type tests reveal intriguing differences, both by influence group and by behavior. Regarding the groups, the most noteworthy result is the differing role that “others” play in each student group: these members of four-year students’ personal networks did not exhibit an observation/performance relationship on any of the three behaviors testes, but they did exhibit a relationship on two of three behaviors among two-year students. Regarding behaviors, the most noteworthy result is the differing relationship exhibited for paying bills late: none of the three influence groups linked observation and performance, while two of the three groups showed a statistically significant link (family members being the exception).

Across all these tests, the evidence does suggest that external influences are related to financial behaviors, in that students who observed these behaviors within one's circle of influence were more likely to perform these behaviors themselves. It is not surprising that this relationship is weakest for "other" members of a student's social network, but it is at least somewhat surprising that the normative influence of friends appears to be just as strong – and occasionally stronger – than that for parents or guardians.

Chapter 5: Qualitative Results

In contrast to the survey analysis, which was examined in isolation because of its prescribed data-gathering method, interview responses were analyzed in conjunction with its quantitative sibling. This aligns with the way it was gathered, in that interview questions frequently covered the four emphasized elements (knowledge, attitudes, external influences, and behaviors) but were not limited to them, and that interviews were conducted after the surveys were gathered and read through, thereby allowing survey responses and themes to inform some aspects of the interviews. Upon completion of these quantitative analyses, it appears that each of knowledge, attitudes, and external influences share at least some relationship with financial behaviors, thought the nature of these relationship often varies significantly by both institution type and by the specific behavior in question. Additionally, the interviews were able to leverage its methodological advantage by identifying two new themes that emerged from the qualitative data: the evolving conception of "normalcy," and the meaningfully symptomatic nature of using the word *just*.

RQ1 and RQ4: Financial Knowledge

While students provided responses to other questions that indirectly displayed their sense of financial information, direct questions aimed as assessing an interviewee's financial knowledge level were not asked at any point during the interviews. Within these responses, two themes came to the fore: the prevalence of students revealing that they lacked financial

information, and the pertinence of college-specific financial information to students' lives.

The Frequency and Diversity of "I Don't Know"

Perhaps the most striking aspect of students admitting that they lacked knowledge about personal finance is not that it happened so frequently, but that it happened on such a wide array of topics. Some students confessed a lack of information around their personal financial standing, such as not knowing how much money is in their bank accounts or how much they had taken out in student loans, while other students admitted to confusion about how to pursue financial goals or in other ways financially behave. One example of this latter issue comes from a female four-year student who admitted to never making a personal budget: When asked about why she did not do this, she responded "I'm trying to learn about how to make a budget, but I'm not really quite grasping it. I know how much my room is going to be, but I don't really have the sense I need a lot for every other expense." While this quote does contain an element of hope – the student is aware that she lacks knowledge about a common financial behavior and has tried to improve – it should be noted that most instances of students' "I don't know" expressions did not contain these hopeful elements. A more common posture is exemplified by a male two-year student who was able to pay for his first year of school predominantly through grants and scholarships; the students indicated that he did not know if the scholarships were perpetual or if they were a time-limited award, and when asked if he had a fallback plan for paying for college if these funding sources expired, flatly replied "I don't know if I have an alternative way." This is not to say that interviewed students were completely lacking in financial understanding – three mentioned using credit cards or taking on student

loans for the purpose of building their personal credit scores, for example – but in my interview analysis scheme, there were twice as many Phase 1 coded items for a student expressing a lack of knowledge (32) than there were for a student exhibited correct knowledge (16).

The Complicated Nature of College-Specific Knowledge

While "I don't know" responses dominated the conversations around personal finance topics unrelated to paying for college, the responses around college-specific financial knowledge was distributed fairly evenly across the knowledge spectrum, from students expressing deep knowledge about the logistics of paying for college, to others who lacked cognizance about financing a college life, and all points between. On the more-informed side of the spectrum, an example of students being informed is that several interviewees were well-versed in their majors/programs and career paths: some were able to quote the projected starting income for graduates in their field, and others mentioned choosing their particular institution because of its reputation within certain academic fields or for successfully placing students in the local economy. On the less-informed side of the spectrum, a common example stems from the financial aid process: one (non-international) student stated that they were ineligible to even *file* a FAFSA and therefore did not do so, another student received a financial aid refund at the start of the spring semester and did not know what it was or why she had received it, and still another had already been taking classes at his four-year institution for two weeks before he "realized there was such a thing called FASFA [*sic*]." Compounding this latter example is that the student was from a lower-income background and would have been eligible for significant financial aid assistance. Representing the middle portion of the knowledge spectrum, students

at two-year institutions frequently offered that financial considerations played a heavy role in their decision to attend a community college instead of a four-year college. On one hand, this decision indicates that the student possesses knowledge about the relative *costs* of a two-year versus four-year institution, such as the students who said "I wasn't 100% sure what I wanted to choose as a major, so I wanted to get my general education out of the way at a much lower cost…I wanted to explore my career options in a less stressful environment." On the other hand, this decision might carry some financial *benefits* of which students are mostly unaware: the risk of dropout and stopout is higher at two-year colleges, four-year transfer policies are often complicated, and students who attend a four-year institution for their entire postsecondary career might have an advantage in the competition for jobs or graduate school placement. For example, one student at a two-year college shared the following story:

> My plan in freshman year was to transfer after sophomore year, but I realized I wasn't taking all the [four-year system]-transferable credits I needed to, so I've been delayed by about a year. I'm not exactly sure [if I will end up transferring to a 4-year college], but I think I probably will. If I do I definitely will need loans and/or parental help.

In this case, any money being saved by attending a community college instead of a four-year college appears to be at least partially offset by the student extending her enrollment because of ineligible coursework, and could be completely offset – or more – if the student ends up not transferring at all, a scenario the student is already contemplating.

In sum, the overall body of interview evidence suggests that both two-year and four-year students pervasively lack non-college-related financial information, but that they fare

comparatively better when it comes to college-specific financial knowledge (though the responses were still mixed). Perhaps the most appropriate microcosm of these findings can be found in the following response from a two-year student, who was asked how she felt about her loan amounts accumulating over time:

> I'm, I guess I would say, kind of in between with that, just because I normally only take subsidized loans because I just don't want to worry about that interest racking up. And so I know if once I get an education, I can at least get a better paying job, more than like $9 or $10 an hour, and I can probably pay off most of the loans within like the first year.

In this single passage, the student is both exhibiting several types of knowledge – the difference between subsidized and unsubsidized loans, the amount of loans which she has already obtained, information about her projected wages upon graduation – but at the same time exhibits an inability to place this information in context. More specifically, this is a student who was on course to have nearly $7000 in loans at the end of her two-year program and was planning to transfer to a four-year institution, which would add a significant portion of loans on top of this amount; it is unlikely that any job would be able to repay the full amount of these loans within one year. This absence of a "big-picture" perspective on the full ecological system of college financing is perhaps the defining characteristic of the students that were interviewed.

RQ2 and RQ4: Financial Attitudes

Unlike financial knowledge, financial attitudes were targeted for discussion in the interviews, and pointed questions about various attitudinal factors were directly asked of the

participants. Not surprisingly, then, there are over three times as many interview passages that were coded in Phase 1 as dealing with attitudes (309) than with knowledge (94). Also unsurprisingly, the breadth of passages surpasses that of knowledge, and the corresponding number of themes that arose from my analysis increased. Specifically, I identified four financial elements about which students either commonly expressed their feelings directly or suggested their feelings indirectly: student loans, social spending, financial cognizance, and consumerism.

Surprisingly Mixed Feelings about Student Loans

One prime example of the expectations-defying nature of interview responses is the series of passages dealing with student loans: while it might be reasonable to assume that students are either fearful or loathsome of college debt, interview participants instead provided negative, positive, and ambivalent attitudes – and in approximately equal numbers. Regarding negative responses, students referred to the loans themselves as "worrisome" and "scary," and referred to their feelings about them as "frustrated" and "uncomfortable," with one student citing the ability to avoid loans as her primary reason to attend a two-year institution instead of her preferred four-year institution. The most extreme expression of loan aversion was provided by a male two-year student:

> It feels like basically I'm a slave and they're the master … That's how I've always thought about it and I don't like that feeling … it's kind of like you go to the mafia for a favor and they do you a favor and now they start expecting all these things from you.

Regarding students that provided positive responses, most acknowledged that they would

prefer college to be cheaper, but also expressed a level of comfort with investing in themselves. As one student stated, “I understand the nature of borrowing and if it is something I can pay off in around five years, I wouldn’t mind” while another responded that loans were “not a big deal” and another stated that she would “never” allow the specter of loans to keep her from completing her degree: “I would pay them back, regardless of how long it takes, but I am for sure finishing college.” Perhaps the most intriguing response came from a 49-year-old two-year student whose friends had previously considered enrolling, but did not because they were unwilling to take on loans and would therefore need to pay for both college and life expenses via earned income. This student stated that she had been successful is changing some of her friends’ minds and had gotten three of them to join her on campus:

> I had to explain it to my friends … I've had to explain financial aid to them … And you know, their biggest thing is “well I can't use that for my rent or I can't use that for gas.” No, you can. You know, they're like “How am I going to pay my bills? I have to work fulltime, I can't go to school fulltime and work fulltime.” I’m like whoa, wait, you have to understand what this is all about.

Given the extremely low nationwide rates of two-year students that have loans, this woman’s attitudes are clearly in the minority. Still, it speaks to the power of attitudinal factors that one person’s mindset can affect several others’ lives. Regarding students with mixed responses, there was a sense that contextual factors mitigated some of the negative feelings about loans by emphasizing the benefits of using loans to attend schools. For example, several four-year students placed their faith in the college’s ability to produce a sizable return on the investment, e.g., “I mean it’s kinda scary, but I know that I’m at a really good institution … I’m really excited

about what I'm doing and I know … no matter what I do I'll be in a good position" and "I guess I'm banking on … the education that I get here will be able to lead to a decent job." Other students placed faith in themselves, e.g., "I know it's a large sum of money. But I trust my ability to work hard and pay those off, one way or another." Another fairly common attitude among the more ambivalent students was that a dislike for student loans is a meaningless emotion because loans represent a "necessary evil" for attending college. A two-year student who planned on transferring to a four-year college remarked that "for me it just seems like it's inevitable that you're gonna have to [take out loans]," and to my mind this encapsulates the antipathy/necessity tradeoff that many students face.

Social Spending: How Necessary Is It?

The second attitude-based theme, social spending, is another area where interview participants supplied a diverse field of responses, and in particular, the number of instances in which students reported feeling that social spending is a necessary part of college approximately equals the number of instances in which students reported that it was not necessary. Regarding necessity, multiple four-year students cast social spending as a requirement for the enjoyment of their school's opportunities. "I don't feel that I can put a price on friends, so I spend what I need to to have a good time with them. I pay for fun and friendship when I go out," is how one student characterized it. And when I asked another about what students would be missing out if they couldn't afford to socialize, her response was "uh, pretty much the entire 'college experience.'" On the other hand, some students acknowledged the importance of social networks to college life, but stopped short of saying that large financial

outlays were a necessary part of the equation. For example, one four-year student had to place a large housing deposit out-of-pocket late in the semester and essentially was out of money for the final month of the school year; when I asked him if he missed doing social things during this period, he said that it was “not too bad … I don’t think it is super necessary [to spend money on social events] because there plenty of things you can do for free or for less than $10.” As stated by another student:

> I think a lot of the best parts of college are free … athletics are a big part of the experience here, so a little spending is a component of the "college experience." That being said, I wouldn't say it's extremely important. I think you could still have just as much fun or have just as much success on a very minimal budget.

It is quite interesting that this type of balanced viewpoint – admitting to social spending’s omnipresence but resisting the notion that it is required – is emblematic of the students I interviewed from more modest income backgrounds, whereas more affluent interviewees (predominantly on four-year campuses) were more likely to view social spending as a requirement, one which they enthusiastically satisfied.

Widely Disparate Levels of Financial Cognizance

The third attitudinal theme – financial cognizance – is yet another aspect for which responses varied greatly. On the positive side of the ledger, over the half the students that were interviewed provided at least one response that suggested some level of planning and foresight; the most common objects of cognizance were building a personal savings or emergency fund,

longer-term budgeting, and future orientation. An example of savings came from a working-class student who, throughout childhood, witnessed her mother make poor financial decisions. "I'm trying to teach myself about investments and how to work toward creating a stable savings account. I believe I'll need that safety net someday." For future orientation, one traditionally-aged two-year student offered the following words when asked about the things that guide his decisions today: "I want a nice house. I want to have a good life for my family. I don't want my kids to have to worry about us being in the hole." It should be noted that this student did not currently have a romantic partner and did not consider himself as being close to settling down; the family and children he mentioned more than once over the course of his interview were purely hypothetical, which speaks to the power that future ideas has in his current mindset. For longer-term planning, numerous students stated that they had formally calculated a budget for the entirety of their projected college. One four-year student, in fact, stated he kept *four* personal budgets: for the current month, for the current year, for the current biannual period, and for the full four years of his college attendance:

> I put together an estimate of how much college will cost, how much I may receive from scholarships, and then how much I would be able to make doing various jobs. As far as how I define financial need in my life … my goal is to get through college without taking out loans. So my financial need, which I meet primarily by working, is the amount of money it costs to go to go to school minus scholarships.

This student also said that he makes periodic adjustments to all his budgets, further illustrating his level of multiple-horizon cognizance.

However, other students clearly did not spend nearly as many of their internal resources on being financially thoughtful. This was true on a number of fronts, such as paying for college (e.g., “Well, for some reason I assumed I’d still be getting lots of grants … but that’s pretty far from the truth. LOL. After this year I’m a little concerned.”) and student loan awareness (e.g., “I try not to think about the numbers in general actually. I mean I know it’s a large sum of money.”). Also, there were twice as many students without longer-term planning strategies than with them (e.g. “For the most part money was abstract to me … I didn’t really keep track or save when I should’ve.”). Beyond these issues, however. the most consistent item for which students displayed a lack of cognizance were the descriptions they provided about their own financial decision-making processes. These descriptions frequently consisted of seemingly random considerations between two options, of no lesson being learned by past mistakes, of a lack of introspection about why a choice was made, or some combination therein. From this group, there are two passages that warrant highlighting. The first comes from a male two-year student who was asked to describe his process and perspective:

> A: I’m pretty rational.
>
> Q: Great. In this rational process, what sorts of things do you weigh against each other? What are the big considerations for you?
>
> A: I don’t know. I don’t know.

This passage seems to indicate that this student is compounding the issue; not only is he lacking in thoughtfulness, but he also believes himself to be a good decision-maker, which ostensibly will preclude him from engaging in the type of introspection that is needed to improve. The other example comes from a different two-year student who had listed a fairly large number of

financial temptations:

> Q: Do you find that you have enough money for all these? Do you have to limit yourself sometimes?
>
> A: I'm not as good with saving as I should be. The limit is "Oh shit, I'm out of money."
>
> Q: How often does that happen?
>
> A: It happens mostly midway through the quarter when the financial aid money runs low.

This passage represents the extremely low end of the cognizance spectrum, but its core sentiment is one that was shared by many students in the interview sample: a lack of foresight that results in students lurching through their financial lives, responding only to acute conditions or stimuli.

High Levels of Consumerism, With Some Exceptions

The fourth and final theme that came of financial attitudes analysis stems from students' consumerist attitudes, and similar to the previous three themes, the consumerism-related interview responses provide a mixed bag on sentiments. The low-consumerism population was represented by the numerous students that either did not feel a pull to buy consumer products or felt the pull but was able to resists. "For me, let's say there was a $120 pair of shoes that were $70 off. I wouldn't be thinking that I'm saving $70, but that I'll be spending $50" one student explained. Another student mentioned that he likes to do a lot of online shopping for

technology products, but imposes a one-week waiting period on all consumer purchases, as a means of testing if he really wants the item. A four-year student provided perhaps the most eloquent description of her attitudes about consumer shopping:

> When I see commercials … that doesn't even phase me … I know it's just a bunch of stuff that, if I buy some clothes, I'm going to think it's cool for a month, and then I'm not going to wear it anymore. I learned that when I was young. When I was 15, I would buy these clothes and a year later, it's sitting in my closet, and I've never worn it.

By contrast, the high-consumerism population was represented by most students' repeated references to shopping and restaurant food, and by some students' affinity for technology products or automobile upgrades (all of which will be examined in greater detail in the Financial Behavior section of this chapter). One student described her – as well as her social circle's – consumption habits during their freshman year as "spend, spend, spend, stop for a little bit, spend, spend, spend, stop. And then second semester, we had to be all about jobs." The following passage from a four-year student encapsulates these sentiments in an anecdote about purchasing a new iPhone despite her current phone still being in working condition:

> Well, the thing is, I was willing to spend a little more, so I ended up paying full retail for an iPhone 5S … and I pulled it out, and I was like "This is it? This is what I paid for?" … I just told myself that I'm not going to get another phone for another two years."

Despite this student realizing that she did not get her money's worth from this new and

significantly expensive cell phone, her consumerism was so deeply embedded that she was only willing to swear off purchasing a new cell phone for *two more years*. In short, even a viscerally negative experience was insufficient for getting this student to examine her underlying beliefs or question her decision-making habits.

RQ3 and RQ4: External Influences

Where and how students acquire their financial beliefs and habits was another topic that I explicitly targeted in interviews. Broadly speaking, these elements can be organized into two themes: the unambiguous finding that financial modeling was more common and influential than explicit conversations/instructions, and the more ambiguous reactions to a social system that emphasizes frivolous spending.

The Power of Informal Observations

Of these two themes, the one that provides the clearest and most straightforward analysis is interview passages that deal with normative modeling: very few interviewees recalled having an explicit conversation with their family or friends about either personal finance or about paying for college, but many reported being affected by things that they observed in others. This is not to say that the interviewed students never had financial conversations with their parents of friends; a few discussed topics such as budgeting and frugality tips, such as one student whose sister “told me never get a credit card and that I can live without one and I’ve

made it this far without one" and another who always put 25% of her paycheck into an emergency fund because her father "told me I pretty much had to." But the frequency of these instances paled in comparison to the number of social network observations. Also, it should be highlighted that these observations run in multiple directions: observing healthy behaviors can create a desire to engage in them, while observing unhealthy behaviors can create a desire to *avoid* engaging in them. Some examples of the former include a student who professed having a high level of overall financial awareness because of a "blue collar attitude" that came "primarily from watching my parents and the fact that they had that attitude," and a student who always noticed that, at restaurants, her mother would always "order less expensive things even though I know she would rather have something more expensive … she wouldn't say anything, but it's just something I noticed." The following response from a working-class four-year student provided what is perhaps the most cogent description:

> I think the nice thing was that they never really did have to sit me down and have a formal lecture, so to say. I picked up a lot of things as I grew up because my parents didn't have a whole lot of spending money either. When a lot of my friends were getting allowances, say $20 a week, without doing any chores, I decided to ask my parents for that, and they said absolutely not. I think I made about $5 a week for doing chores, and I wasn't so good at doing them, so that only happened for about a month. My parents made it very clear that I had to earn the money, so I learned that early on.

It is clear that the overall context of a resource-limited home created opportunities for this student to learn about financial behaviors generally, but the parents' willingness to experiment

with an allowance appears to have provided an extra layer of impact. Regarding the notion that observing unhealthy behaviors provided a warning to students, the interview evidence suggests that these instances can be as strong or stronger than the incentive provided by observing healthy behaviors. For example, one two-year student's 21-year-old brother has "had like six or seven cars I think … in the past six years" and stated that watching these choices unfold did strongly shape "how my philosophy grew on money" by embedding the importance of saving. Another student said that he worked as a bank teller in the small, rural city in which his two-year college was located, and described how he would (illegally) access his classmates' financial records to see how they spent their money:

> I was looking in there one kid's account, I knew him from my school, and he had, he got financial aid disbursement and I checked to see where he all spent it and I could see constant debits from PlayStation, Xbox Five, until it was his account went down to like the low hundreds … I saw that and I was like, that money's there for education, not for that.

Also, just as parents' healthy behaviors seemed to carry a great deal of positive weight for these students, their unhealthy behaviors seemed to provide meaningful impacts for students. One four-year student described how her father "still had student loans and he's in his fifties" and how her mother has "mounds of credit card debt" which has led directly to her philosophy that "besides big purchases like a house or going to college, I won't be taking out loans if I don't have to." Another student stated things more directly:

> I saw the troubles that my parents went through financially. They had two kids by the time they were 22 and neither of them went college so my mom mostly

> did factory work and my dad was a trucker and later a concrete worker. And they were divorced so that also created money problems. I have definitely learned from their mistakes and have been avoiding them.

While it can certainly be argued that strong negative observations might make students too fearful of personal debt, or altogether too wary of financial commitments, these interview responses suggest that it would be difficult to argue that social observations play a vital role in how students acquire financial principles.

Social Spending: Both a Challenge and an Opportunity

Somewhat less clear than the role played by unilateral observation, however, is the role played by iterative social engagement. In particular, there appears to be ample opportunity both for students to isolate their campus peers because of social opportunities' unaffordability, and for students to bond according to how they spend or do not spend. Regarding the isolating effects of social-financial demands, it became clear throughout the interviews that the pressure to spend on social situations is somewhat omnipresent on college campuses. One four-year student offered that "although I am able to resist it well, there is a lot of pressure in college to [spend] money," while a two-year student answered a request for an anecdote about social spending that she later regretted with hearty laughter: "To tell the truth, I regret anytime I go hanging out." However, it also became clear that nearly-universal reports of feeling this pressure did not lead to a consistent reaction to it. For some, the pressure led to poor decisions:

> I used to pay for my friend when we went out to eat because she couldn't afford it and wouldn't have been able to go otherwise. I used to pay for some of her concert tickets or [happy hour] when she couldn't afford it. At the time I thought I was being a good friend, but the more I did it, the more my bank account started to suffer. I started to realize that I couldn't help her out all the time, especially when I started paying a little more attention to my spending habits. But that didn't happen until close to second semester.

This case is a fascinating one, in that the student is feeling pressure to create social situations where money is spent, putting that pressure on a friend that cannot afford to take part in the situations, and then filling the created financial gap by spending her own money to an extent that it began to harm her on financial standing. Less extreme examples included students being talked into buying shoes they didn't need or clothes they don't wear regularly, but this case illustrated how the social elements of student financing can carry implications that extend beyond a student's bank account. However, not all students felt that social spending pressures led to poor decisions or social awkwardness. For students from more affluent households, the financial safety net afforded by their background eliminates the possibility of poor decisions, and can create a lot of shared experiences with similarly-resourced peers. For example, one student states that "sometimes a casual stroll down [shopping district] turns into me and a friend going into every store that looks like it has anything remotely interesting in it." For students from more modest backgrounds, the pressure to spend can also provide benefits by creating bonding opportunities with their working-class peers. This was a common refrain among two-year students and lower-income four-year students, and was described in various

ways, such as the students who stated “I guess me and my friends are pretty cheap … and then I guess most of my friends are pretty good about budgeting their stuff too. I don’t know if it comes with being like middle-class or what, but I guess you could say that I was a little bit under their influence.” Several other students reported being “on the same page” when it comes to social spending, with one students declaring that she and her best college friend “kind of merged attitudes about money.” Perhaps the best overall description was given by a community college student:

> I don't really feel like I miss out on much because most of my friends are like me and responsible with their finances, and we don't go out that often because we can spend time with each other in our homes. I think for some, there may be a bigger link between spending money and being socially connected, especially if they surround themselves with people who are constantly going out, making frequent purchases, stuff like that, but I don't feel that a student has to have a lot of money to get that quintessential college experience.

For the most part, the students who discussed this form of connectedness did not appear to feel disturbed by the prospect of self-stratifying on campus by income group (merely one student suggested as such, saying that “it does offend me a little bit” when more affluent students in her dorm discuss spending habits openly in mixed-income groups). However, this could be a phenomenon of the research participants being in their first year of college; whether students become more sensitive to these conditions would be something worth monitoring longitudinally.

Financial Behavior Themes

Because many aspects of students' financial behaviors have been covered in other sections of this dissertation, such as the frequencies with which various behaviors occur and the potential relationship between behaviors and various financial decision-making elements, what will be featured in this section are behavioral themes that can help inform these prior analyses. Namely, this section will cover the use of cognitive heuristics, the notion of financial habits as evolving over time, and the identification of food and dining as the primary source of day-to-day financial temptation.

Heuristics and Their Mysterious Origins

The appearance of heuristics as something that guides students' financial behaviors was one of the more surprising interview developments, as it was not something about which I asked students directly. Still, there were 18 instances in which an interview participant described something that could be labeled as a rule of thumb. A partial list of these instances includes the following:

- A two-year student who says he feels like he should never go three consecutive days without working at his job.
- A four-year student with the goal of having $1000 in his savings account at the start of every school year.
- A two-year student that imposes a one-week waiting period between when he feels a desire to buy something and when he actually makes the purchase decision.
- A four-year student who always tries to keep his checking account balance above $200.
- A two-year student who refuses to obtain a credit card because of her personal rule that "if you couldn't purchase it right away, then you don't need it."

Perhaps the most interesting aspect of these heuristics is that students frequently could not describe how they acquired them. With a small number of notable exceptions, such as the student who referenced Biblical scripture when outlining the percentage of his paychecks that went to savings and church donations, interviewees responded to questions about the origin of their heuristics with "I don't know" or with a response that was clearly a guess. For example, when the previously mentioned student with the firm rule against credit card was asked about why she feels this way, her response began with the phrase "I guess it's because I got student loans already, so ..." which provides some context about her level of overall debt but does not answer the question that was asked. Ultimately, it seems that the power of the self-determined rules was matched by students' puzzlement around their origins.

Cross-Sectional vs. Longitudinal Analyses of Financial Habits

Regarding the idea that financial habits are dynamic, this too was an unexpected discovery, perhaps because most prior research on college students and personal finance is cross-sectional in nature. In contrast, the interviews were conducted in the spring or summer and asked questions about the entirety of a student's first year; I was therefore able to analyze responses in a pseudo-longitudinal context by observing how students described themselves as having changed over the course of the year. For example, a four-year student said that by the end of the year "I was starting to get used to paying for things and had a sense of how that would be," which paints the picture of someone who had struggled with managing money (which was true) but had used his experiences to change and improve (also true). Similarly, a two-year student that lived with his parents but moved into an apartment with friends during the spring semester

claimed that “ever since I moved out of the home, I kind of broke my habits and I’m very serious with what needs to be paid for, what can be spared, and what can’t.” In this instance, it appears that the financial and procedural support that his parents provided was also an obstacle to the students developing useful financial habits – a situation that could be seen as akin to the well-known “teach a man to fish” proverb. The benefit of experience can also extend to more experienced financial actors, because college-specific financial decisions often cannot be solved with common logic. For example, a nontraditionally-aged student who had raised children and managed her household’s finances for decades talked about how she initially bought all her books and supplies at the college bookstore because she thought she had to; it was not until later that she realized she could buy them at less expensive prices at other stores or online. One of the more common items that evolved for students was the horizon over which they thought about money, as exemplified by the following passage from a two-year student:

> [At the start of the school year] I'd say probably like a month, just because that's when rent is ... So I'd say alright, I have to pay rent that day and I get paid every two weeks … So I'd have to kind of factor that in … I didn't really check my bank accounts unless there was something, you know, shocking that I had to figure out. [At the end of the school year] I probably thought of it more in like I don't know, a semester basis. It sounds kind of bad, but yeah.

Given that being in college requires a student to consider multiple time horizons when making financial decisions – current expenses, mid-term planning, long-term income projections – the ability to extend one’s horizon would seem to boost a student’s ability to make healthy financial decisions. And to whatever extent this extension happens through experience instead of

instruction, the interview participants seemed to improve over the course of their first year.

Is Eating Out a Minor Matter?

Regarding the identification of dining outside the home or a campus-based dining hall (which will henceforth be referred to as "eating out") as the single largest object of financial temptation – and, frequently, of financial regret – it might seem at first that eating out is a somewhat trivial matter. However, the combination of (A) the frequency with which eating out was mentioned, and (B) the intensity of student responses, created a surprisingly compelling topic that warranted further attention. More specifically, eating out was mentioned as a significant temptation of unnecessary spending on 47 occasions over all the interviews; the second-most-frequent temptation was clothes shopping, with only about half that many mentions (25), and no other temptation was mentioned more than 12 times. Also, the emotional attachment that students had for eating out was readily apparent: many students mentioned doing it several times a week, with some viewing it with great personal affection as a form of stress reduction or stress prevention. One two-year student characterized her common feelings as "that test was hard, I've studied all night for it, I need some butter chicken", and a four-year student saying that she dealt with having a difficult roommate by "eating lots of food … I spent quite a bit of money." Additionally, the conceptualization of dining hall food as *not* being eating out for four-year students should be open for debate: while first-year dormitory students are limited in their cooking options, and restaurants are typically more expensive than dining halls, the notions that prior researchers might have about inexpensive campus-based food might be a thing of the past. In fact, several students mentioned how surprised they were

at dining hall prices and how a lack of attention to this caused financial trouble. For example:

> All of the things sold at the university dining halls were a la carte, and some of them were much more expensive than they had a right to be. So even though I would typically get my meals from the university through their dining halls, I would still spend anywhere from five to eight dollars per meal. From my experience, that's what a fast food meal typically comes out to be. I think that's where most of my money went.

Two-year students are not dormitory-bound and therefore have more food options, but at the same time, the prices at campus-based cafeterias should be examined for how they compare to eating out options as well as home-prepared meals. Given that most students will be making food choices multiple times per day, it appears that improving the quality of these decisions would be a promising way to help under-resourced students.

Emergent Themes

Beyond the four prescribed, thematic buckets into which most passages fit – financial behavior, financial knowledge, financial attitudes, and external influences – I allowed for the possibility of other patterns to reveal themselves through the creation of a category into which all “miscellaneous” codes were placed. And upon completion of my analysis of these codes, I identified two other themes within the interview responses: the regularity with which “irregular” student life events occurred, and the power that students ascribe to the word “just.”

Is Atypical the New Normal?

While four-year students were a diverse group in their own right, the sheer variety of lives, lifestyles, and circumstances emanating from the two-year interviewees was staggering. Included in the sixteen interviews conducted on the two-year sample was:

- A nontraditionally-aged student who still lives with his parents, in Section 8 housing, and who suffered an injury at work the year prior and had been unable to earn any income to assist his family until recently. Recent attempts to obtain a new job were unsuccessful because of (A) his itinerant housing situation, which tended to change quickly and frequently, and (B) his need to help his father care for his mother, who had been crippled in a car accident several years before the interview.
- A 49-year-old single mother of two (ages 29 and 26), one of whom died three months before our interview. She had been married for 22 years when her husband abruptly walked out on her one year before the interview; he had initially kept up his alimony payments but in recent months had stopped those payments, despite earning a good salary at his job (the interviewee reported that he had been "hiding" income in his new cohabitational girlfriend's name). She had been working in child care for nearly 18 years, but experienced neck and spinal problems stemming from the physical demands of child care and could no longer work in that field, which instigated her enrollment.
- A traditionally-aged student who did not live with her single mother, but chose not to pay for any non-essentials in her apartment, and because she considered internet access to be non-essential, spent a good deal of time on the phone with her mother, asking her mother to find information for her online – including information she needed to complete her coursework. Of particular interest to this dissertation, the student was quite stressed about her financial situation and called her mother several times per week to obtain her bank account balances.
- An international student, originally from Singapore, whose parents had saved up enough money to fly him to the US and help pay for a host family for the two years in which he would be enrolled. The host family signed a contract promising a cap on rent and three

meals per day, but had stopped feeding the student shortly after he arrived; they also began to "fine" him if they overheard him speaking Vietnamese on the phone or to classmates. The host parents had also recently mentioned that he had to stop using any common areas within the house, or they would increase his rent.

- Two students who attended different community colleges in the fall semester of their first year than they attended in the spring semester.
- One student who was in the process of transferring from a small, private four-year institution to a large, public four-year institution; she enrolled in one community college course in the spring and another course over the summer as a way of smoothing out her transfer coursework requirements.
- A student who was currently attending a small, private four-year institution but monitored community college course offerings and enrolled when a course was offered at a cheaper tuition rate than his native school. He had begun this practice in the summer after his senior year of high school and guessed that he would continue to do so until he graduated.
- A student whose dream was to move to Los Angeles to pursue acting, but changed her mind in the summer after her senior year of college. This student had high academic achievement in high school but did not apply to any four-year colleges under the assumption that she would be pursuing show business; enrolling in her local two-year college was a last-minute backup plan, and she did not have a firm idea of what she wanted to study.
- There was another two-year student that I intended to interview via online chat. The student grew up in Haiti, came to the US and attended college for one year, and returned to Haiti. On four occasions, we began the interview but only managed to get through 1-2 questions before his internet access disconnected. Unprompted, he gave me his bank account number, bank account password, and all necessary personal information in the thought that I could use it to deposit the interview incentive in his account.

Again, acknowledging the peculiarity of these cases is not intended to suggest that all four-year could be painted with the same brush simply because they lack this type of diversity among their backgrounds and experiences. Rather, the purpose is to highlight that for all of the

diversity within the four-year sample that does exist – income, gender, race/ethnicity, academic engagement and potential, etc. – the two-year students are even more so, with several additional layers of diversity along the lines of age, enrollment intensity, and enrollment purpose, among others. As it pertains to this dissertation, these layers made the identification of trends and patterns all the more perilous, and should be used by the reader as a source of useful skepticism.

The Existentialism of "Just"

Throughout the course of the interviews, the word *just* continually surfaced when students were pushed for more details or deeper explanation. To be clear, this word could be used as a synonym for many other words and meanings, but the most common use in these interviews occurred when students used *just* to indicate either *solely* or *recently* (for example, one student described some of his normative influences with "I've realized that I react in the exact opposite way, and it's not just with my parents, but they're the most immediate example I can think of"). But this type of usage is not what caught my ear. Rather, students consistently used *just* – apparently subconsciously – to establish the presence of a belief or habit as involuntary and having always existed. To provide more clarity on this nebulous assertion, below are some of the examples of students using *just* in this existential way (italics added):

- [Why were you surprised when your bank account ran low?] *Just* not good at saving.
- [Why is shopping such a temptation?] I *just* love buying new clothes and shoes.
- [Why are your sisters more consumerist than you are?] Maybe that's *just* girls, you know?
- [Why do loans stress you out?] It's *just* kind of I'm always thinking about it.
- [Why did you think that way at a young age?] It *just* felt like I was supposed to do it.

- [Why are you considering graduate school?] I've always *just* kind of pictured myself going to graduate school.
- [Why do you feel like you're good with money?] I'm *just* very timid of overspending.
- [Why are you dead-set against loans?] I feel it is *just* best to avoid any debt.
- [Why are your friends' habits different?] I *just* don't see the need to spend all this money.
- [Why are gifts your biggest expense?] I *just* enjoy buying things for other people.
- [Why are you avoiding loans?] I *just* would prefer to get out of college loan free.
- [Why don't you worry about your funds getting low?] I get paid every two weeks, and there's *just* no way I'd go through my paycheck in that time.
- [Why was the transition to college stressful?] I'm *just* bad with change.
- [Why does having a lot of loans break your heart?] It *just* freaks me out.
- [Why is the Army your backup plan?] It's *just* something I feel strong with.
- [How did you develop these attitudes at such an early age?] I guess it's *just* how my philosophy grew on money when I was young.
- [Why do find insurance annoying?] I *just* hate paying for it.
- [Why are you comfortable with that amount?] I don't know. It *just* feels like a good comfortable number.
- [How did you come up with that number?] I don't know, 50% was *just* the number. It *just* stuck. It *just* stuck.

The word "just" was deployed in this manner – as an existential preface that substitutes for reasoning or accountability – a total of 56 times. Of the 32 interviews I conducted, only six students did not use *just* in this way at least once. And while it is certainly possible that this type of usage is merely a verbal "tick" that the interviewees use, or that students knew the answer but were not comfortable sharing it, this was not my perception of the interview experience with this sample of students. Instead, probing into the topic attached to this usage of *just* was far more likely to result in conversational dead ends. As this speech pattern pertains to this dissertation, it underscores how deeply-seeded financial beliefs and habits can be, which

illustrates the need for researchers and policymakers to expand their personal finance glossary and broaden their perspective on how financial decisions are truly made. It is only through this type of understanding can effective interventions be designed and implemented.

Chapter 6: Discussion

The research questions for this dissertation are (1) How is financial knowledge related to the financial decisions of first-year college students?, (2) How are financial attitudes related to the financial decisions of first-year college students?, (3) How are external influences related to the financial decisions of first-year college students?, and (4) How do the answers to these questions differ by institution type?. Having viewed the overall findings in Chapters 4 and 5, we can now turn our attention back to these fundamental questions, to see how the survey and interview evidence relate to them more directly. In the sections that follow, I will place the findings in context and discuss how these results apply directly to the stated research questions. Stated succinctly, it appears that the influence of financial knowledge heavily depends on the financial behavior in question, that external influences play a larger role than internal attitudes, and that the role of institution type was revealed far more in interviews than on the survey.

RQ 1: The Role of Financial Knowledge

Quantitative Analysis

Perhaps the most notable findings about financial knowledge was that the correlation between knowledge and institution type, as well the relationship between knowledge and student background traits, were just as strong as the relationship between knowledge and financial behaviors. However, the relationship between knowledge and gender was far weaker (approximately one-third) than the relationships between knowledge and institution type,

knowledge and bank account status, or knowledge and FAFSA completion. Some of these patterns are consistent with prior research, while others are not.

On one hand, this study confirmed earlier findings that (A) financial knowledge is positively correlated with having a checking account and completing the FAFSA, (B) female students exhibited lower average financial knowledge scores than males, and (C) taking a personal finance course in high school does not appear to increase the financial knowledge levels of first-year college students. On the other hand, this study observed significantly higher overall knowledge levels than prior tests of college students, and observed a lower frequency of "I don't know" responses than did earlier studies. Moreover, this study did not find evidence that financial knowledge is either positively related to financial motivation or negatively related to a host of unhealthy behaviors (e.g., paying bills late), as were present in prior research.

This research also differs from prior work in design and methods, in that it emphasizes a more holistic view of financial activities by asking both *if* students engaged in certain financial activities and *how* they feel about their engagement decision. On this front, the contrasting knowledge-related results are intriguing: while *engaging* in financial behaviors displayed a mix of no or small correlations with financial knowledge, students' *feelings* about the behaviors displayed a mix of small and large correlations. Hence, in this sample of first-year college students, it appears that psychological and socioemotional factors displayed a more robust relationship with financial knowledge than did physical and tangible factors.

Qualitative Analysis

Because I did not ask any direct interview questions about financial knowledge items, I was only able to deduce information about how knowledge influences students' lives by analyzing indirect responses about other topics. Having done so, the most intriguing pattern is that interview data departed from survey data regarding the frequency and usage of "I don't know" responses: whereas students did not appear to choose that response on survey questions with high frequency, it was a phrase that appeared regularly in-person.

This pattern could indicate that "I don't know" is a reflection of the extemporaneous style of interviews, in that students have all the time they need to think about a survey question before answering, while interview participants typically feel the need to respond immediately. However, this pattern could also reflect a lack of depth in students' knowledge, in that interview questions were designed to probe for more complex and abstract information than were the survey questions. One method of examining the plausibility of the latter explanation is to analyze students' responses to follow-up interview questions, with the belief that giving students more time and additional prompts should lead to more cogent answers. After reviewing the interview transcripts, the "lack of depth" scenario appears far more likely than the "lack of extemporaneous ability" scenario: the substantive depth of students' interview responses most often did not match the substantive depth of the question, leading one to the conclusion that the comparatively straightforward survey questions are less indicative of overall financial capability than deeper interview questions.

Another knowledge-related element that differed between the survey data and the interview data is how interviewed students revealed that college-specific financial knowledge

shaped their financial decision-making – a finding which contrasts both this study's survey results and prior research. This is not altogether surprising, given that the survey comprises a small portion of college-specific knowledge questions and that the overwhelming majority of published works in this area focus on more general knowledge items (e.g., What is the typical APR for a new credit card holder?). However, given the frequency with which college-specific knowledge was referenced in student interviews, as well as the pertinence of college-specific information to students' financial decisions, this area of financial knowledge warrants more attention in the future. In the same way that the popularity of "just-in-time" personal financial tools is growing, so too might a more life-period-specific conception of financial capability.

RQ 2: The Role of Financial Attitudes

Quantitative Analysis

Overall, it does not appear that any significant patterns emerged from the data connecting financial attitudes with financial behaviors: of the 16 Difference-in-Proportions (DIP) tests conducted that examined the link between four financial behaviors and each of four financial attitudes, only three provided evidence of a robust relationship. Moreover, there were no trends apparent within the three successful tests – though the tests attached to the financial behavior of paying bills late do provide a sliver of promise warrants some degree of attention in future research.

Because the current body of work on college students and personal finance does not cover the possible relationship between attitudes and behaviors in detail, these results cannot be compared to any strong pre-existing theories or quintessential published works. However,

the results do challenge the intuitive expectation that internal, psychological processes directly govern students' financial choices in some way. Perhaps one explanation for this is that the majority of the students in this study are traditionally-aged first-year student status, and therefore residing on the youngest end of the college-age spectrum; this could mean that students' attitudes and beliefs are not fully formed or strongly held, and that it would be difficult to find any links that stem from them.

Qualitative Analysis

While a fair number of themes (four) emerged from interview responses dealing with financial attitudes, this elevated amount should not be mistaken for increased clarity: for each theme, students provided diverse and frequently contradictory information that does lead to conclusive statements about the relationship between financial attitudes and financial behaviors. This parallels the survey results, which also failed to produce strong or consistent relationships. But the depth of the interviews does allow for the possibility that additional nuance could be found within this overall confusion.

Namely, while students exhibited a wide array of financial attitudes in their interviews, the comparative weight of this mixture tilted toward unhealthy attitudes. There are a number of possible explanations for this, such as the age or economic diversity of the interview sample, but for each of the four attitudinal response themes – student loans, social spending, financial cognizance, and consumerism – perhaps the best conclusion to be drawn is that the interviewed students were consistently inconsistent.

RQ 3: The Role of External Influences

Quantitative Analysis

This study found evidence of a strong relationship between external influences and financial behaviors. Perhaps most intriguingly, this relationship presented itself in three distinct ways: from a frequency perspective, from an influential group perspective, and from a financial behavior perspective.

Regarding frequency, most tests revealed evidence of a statistically significant difference between those students who observed a financial behavior and those who did not, and most of the successful comparisons indicated a difference at the highest statistical standard that is commonly used in education research. Moreover, these strong connections were spread across the measured influence groups: family members, friends, and "others" all exhibited significant differences in a majority of their respective tests.

Regarding influence groups, students' friends exhibited the strongest normative influence of the three tested: all friend-related tests showed a significant difference between students who observed friends performing financial tasks and those who did not. These results suggest that friendships play a large role in the formation of financial norms and in the exercise of subsequent financial behaviors; while the link between family members and financial behaviors has been theorized more commonly, perhaps it is time to focus on friendship connections more vigorously.

Regarding financial behaviors, the act of researching money management tips exhibited the strongest relationships to external influences: all three tests suggest a link between a student observing an external influence group attempt to learn about personal finance, and the

student doing it his/herself. This is not particularly surprising, given that learning about money management is the least intrusive behavior of the three being tested (the other being making a personal budget and paying bills late), but it does point to the need for additional research into the efficacy of "light touch" interventions, as compared to interventions that attempt to change more embedded behaviors.

Qualitative Analysis

While there is some countervailing evidence that slightly muddies the waters, the overall body of interview-derived evidence suggests a strong relationship between external influences and financial behaviors. In fact, the qualitative findings imply that the role played by normative elements outweighs that played by either financial knowledge or financial attitudes. In short, students' perceptions of the choices made by friends, family members, and others was consistently related to their own behavioral decisions.

More specifically, interviewed students repeated mentioned that observing the financial experiences of friends and family members had a sizable impact on his/her own decisions. Also, students persistently described feeling pressure to spend socially – though the impact of this is unclear, as students also reported that social spending pressure created opportunities for both community-building and for isolation. Additionally, the impact of external influences was still felt when potentially influential behaviors were *absent* from students' lives: for example, very few interviewees reported having explicit conversations about money with their friends and family members, viewing this as a lost opportunity and speculating that engaging in this type of influential behavior would have impactful.

RQ 4: Variation by Institution Type

Quantitative Analysis

Given the uneven relationships that were examined in Research Questions # 1-3 (with the exception of external influences, which exhibited a strong and consistent pattern), it would be difficult to subsequently discern any consistent patterns across institution type. And, predictably enough, this study's results suggest that (A) two-year students differ from their four-year counterparts in numerous ways, but (B) these differences are not consistent across the study and instead depend greatly on the financial element in question.

For example, the results of financial attitude analyses did not appear to differ by institution type, while at least some differences were discovered for the other financial elements that were examined here (the relationship between knowledge and behavior, and the relationship between external influences and behavior). Moreover, inconsistencies exist within each financial element. One example of an intra-element inconsistency can be seen by deconstructing the construct of "financial behaviors" into specific types of behavior, and looking for their relationships to financial knowledge scores: while completing the FAFSA was related to financial knowledge for both two- and four-year students, several other behaviors (paying bills late, having a bank account) exhibited a relationship for one type of students but not the other.

Taken together, the survey results paint an uncertain portrait of how these financial relationships vary by institution type. This is not surprising, given that different types of students attend two-year and four-year colleges, but it does signify the need for more academic research that distinguishes the effect of student background and the effect of campus conditions and/or interventions.

Qualitative Analysis

Unlike the inconsistency stemming from the survey responses, the interview responses reveal strong and consistent differences between two-year and four-year students. More specifically, these differences can be most clearly observed when examining financial attitude responses, external influence responses, and the emergent theme responses.

Regarding financial attitudes, responses dealing with student loans and social spending displayed the largest institution-type variance. Namely, exceedingly few two-year interviewees took on any loans, and those that did took on a small amount, resulting in differences around the personal experience of living with student loans and worrying about a post-college future in which they would have to be repaid. Also, social spending opportunities were reported on both campus types, but the housing proximity of dormitory-based four-year students creates additional spending pressure, as does the relative increase in discretionary funds enjoyed by the comparatively more affluent four-year students, resulting in interviewees who were subject to more temptation and more resources with which to splurge on inessentials.

Regarding external influences, two-year interviewees grew up in backgrounds that were distinct from their four-year counterparts, and the differing stimuli provided by these backgrounds played out in numerous ways. For example, social spending created opportunities for bonding as well as for segregation on both campus types, but two-year students were more likely to use their imposed frugality as an opportunity to build a campus community, while the four-year interviewees were more likely to either feel social isolated or place themselves into tenuous financial positions as a means of integrating themselves into their campus.

Regarding the emergent themes, it seems that the concept of “ordinariness” applies almost exclusively to two-year students. In particular, the circumstances of a four-year student’s upbringing were very likely to resemble their four-year peers’ upbringing, whereas the personal backdrop of nearly all two-year interviewees appeared to be both unique from the other two-year students and a source of fascination unto itself. Given that other fields of social science have established that differing personal backgrounds tend to create distinct habits, beliefs, and relationships in adolescence and adulthood, so too does it appear that this concept holds true in the area of personal finance.

In short, the interview responses provided evidence that institution-type differences are strong and consistent. At least some of these disparities can be traced back to the personal background traits and experiences of the interviewees, but to the extent that personal finance is evolving throughout a student’s period of attendance, it stands to reason that differences in current experiences will iteratively create new distinctions and either mitigate or exacerbate old ones.

Chapter 7: Conclusion

The overarching purpose of this dissertation was to take an incremental step toward expanding the analytical framework that is typically applied to the research of college students and personal financial management. More specifically, I retained the traditional focus on financial knowledge while adding two new areas of focus: financial attitudes and external influences. Based on the results and corresponding analyses presented here, I believe that these new foci provide a promising new terrain on which researchers, experts, and other stakeholder groups can discuss the financial barriers to postsecondary access and success.

Toward this end, I have identified a number of ways in which these findings and analyses carry implications that extend beyond this dissertation. These implications can be categorized by their application to academic research, to public policy, and to professional practice.

Research Implications

Having established a number of correlational relationships, this dissertations' findings point clearly to the need for addressing its primary methodological shortcoming: the inability to make causal claims. This condition was built into this study's research design, but future research could improve by examining the relationships presented here in a more detailed way. For example, these results suggest that financial knowledge is positively correlated with completing the FAFSA, but do not allow for an analysis of which one leads to the other (and/or if the process is iterative). Because it is plausible that possessing financial knowledge makes a

student more likely to be aware of the FAFSA, and that completing a FAFSA mobilizes a student to learn more about personal finance, and that both of these effects are happening simultaneously, it is vital to the future of research in this area that the nontraditional relationships discussed here are causally explicated. This could take the form of collecting more background information quantitatively, as a means of fitting this data into regression-based models, or it could mean tracking students over a longer period of time in an attempt to utilize a quasi-experimental design. Qualitatively, this could mean eschewing the open-interview style and focusing in on the strands and themes provided here that offer particular promise; it could also mean conducting focus groups as a potential way of circumventing individual students' relative lack of awareness by harnessing the benefits of group conversations.

A secondary research conclusion stemming from this study is that institution-type comparisons were conducted in a parallel manner, but could be transferred to a more interactional comparison style. Namely, the two-year versus four-year analysis conducted here was completed by isolating the students from each institution type, analyzing each group's data separately, and making comparisons post hoc. But this could be improved upon by integrating cross-type comparisons into the research design more comprehensively. Quantitatively, this could mean the addition of an interaction term into mathematical models. Qualitatively, this could mean the use of focus groups in which both two-year and four-students are represented. Both of these methods would allow the researcher to play each type of student off the other, and to use each type's interactive responses to stimulate new ways of thinking and comparing these unique types of campuses.

Policy Implications

In recent years, a growing number of states have passed legislation that allows for personal finance to be taught in American schools, with some particularly vigorous states requiring at least some financial education to be provided as a requirement for high school graduation[7]. Moreover, a growing number of colleges have provided students with online tutorials or brief in-person workshops about managing money – particularly four-year institutions, with the majority of their traditionally-aged students grappling with personal finances for the first time. This surge in popularity brings with it a set of opportunities and challenges for financial stakeholders, each of which could be impacted by the findings provided by this study.

More specifically, the heightened call for tools that financially empower students should expand the conversation about what the tolls should look like, i.e., the increase in demand will trigger a closer look at the supply. And if findings similar to those outlined here are confirmed by research elsewhere, the cumulative impact of these findings could have a sizable effect on the current stock of tools and the direction of future legislative mandates. For example, many financial empowerment tools that are provided by schools to high school students are prefabricated and speak about day-to-day money management, but this study's findings suggest that college-specific knowledge is important for financial health. Hence, stakeholders should call for governmental and/or institutional requirements that financial knowledge curricula at the secondary and postsecondary levels contain information about college costs, the logistical

[7] http://www.surveyofthestates.com/

processes of applying for financial aid and seeking on-campus financial help, nontraditional alternatives to fixed-term repayment plans, and other types of college-specific items.

In sum, outdated modes of thinking on this topic might have gone unquestioned in the absence of increased scrutiny. However, the burgeoning level of attention being paid to college students' financial habits have, thankfully, made this far less plausible. Research such as that conducted for this dissertation could be used by practitioners to help chart a course for this newer, more mindful way of attacking students' financial roadblocks.

Practice Implications

Because the majority of both private and campus-based personal finance interventions aimed at college students are geared toward increasing their finance knowledge, and because most current iterations of financial education programs are considered to be highly ineffective (Willis, 2008), this dissertation's findings suggest that typical program administrators should consider a redesign of their offerings. Instead of focusing solely on disseminating discrete pieces of factual information, these interventions could broaden their definition of "personal finance" in a number of ways. An expansion such as this could take many forms.

On the minimal end of the program reform spectrum, personal finance offerings could add new curricular concepts to their previous focus on financial knowledge. The results presented here suggest that some programmatic space should be devoted to concepts involving students' personal attitudes and social networks, with the understanding that these elements play a role in students' financial decision-making processes. Additional space could also be

devoted to other elements that either were not covered by this dissertation or are uncovered by future research in the area. Stated succinctly, factual information is but one financial player, and reform efforts that focus solely or primarily on knowledge will continue to fall short of its goal of reducing the financial barriers to college success.

On the more ambitious end of the program reform spectrum, personal finance interventions could re-conceptualize curricula in a more fundamental way, by moving away from the concept of financial *literacy* and toward the concept of financial *capability*. This movement is incrementally becoming a part of the personal finance conversation, but this trend has not yet made its way into many of the tangible programmatic offerings that are provided by colleges, philanthropic organizations, or private enterprises. Not only does financial capability incorporate numerous financial elements beyond factual information, but it also accounts for financial actors in a culturally-responsive way and is more cautious about labelling behaviors as "good," "bad," "healthy," or "unhealthy." It could be said that this presents a more bottom-up vision of personal finance interventions, rather than a top-down perspective that imposes a prescribed set of guidelines. Some of these guidelines are certainly quite useful, but by accounting more fully for students' backgrounds, social norms, and cultural habits, more progressive forms of practice could provide more impact.

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Appendices

Appendix A: Survey Questions

Background Information	
What is your gender?	▪ Male ▪ Female
Please select one or more of the following choices to best describe your race. (MARK ALL THAT APPLY)	▪ White, non-Hispanic ▪ African-American ▪ Hispanic or Latino/Latina ▪ Asian ▪ Native Hawaiian or Other Pacific Islander ▪ American Indian or Alaska Native
Where did you live during this year while you were in college?	▪ At home, with family. ▪ In an on-campus dormitory. ▪ In an on-campus apartment or house (alone, with friends, or with roommates). ▪ In an off-campus apartment or house (alone, with friends, or with roommates).
What was your approximate grade point average (GPA) in high school?	▪ Open text box.
Was your high school on a 4.0 GPA scale?	▪ Yes ▪ No
[If student's high school was not on a 4.0 scale.] At my school, an "A" was worth the following number of points:	▪ Open text box.
Please describe the formal training you received in personal finance while in high school. (MARK ALL THAT APPLY)	▪ I took at least one high school class dedicated entirely to economics or personal finance. ▪ I attended at least one workshop, seminar, or after-school program about economics or personal finance. ▪ I looked at websites, magazines, or other types of media with the purpose of learning about personal finance. ▪ I never learned about economics or personal finance outside my home.
Have you ever been enrolled in a two-year or four-year college before this year? (do <u>not</u> include AP classes or other dual-enrollment programs while in high school)	▪ Yes ▪ No

Financial Knowledge	
Imagine that the interest rate on your savings account is 1% per year and inflation is 2% per year. After one year, how much would the money in your account buy?	▪ More than it does today ▪ Less than it does today ▪ Exactly the same ▪ I don't know
Assume you are in your early twenties and you would like to build up your nest egg for a secure retirement in 30-40 years. Which of the following approaches would best meet your needs?	▪ Start to build up your savings account gradually in a bank ▪ Save money in a certificate of deposit (CD) account ▪ Put monthly savings in a diversified growth mutual fund ▪ Invest in long-term Treasury bonds ▪ Accumulate money in a safe-box rented from a bank ▪ I don't know
Many young people receive health insurance benefits through their parents. Which of the following statements is true about health insurance coverage?	▪ You are covered by your parents' insurance until you get married. ▪ If you parent(s) become unemployed, your insurance coverage may stop. ▪ Young people don't need health insurance because they are so healthy. ▪ You will be covered by your parents' insurance as long as you live at home. ▪ I don't know
Indicate whether each of the following is true or false: ▪ Mutual funds pay a guaranteed rate of return. ▪ Making payments late on your bills can make taking out a loan more difficult. ▪ If I fail to pay personal debts, a creditor is allowed to discuss my debt with my employer	▪ True ▪ False ▪ I don't know
What is the primary difference between a subsidized student loan and an unsubsidized student loan?	▪ A subsidized loan will not charge interest until you leave school, an unsubsidized loan will never charge interest. ▪ A subsidized loan goes comes from a private lender such as a bank, an unsubsidized loan comes from the government. ▪ A subsidized loan will not charge interest until you leave school, an unsubsidized loan will charge interest while you're still in school.

	▪ A subsidized loan will need to be repaid after graduation, an unsubsidized loan will never need to be repaid. ▪ I don't know
When do you need to fill out a new financial aid application (FAFSA)?	▪ Once per semester that I am enrolled. ▪ Once per school year that I am enrolled. ▪ Only once, when I enter college the first time. ▪ When I first enter college, and then once again if I transfer to a new school. ▪ I don't know
Which of the following is <u>not</u> true about financial aid?	▪ Some of your award is based on your personal income. ▪ Some of your award is based on the tuition of the school you attend. ▪ Your award cannot change from year to year. ▪ Your award might not cover the full costs of attendance. ▪ I don't know
What is the major difference between a grant and a student loan?	▪ A grant only lasts one year, but new loans can be taken out as long as you are in school. ▪ A grant has a lower interest rate than a loan does. ▪ A grant can only come from a public entity (like your school or the government), but you can take out a loan through public or private lenders. ▪ A loan needs to be repaid, but a grant does not. ▪ I don't know
Financial Attitudes, External Influences, And Financial Behaviors	
When it comes to money matters, to what degree do you think your own behaviors are influenced by the following: (MARK ONE RESPONSE IN EACH ROW) ▪ Parents or guardians ▪ Friends ▪ My personal experiences ▪ Websites, magazines, etc. ▪ A financial professional or financial training I've had in the past.	▪ No influence ▪ A little influence ▪ Moderate influence ▪ Strong influence ▪ Very strong influence

How true are the following statements about your financial experiences? (MARK ONE REPONSE FOR EACH ROW) ▪ I feel in control of my financial situation. ▪ My finances are a significant source of worry or "hassle" for me. ▪ Purchasing things is very important to my happiness. ▪ I don't think about money issues all that much. I just kind of take it as it comes.	▪ Not at all true ▪ Only a little true ▪ Moderately true ▪ Pretty true ▪ Very true
How interested are you in increasing your financial knowledge?	▪ Not at all interested ▪ Not very interested ▪ Neutral ▪ Somewhat interested ▪ Very interested
Would you take a personal finance course as a college elective if it was offered?	▪ Yes ▪ No
Please indicate how you feel about each of the following activities: ▪ Making a personal budget and keeping track of my monthly expenses. ▪ Frequently checking the balances of my bank account or credit card ▪ Paying bills late ▪ Learning about money management tips	▪ Very negatively ▪ Somewhat negatively ▪ Neutral ▪ Somewhat positively ▪ Very positively
When managing your money, which of the following time periods do you think about the most?	▪ The next 1-2 weeks ▪ The next one month ▪ The next few months ▪ The next one year ▪ The next few years
Thinking about the last time you tried to get good financial advice, how effective was the assistance you received?	▪ Very ineffective ▪ Somewhat ineffective ▪ Neutral ▪ Somewhat effective ▪ Very effective
How confident are you that paying for college is a good investment in your future?	▪ Not at all confident ▪ A little confident ▪ Somewhat confident ▪ Very confident ▪ Extremely confident
Just during the past year, how have your feelings changed about the potential payoff for investing in a college education?	▪ Decreased a lot ▪ Decreased a little ▪ Neutral

	▪ Increased a little ▪ Increased a lot
Before coming to college, did you know anyone who performed the following behaviors? (PLEASE MARK ALL THAT APPLY) ▪ Made a personal budget and kept track of monthly expenses. ▪ Frequently checked the balances of their bank account or credit card ▪ Paid bills late. ▪ Regularly tried to learn about money management tips.	▪ Me ▪ Family ▪ Friends ▪ Others ▪ I don't know anybody who did this.
How many credit cards do you have? (do not include ATM or other debit cards)	▪ 0 ▪ 1 ▪ 2 ▪ 3 or more
If you were having financial problems related to debt, how likely would you be to do the following activities? ▪ Take out more student loans ▪ Cut back on my spending ▪ Work more hours at my job ▪ Sell some of my things ▪ Stay in school, but reduce the number of courses I'm taking ▪ Withdraw from school ▪ Get another credit card ▪ Use a payday loan or check cashing store	▪ I would definitely do this right away. ▪ I would do this later, if the things I did right away didn't work. ▪ I would only do this as a last resort. ▪ I would never do this.
Would you say that you have had <u>significant</u> financial problems at some point during the course of this school year?	▪ Yes ▪ No
[If student did not have a significant financial problem.] Would you say that you have had any <u>small</u> financial problems at some point during the course of this school year?	▪ Yes ▪ No
[If student had either a significant or small financial problem.] When you had financial problems this year, where did you go for help? (CHECK ALL THAT APPLY)	▪ Friends ▪ Parent(s) or guardian(s) ▪ Other family members ▪ My college's financial aid office ▪ A financial professional ▪ A website or online tool

	▪ A bank or other private company ▪ None of the above
[If student did not have either a significant or small financial problem.] If you had any financial problems in the future, which of the following people would you ask for help? (CHECK ALL THAT APPLY)	▪ Friends ▪ Parent(s) or guardian(s) ▪ Other family members ▪ My college's financial aid office ▪ A financial professional ▪ A website or online tool ▪ A bank or other private company ▪ None of the above
How much of last year's expenses were paid for by the following sources? ▪ Pell Grant ▪ Grants or scholarships that are not a Pell Grant ▪ Money from parents, guardians, or other family ▪ Student loans ▪ Money I made during the summer ▪ Money I made during the school year ▪ Savings and other accounts in my name ▪ Other	▪ None ▪ A little bit ▪ Some ▪ Quite a bit ▪ All ▪ I don't know
Do you have a checking account with a bank or credit union?	▪ Yes ▪ No ▪ I don't know
Did you file a Financial Aid Application (FAFSA) this year?	▪ Yes ▪ No ▪ I don't know

Appendix B: Pearson's Chi-squared Results, Full Sample

Attitude: Financial Control

Behavior	**The Extent to Which Students Felt in Control of Their Financial Situation**	
	χ^2	P-Value
Did vs Did Not Keep a Personal Budget	5.81	0.214
Did vs Did Not Pay Bills Late	7.97	0.093
Did vs Did Not Try to Learn about Money Management	3.02	0.555
Did vs Did Not Have a Bank Account	7.44	0.115
Did vs Did Not Complete the FAFSA	2.63	0.622

Attitude: Financial Stress

Behavior	**The Extent to Which Students Felt That Their Finances are a Source of Worry**	
	χ^2	P-Value
Did vs Did Not Keep a Personal Budget	2.16	0.706
Did vs Did Not Pay Bills Late	4.30	0.366
Did vs Did Not Try to Learn about Money Management	3.27	0.514
Did vs Did Not Have a Bank Account	1.71	0.789
Did vs Did Not Complete the FAFSA	10.93	0.027 *

Attitude: Financial Consumerism

Behavior	**The Extent to Which Students Felt That Buying Things is Important to Their Happiness**	
	χ^2	P-Value
Did vs Did Not Keep a Personal Budget	3.70	0.448
Did vs Did Not Pay Bills Late	17.63	0.001 ***
Did vs Did Not Try to Learn about Money Management	4.89	0.299
Did vs Did Not Have a Bank Account	15.35	0.004 **
Did vs Did Not Complete the FAFSA	6.32	0.176

Attitude: College Investment

Behavior	**The Extent of Positive Feelings Students Had about Investing in a College Education**	
	χ^2	P-Value
Did vs Did Not Keep a Personal Budget	3.41	0.491
Did vs Did Not Pay Bills Late	10.19	0.037 *
Did vs Did Not Try to Learn about Money Management	1.91	0.752
Did vs Did Not Have a Bank Account	5.29	0.259
Did vs Did Not Complete the FAFSA	8.02	0.091

Appendix C: Pearson's Chi-squared Results, by Institution Type

Attitude: Financial Control

Behavior	Institution Type	The Extent to Which Students Felt In Control of Financial Situation	
		χ^2	P-Value
Did vs Did Not Keep a Personal Budget	2-yr	6.48	0.17
	4-yr	7.43	0.12
Did vs Did Not Pay Bills Late	2-yr	6.26	0.18
	4-yr	2.34	0.67
Did vs Did Not Try to Learn about Money Management	2-yr	2.66	0.62
	4-yr	2.96	0.57
Did vs Did Not Have a Bank Account	2-yr	2.19	0.70
	4-yr	11.43	0.02 *
Did vs Did Not Complete the FAFSA	2-yr	3.64	0.46
	4-yr	6.76	0.16

Attitude: Financial Stress

Behavior	Institution Type	The Extent to Which Students Felt That Their Finances are a Source of Worry	
		χ^2	P-Value
Did vs Did Not Keep a Personal Budget	2-yr	2.91	0.57
	4-yr	1.84	0.77
Did vs Did Not Pay Bills Late	2-yr	2.04	0.73
	4-yr	3.00	0.56
Did vs Did Not Try to Learn about Money Management	2-yr	2.94	0.57
	4-yr	2.52	0.64
Did vs Did Not Have a Bank Account	2-yr	3.67	0.45
	4-yr	3.12	0.54
Did vs Did Not Complete the FAFSA	2-yr	7.14	0.13
	4-yr	10.75	0.03 *

Attitude: Financial Consumerism

Behavior	Institution Type	The Extent to Which Students Felt That Buying Things is Important to Their Happiness	
		χ^2	P-Value
Did vs Did Not Keep a Personal Budget	2-yr	2.95	0.57
	4-yr	3.32	0.51
Did vs Did Not Pay Bills Late	2-yr	10.65	0.03 *
	4-yr	11.88	0.02 *
Did vs Did Not Try to Learn about Money Management	2-yr	5.13	0.28
	4-yr	2.35	0.67
Did vs Did Not Have a Bank Account	2-yr	13.13	0.01 *
	4-yr	3.19	0.53
Did vs Did Not Complete the FAFSA	2-yr	3.46	0.48
	4-yr	2.51	0.64

Attitude: College Investment

Behavior	Institution Type	The Extent of Positive Feelings Students Had about Investing in a College Education	
		χ^2	P-Value
Did vs Did Not Keep a Personal Budget	2-yr	3.64	0.46
	4-yr	3.58	0.46
Did vs Did Not Pay Bills Late	2-yr	9.49	0.05 *
	4-yr	1.85	0.76
Did vs Did Not Try to Learn about Money Management	2-yr	4.18	0.38
	4-yr	1.18	0.88
Did vs Did Not Have a Bank Account	2-yr	4.69	0.32
	4-yr	0.99	0.91
Did vs Did Not Complete the FAFSA	2-yr	6.06	0.20
	4-yr	6.01	0.20