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Exploring Student Loan Personal Financial Management Decisions Using a Behavioral Economics Lens

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This is to certify that the doctoral dissertation by

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Abstract

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by

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MBA, Embry-Riddle Aeronautical University, 1995

BS, U.S. Air Force Academy, 1983

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

There is a student loan debt problem in the United States. Seven million student borrowers are in default and another 14 million are delinquent on their loans. A high level of college loan debt leaves students with insurmountable payments and holds them back from starting a family, buying a home, or saving for retirement. The problem is that financial managers may not understand the student loan decision process well enough to help students make a loan decision that prevents an unmanageable level of debt. The purpose of this study was to explore and understand the student's loan decision process using a conceptual framework that contrasts rational choice theory and behavioral economics within the Blackwell, Miniard, and Engel's consumer decision model. This exploratory study was designed to answer research questions about how students perceived the forces that might influence the decision. A qualitative case study was conducted and purposeful sampling was used to identify 28 undergraduate students who had a student loan at a university in the Rocky Mountain region. The students were interviewed, the data coded, and the coded data were analyzed to identify themes. The data were used to diagram the decision process and identify decision variables. The findings indicated that students were pragmatic in their loan decisions, but they were not rational actors. The research highlighted 3 behavioral economic themes: the power of intention, herding, and complexity resulting in the use of the satisficing and default heuristics. The contributions of this study could be of interest to financial managers, parents of students, and students planning to enter college. Preventing unmanageable student debt could bring positive social change to the students and their families.

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Chapter 1: Introduction to the Study

This study explored the financial management decision process used by college students when they consider contracting for a loan to pay for their higher education. The college loan decision is a financial management decision that defines many people for the rest of their lives. In this chapter, I introduced the loan debt phenomenon in the United States and explained the problem. I also explained the purpose, nature, and significance of the study.

Choosing to take a student loan is a personal financial management decision. If the student makes a bad decision, his or her life is adversely impacted. If many students make bad loan decisions, then managers are impacted. For example, leaders at the U.S. Department of Education are holding managers at certain universities accountable for bad loans by fining the universities for illegal recruiting and lending practices (U.S. Department of Education, 2015d; 2015e). Human resource managers at businesses, such as hospitals, nuclear power plants, law enforcement agencies, and security firms, may have a legal responsibility to turn away high-risk graduates if they defaulted on their student debt (National Consumer Law Center, 2014). Managers at the Federal Reserve are concerned about the aggregated effects of so many Americans struggling to manage their personal finances (Li, 2014). The student loan debt phenomenon directly affects financial managers at universities, wealth management firms, car dealerships, housing construction companies (Palcious, 2014), and credit unions (Elliott & Nam; 2013, Lammers, 2013). In conducting this research, I looked at the problem from several

perspectives with the intent to provide practical information for financial managers who advise students and their parents.

Forty million people in the United States are responsible for student loan debt totaling over one trillion dollars (Chopra, 2013a; Dynarski, 2014; Mitchell & Jackson-Randall, 2012; Monks, 2014). Since 2012, student loan debt is second only to mortgage debt as the largest source of household debt (Walsemann, Gee, & Gentile, 2015). Most students can manage their debt and are benefiting financially from the education they purchased with the loan money. However, 7 million student borrowers are in default (Dynarski, 2014; Mitchell, 2015), and another 14 million students are estimated to be in delinquency (Cunningham & Kienzel, 2011). Cunningham and Kienzel (2011) also estimated that 41% of all student loan borrowers faced negative consequences associated with delinquency or default.

Borrowing money to invest in a college education is frequently called *good debt* (Chopra, 2013b) because the borrower experiences a positive return on the investment over time. However, Americans may be witnessing too much of a good thing. In 2012, the Consumer Financial Protection Bureau reported that college student loan debt surpassed $1.2 trillion (Bricker, Brown, Hannon, & Pence, 2015; Mitchell & Jackson-Randall, 2012). While introducing the *Know Before You Owe Act,* Senator Harkins said, "Young Americans are being hamstrung by record debt levels, forcing them to delay other important investments in their futures" (Durbin, 2013, p. 1). Because management is about decision-making and the control of finances, it follows that some students could utilize the help of financial managers.

Background of the Study

Borrowing money for higher education is a consumer decision filled with assumptions about the costs and benefits of the loan decision. Students must make assumptions because uncertainty about future outcomes surrounds the college loan decision. The financial calculations and uncertainty about future salaries complicate the student loan decision process. *Rational choice theory* explains the traditional view of the decision-making process. The rational choice theory has extensive history that dates from the late 1700s until today (Rothstein & Rouse, 2011). This research includes the *permanent income hypothesis* (Friedman, 1957). The permanent income hypothesis is an important financial management concept because it provides the intellectual justification for college students to borrow money with the expectation that a college education will lead to a greater accumulation of income over the student's lifetime (i.e., *permanent income hypothesis* or *life-cycle hypothesis*). Rational choice theory and the permanent income hypothesis are the foundation for most of the current student loan policies and financial management practices (Monks, 2012; Rothstein & Rouse, 2011; U.S. Department of Education, 2014a).

For most people, the college loan decision affects every subsequent financial management decision in their lives. The credit score established by the student loan decision drives other life decisions such as what job to take, whether to buy a house, and when to retire (Brown, Haughwout, Lee, Scally, & Van der Klaauw, 2014). Most students make good loan decisions and benefit from higher lifetime salaries (Abel & Deitz, 2014). In contrast, 35% of the borrowers struggle to repay their loans (U.S.

Department of Education, 2014b). These borrowers can suffer from years of stress, legal problems, and health risks (Brown et al., 2014; Hogan, Bryant, & Overymyer-Day, 2013). Even though the Obama administration changed legislation to make debt repayment easier and despite the grave consequences of nonpayment, over 650,000 people per year are defaulting on their student loans in the United States (U.S. Department of Education, 2014b; 2015f). The Institute for College Access and Success (2013) provided data to support its claim that high levels of student-debt hold graduates back from starting families, buying homes, or saving for retirement. Senator Durbin stated, "The growing student loan debt crisis" is "one of the biggest threats to millions of working families" (Durbin, 2013, p. 1). The student debt problem is getting worse even though many states mandate financial education programs, and the law requires loan counseling for people applying for federal loans (Lee, 2013; U.S. Department of Education, 2014a).

Liebman and Zeckhauser (2008) asserted that people do not always use a rational choice methodology to make decisions, and often have difficulty making wise choices. Liebman and Zeckhauser stated the most difficult decisions are made in complex environments, with consequences that unfold over an extended period of time, and are shrouded in uncertainty. This description aptly fits the decision-making process that new college students face when financing their higher education.

Diamond, Vorley, Roberts, and Jones (2012) wrote specifically about college students making decisions concerning which college to attend and which academic major to pursue. Diamond et al. also discussed the challenge students face because they must

make complex, emotional decisions that have long-term consequences. Diamond et al. argued that students are not rational, freely choosing agents. There is strong evidence that many behavioral factors irrationally influence student decision-making (Kahneman, 2013). Diamond et al. insisted on using a behavioral economic lens to study student decision-making.

Researchers have written numerous quantitative studies to describe the scope, context, and demographics of this debt phenomenon (Brown et al., 2014; Hershbein & Hollenbeck, 2015; Macy & Terry, 2011; Rothstein & Rouse, 2011). There is a lot of information about how many, how much, and when. What is lacking is an understanding about the thought process behind this critical financial decision. Scholars claimed that financial managers and policy makers have an incomplete understanding of the decision process students use (Cunningham & Kienzl, 2011; Dynarski, 2014). How do some students make a loan decision that leads to success, but for many students it is a decision that leads to distress? The student loan decision process is an important element of personal financial management and no one has documented the decision process students use to manage this critical financial decision.

Problem Statement

The general problem and the focus of this research is that over 650,000 people per year in the United States are defaulting on their federally guaranteed student loans (U.S. Department of Education, 2014b; 2015f). This problem is a major concern not only for the students but also for the top managers of financial institutions. The specific research problem was that financial managers may not understand the student loan decision

process well enough to help students make a loan decision that prevents an unmanageable level of debt (Cunningham & Kienzl, 2011; Diamond et al, 2012). Diamond et al. (2012) proclaimed, "It is more important than ever that students are not just given the information to make decisions, but also that the decision-making process is better understood" (p. 17). Additionally, Baum and Schwartz (2013) argued the academic community should improve its understanding of how students weigh the costs and benefits of their options with consideration of systematic biases. There is a gap in the literature about the decision process students use to make this critical financial management decision. My research builds on the work of Baum and Schwartz and Diamond et al. (2012).

Purpose of the Study

The purpose of this qualitative case study was to explore and understand the student loan financial decision process using a conceptual framework that contrasts rational choice theory (Becker, 1962: Friedman, 1957), and behavioral economics (Tversky & Kahneman, 1974, 1981, 1986, 1992). Scholars claimed that financial managers have an incomplete understanding of the decision process used by students when they acquire their college loans (Cunningham & Kienzl, 2011; Diamond et al., 2012). My goal was to provide financial managers with new information that could help them mentor students in decisions to avoid an unmanageable level of debt. The authors of previous literature suggested that an accurate assessment of the financial decision process might provide managers with a tool for mentoring students in a manner that leads to fewer loan defaults. The loan decision-making process of undergraduate students was the

central phenomenon under study. The loan decision process was also the *case* of this case study. I defined the student loan decision process as the sequence of four major decisions and the indications as to whether the student used a rational choice framework, a behavioral economics framework, or a hybrid framework when making the loan decision. I used interviews to collect the data. I designed the study with the goal of using the research results to fill the gap in the literature about the decision process students employ to make this critical financial management decision. Specifically, I hoped to create a model from the study results that financial managers can use to guide students through more complete and effective financial decisions that lead to fewer loan defaults.

Nature of the Study

The proposed research was a qualitative study using an exploratory case study strategy. I was concerned with "meanings, not measurements," and "quality, not quantity" (Patton, 2015, p. 119). Therefore, I planned to use purposeful sampling to identify 28 college undergraduate students at a four-year public university to interview (Patton, 2015). I selected the students using the criteria explained in Chapter 3. I collected the data using an interview protocol of open-ended questions (Patton, 2015). I used a case study analysis strategy derived from iterative content analysis (Dey, 1993; Patton, 2015; Yin, 2014).

Miles, Huberman, and Saldaña (2013) identified the case as an appropriate unit of analysis. Miles et al. (2013) specifically identified a process (e.g., meal preparation or organizing an event) as an example of a case. Baxter and Jack (2008) identified a case study as an appropriate methodology for their study of decisions made by nurses. I

analyzed the student loan decision process. The student loan decision process is the central phenomenon under study as well as my unit of analysis for the study (Baxter & Jack, 2008). I bound the case by the process, location, and time. The bounding by process includes the decision elements and the decision sequence in the process. I bound the case by location because it only investigated students attending a public university in the Rocky Mountain region of the United States. Finally, I bound the case in time because I only investigated decisions associated with the four-year undergraduate period. I did not investigate the financial decisions of graduate students or the financial decisions made after graduation.

I first considered a phenomenology study because I thought I wanted to understand the student decision experience. I transitioned to the case study because I concluded that I really wanted to understand the student thinking and the decision process (Pereira, 2012). I was not as concerned about the shared student experience (Patton, 2015). I seriously considered a grounded theory study for this research. The grounded theory study would be appropriate if I wanted to generate a theory about why the debt phenomenon occurs (Hussein, Hirst, Salyers, & Osuji, 2014). I decided that theories already exist for the debt phenomenon. The challenge was that financial managers do not know exactly how the theories apply to the decision process. An ethnography study or narrative study impressed me as the least applicable approach to this research (Patton, 2015).

Research Question

Central Question:

How do undergraduate students make the financial management decision to incur debt to pay for their college education?

Supporting Questions:

1. What is the sequence of the major decisions in the process?
2. What are the key decision factors used by the student in the loan decision process?
3. What consideration did the student give for the financial management of the debt during and after college?
4. How much of the loan decision process is a mental exercise versus an emotional experience?

Conceptual Framework

The conceptual framework for this study was a juxtaposition of rational choice theories represented by Nobel Laureates Becker (Becker, 1962) and Friedman (Friedman, 1957) against the Nobel Prize work of Tversky and Kahneman (1974, 1981, 1986, 1992). Rational choice theory provides the traditional paradigm for decision-making (Becker, 1962). The work of Tversky and Kahneman is also known as the *psychology of decision-making theory*. Adding elements of psychology and emotional behavior to rational choice theory revolutionized economic thought and opened the field of behavioral economics. Behavioral economics is probably the newest area of study in the finance field, but it is rapidly growing and maturing. Thaler (2015) is an updated and helpful compilation of Thaler's many studies in the field of behavioral economics. There was evidence that both

rational choice theory and behavioral economics might explain portions of the student loan decision process, which is a series of decisions made amidst uncertainty and over extended time horizons. Leading management textbooks now dedicate chapters to the importance of behavioral economics for managers (Bazerman & Moore, 2012; Fox, 2015). My research attempted to explain the balance of the two decision approaches and their application to financial management. I explained the rational choice and behavioral economic concepts in more detail in Part 3 of Chapter 2.

I used the Blackwell, Miniard, and Engel consumer decision model to provide an organizational structure for discussing the student loan decision process (Blackwell, Miniard, & Engel, 2006). The concepts in rational choice theory and behavioral economics are important, but the concepts lack relationship to one another. I used the consumer decision model as a starting point for studying the student loan decision process and discussing relationships among the rational choice theory and behavioral economics concepts.

Definition of Terms

Availability heuristic (availability bias): The availability heuristic is a mental shortcut people use to make decisions about the likelihood of an event based on how immediately an example or case comes to mind. For example, investors may judge the quality of a stock based on information about the company that was recently in the news about the company and ignore other relevant facts (Tversky & Kahneman, 1974).

Behavioral economics: Behavioral economics is a field of study that seeks to understand the way people make decisions by using simplifying techniques when

processing information. Researchers in this field also study how a person's decision is influenced unknowingly through bias (e.g., present bias). Behavioral economics seeks to make predictions about how people will act in defined situations. Behavioral economics differs from traditional economics because it uses concepts from psychology that blend emotion and reason to provide nuanced predictions of behavior (Diamond et al., 2012).

Decision staging: Decision staging is a scenario where people make complex decisions by exploring the options successively or iteratively. The scenario involves deciding what information to focus on, as well as alternatives to consider. Decision makers tend to simplify decisions by breaking down complex decisions into a series of sequential less complicated decisions (Johnson, Van Ostern, & White, 2012).

Default heuristic: The default heuristic is the shortcut option a decision maker takes that results in doing nothing or doing what someone other than the decision maker suggests. The default heuristic saves time, energy, and money needed to obtain more information on all the alternatives. Observational studies show that making an option a default increases the probability the participant will choose the option (Azar, 2014).

Framing effect: The framing effect is a cognitive bias in which people make choices depending on the negative or positive presentation of the options. People tend to avoid risk when a positive frame (i.e., sure thing or status quo) is presented, but seek risks when a negative frame (i.e., gamble) is presented, even though all of the outcomes are statistically the same (Kahneman & Tversky, 1981).

Forbearance: Forbearance is a repayment category wherein the loan holder permits a student to postpone or reduce his/her student loan payments under certain

circumstances. A student can apply for forbearance if he/she is not eligible for a deferment. Unlike deferment, forbearance is a right of the loan holder. The loan holder may or may not approve the request. With forbearance, the student can delay repayment on the principal and only pay the interest. However, the student must pay the interest or the lender will capitalize the unpaid interest (add the amount of unpaid interest to the principal).

Herd behavior: The herd behavior effect is evident when people do what other people are doing instead of using their internal information or making an independent decision (Price, 2013). Herd behavior is pertinent in financial decisions. The term describes individuals acting collectively and irrationally, without direction from a centralized authority, to create stock market bubbles or a run on a bank.

Loan default: By law, the U.S. Department of Education considers a borrower to be in default when he fails to make on-time repayment of his loan for nine consecutive months (New America Foundation, 2015).

Loan delinquency: A student loan becomes delinquent the first day after a person misses a payment. The delinquency will continue until the borrower makes all payments to bring the loan current. Loan servicers report all delinquencies of at least 90 days to the three major credit bureaus (U.S. Department of Education, 2015c).

Optimism bias: Optimism bias is a mistaken belief that a person's probability of experiencing a positive event is higher (or negative event is lower) than other like people having the same experience. For example, a person may estimate her statistical risk of

being in a car accident or getting cancer is far lower than the statistical average (Baum & Schwartz, 2013).

Over-borrowing: Over-borrowing is a term used to describe the situation in which borrowers take on more debt than they can reasonably expect to repay based on the experiences of previous borrowers (Akers, 2014).

Present bias: People give stronger weight to present payoffs than future ones (Frederick, Loewenstein & O'Donoghue, 2002). For example, most people prefer to receive $200 now over $220 one month from now. The discount rate that people use intentionally (or unintentionally) is nonlinear, and the rate is not constant over time (Frederick, Loewenstein, & O'Donoghue, 2002).

Rational agent: The rational agent (also known as *econ*, *homo oeconomicus*, and *economic man*) has complete and objective knowledge, fully formed and stable preferences, and unlimited cognitive processing ability (Simon, 1955). The rational agent will use the information and her cognitive skill to optimize decisions and maximize long-term utility (Diamond et al., 2012).

Utility: Utility is a term used by economists to describe the benefits (happiness or financial gain) a consumer derives from a good or service. One measure of utility is to compare a person's choices between alternatives (Mankiw, 2015). A second measure of utility is to compare a person's preferences revealed in his willingness to pay (Mankiw, 2015).

Assumptions

I assumed 70% of students do not have problems repaying their loans. By luck or by skill, these 70% of students earn a degree, find an appropriate job after graduation, and pay off their debt in the prescribed repayment period. The remaining 30% struggle with repayment for some reason (bad luck, poor health, tragic accident, low paying job, etc.). Based on the Cunningham and Kienzl (2011) assessment and data from the U.S. Department of Education (2014b), I estimated that 10% of each annual cohort of college students will default, and an additional 20% are in delinquency or forbearance. I made these assumptions because it is very difficult to know the correct number (The Institute for College Access and Success, 2013; U.S. Department of Education, 2014b). The scope of the problem exceeds 7 million people and the laws change every few years, which changes the measuring criteria (Dynarski, 2014). Perhaps a better understanding of financial management concepts may have prevented this situation for many of these students.

Limitations

The study must be credible, transferable, dependable, and confirmable if the research is to have lasting value and be a force for positive social change. Patton (2015) explained the credibility of the qualitative inquiry depends on four distinct elements. The four elements are in-depth fieldwork, conscientious analysis of the data, the credibility of the inquirer, and the philosophical beliefs of the reader and researcher about the value of qualitative research (Patton, 2015).

I was concerned about two limitations in the methodology of my study. The first concern was selection bias. Unlike quantitative research, my sample group was not a large randomly selected group of participants. Therefore, the group may include outliers and may not be representative of the general student population of the Rocky Mountain region. The recruitment process described above had the potential to create an unintended bias. I was concerned that working at one university, using limited social media and pamphlet advertising could result in a sample that was not representative of the general population. I had no control over the volunteer process because privacy laws prevented me from identifying students by their financial history. I was also constrained because I could not direct anyone to participate in the study.

My second concern was the open and objective character of the interviews. To counter my concern about this bias and transferability of results, I selected a state university as the site for the study. The overall student population at the state university would have been far more representative of the state population demographics than a private school. This scenario required me to be alert to socioeconomic and demographic clustering of my participants. I also needed additional rigor during the analysis of data to ensure the highest quality of my inferences. The quality of questions could have affected the quality of the study (Janesick, 2011). Poorly crafted questions often lead to bad data and bad data can lead to poor analytical results. I studied Patton (2015) to learn how to construct good questions. I learned the interviewer must not influence the participants' descriptions and the interviewer must provide a venue for the participants to explain their experience as best they can (Doody & Noonan, 2013). The transcription of the interview

must be accurate, and convey the meaning intended by the participant in the interview (Miles et al., 2014). I knew the interview protocol was an important tool for guiding the interview. I circulated my protocol and solicited advice from professors and classmates for making improvements. I also knew that pilot studies are helpful for improving the quality of the protocol and my interview skills (Janesick, 2011). I conducted a pilot study as described in Chapters 3 and 4.

I wanted to interview students with loans so I could identify the steps in the loan decision process and identify the key decision elements. The data suggested that 70% of students explain their loan decision process with some variation of decision methodology associated with rational choice theory or the permanent income hypothesis (New American Foundation, 2015). My intention in my interview process was to investigate the decision-making process of the remaining 30%. It was my goal to learn how to prevent loan delinquencies by understanding how students make loan decisions.

Delineations

The student loan financial decision made by *immediate college enrollment students* (U.S. Department of Education, 2015a) was the focus of this study. Immediate college enrollment means the student goes directly to college after graduating high school. The immediate college enrollment student is the largest demographic to enter college. I recognized there are other demographics, such as people who graduate high school, then serve in the military and attend college after military service. However, this study was limited to undergraduate college students who transitioned directly from high

school to college. This age demographic was typically 17 to 23 years old. For IRB reasons, I limited the inclusion to participants who are age 18 through 23.

For the purposes of this study I was interested in the group of students who decided to take a student loan. I perceived these students as *risk seekers*. I contrasted the risk seekers with the group of students who are *risk averse,* or as Boatman, Evans, and Soliz (2014) and Rothstein and Rouse (2011) call them, *loan averse*. Researchers have written policy articles about people who are loan averse and have missed opportunities associated with higher education. This study complements that research by exploring students who took loans and risked the consequence of not repaying the debt.

Transferability is the word to describe how generalizable the results from a study are to the general population I studied or to another population (Lincoln & Guba, 1985). The delimitation in my study eliminated participants from the edges of the United States population of undergraduate students. I did not study students at private schools or nontraditional students. My focus was on the center of the student population, the traditional students who attended a state university. Miles et al (2014) wrote that the transferability burden is on the researcher. I needed to be persuasive in the recording of the findings to convince readers the results have meaning to other groups beyond the participants in this study. To improve the opportunity for transferability, Miles et al. (2014) suggested documenting methodology in detail and keep a research log. Lincoln and Guba (1985) described this technique as *thick description*.

In summary, I did not study students attending a private college or students in graduate school. I did not study nontraditional students (e.g., students who worked

several years and then attended school). The study was limited to students in the United States between the age of 18 and 23 years old who had a student loan.

Significance of the Study

The contributions of this study could be of interest to practicing financial managers as well as scholars in the management field, parents of students planning to enter college, and students contemplating a loan. The research results would be significant if they fill the gap in the literature that informs the practice of managerial finance. Smith and Barboza (2014) wrote that students who borrowed money for their education need help dealing with health issues, job satisfaction, and reduced productivity related to the financial stress that arose as a consequence of their loan decision. Financial managers and policy makers might use the study results to bring positive social change by mitigating the financial stress experienced by students. Billions of tax dollars are wasted each year when students default on their debt, so to some extent the loan decisions affects all taxpayers in the United States (Durbin, 2014). Indirectly, everyone in society benefits if managers can reduce the student loan debt problem.

By studying the thoughts and perceptions of college students, I hoped to understand the major elements of the decision process, the incentives, and the biases that motivate college students to take on student loan debt that will take a long time to repay. If researchers can understand how and why young people choose to take on heavy debt loads and document their findings, then it is possible for managers to learn how to address the root cause of the student debt "crisis" (Durbin, 2014, p.1).

Summary

Millions of Americans have already defaulted on their college student loans and students sign contracts for over 1 million new loans each year (Dynarski, 2014). This problem is a major concern not only for the students but also for financial institutions. Every subsequent financial decision a student makes, such as what job to take, whether to buy a house, and when to retire, is affected by a credit score established by the student loan repayment (Brown et al., 2014). It is important that students make wise decisions. Ironically, the research community has published little information on the student loan decision process.

The purpose of this qualitative case study was to explore and understand how undergraduate students make decisions associated with contracting for a student loan. I interviewed college students at a four-year public university to collect data. I used iterative content examination as part of an inductive analysis to identify themes in the data.

The contributions of this study might be of interest to practicing financial managers, parents of students planning to enter college, and students contemplating a loan. Managers in government and private businesses are deeply concerned about the mounting student debt and the consequences of the debt (Brown et al. 2014; Li, 2013). The results of the study might provide managers with better tools for mentoring students to make more complete and effective financial decisions.

The outline for the remainder of the paper follows. In Chapter 2, I presented an extensive literature review that examined the student loan literature and the conceptual

framework used in this study. In Chapter 3, I explained why the qualitative methodology is the most appropriate method to analyze the research problem. In Chapter 4, I presented the results of the research. In Chapter 5, I explained the analysis of the data and discussed the contribution this research makes to the body of knowledge.

Chapter 2: Literature Review

In Chapter 1, I introduced the general problem of college student loan debt and its implication for financial managers. Briefly stated, 7 million student borrowers are in default (Dynarski, 2014; Mitchell, 2015), and another 14 million students are in delinquency (Cunningham & Kienzel, 2011). Tens of millions of Americans cannot move forward with other important investments because their student loan experience resulted in a bad credit rating (Durbin, 2013). The specific research problem was that financial managers might not understand the student loan decision process well enough to help students manage their finances and prevent the crippling debt (Cunningham & Kienzl, 2011; Diamond et al., 2012). The purpose of this qualitative case study was to explore and understand the student loan financial decision process using a conceptual framework that contrasts rational choice theory (Becker, 1962; Friedman, 1957), and behavioral economics (Tversky & Kahneman, 1974, 1981, 1986, 1992). My goal was to provide financial managers with new information that could help them mentor students to make more complete and effective financial decisions.

This chapter presents a detailed literature review and provides the reader with a survey of published works that pertain to the research. I analyzed the pertinent articles. I also dedicated a significant portion of the chapter to explaining the conceptual framework associated with the undergraduate student loan decision process. I organized the chapter into five separate but integrated parts with the goal of providing a clear and concise argument. The five parts are:

- Part 1: Student Loan Situation

- Part 2: Student Loan Literature
- Part 3: Decision Theory
- Part 4: Alternate Explanations
- Part 5: Methodology Literature

Literature Search Strategy

I used numerous sources of information for this literature review. The sources included the EBSCO databases, Education Resources Information Center (ERIC), ProQuest Business, ProQuest Dissertations, and Walden University dissertations. I used Google Scholar to alert me to new and relevant articles. I also reviewed the references list of each article to find related articles. Following the pedigree of literature was the most interesting and insightful research method.

I conducted keyword searches by subject, author, and combinations of subject and author. The subjects searched included, but were not limited to *financial management, rational choice theory, life-cycle hypothesis, permanent income hypothesis, expected utility theory, prospect theory, behavioral economics, loan decisions, consumer decisions, college debt, college attainment, financial decisions, decision model, human capital theory, student debt* and *student loan default*. The authors I searched for included, but were not limited to, Baum, Becker, Dynarski, Engle, Friedman, Kahneman, Modigliani, Perna, Simon, Thaler, and Tversky. Table 4 in Appendix A provides a numerical summary of the searches. Each computerized keyword search produced hundred and sometimes thousands of responses. In the table, I only listed relevant responses to the query. The table shows about 100 more resources than are represented in

my References section. These resources were greater than five years old, or I determined the resource did not meet scholarly standards.

This study took a multidisciplinary look at the topic of student loan decision process. The primary motivation for the research was to provide new and helpful information to personal financial managers. During the preparation for this research, I read articles from the fields of management, economics, psychology, decision science, consumer choice, financial decision-making, higher education, sociology, and public policy. The literature review began by putting the research in the context of the student loan problem. Part 1 explained the scope of the problem and the consequences.

Part 1: Student Loan Situation

Scope of the Problem

Several federal student loan programs have come and gone over the years. For example, there are Stafford Loans, Perkin Loans, Federal Family Education Loans, Direct Loans, PLUS Loans. Students also have private loans available to them. It is important for the reader to pay attention to the statistics when studying the student loan problem. The numbers are changing rapidly, so the reader should note the date associated with the reported data. Often the data refer only to a particular loan program, such as the Stafford or Perkins loans. It is difficult to aggregate the data from different programs because it creates an unequal comparison. A related challenge is the precise government terminology. The Department of Education compiles data collectively and by cohort. I tried to be specific and explain the data throughout this paper.

Forty million people in the United States hold student loan debt totaling over $1.2 trillion (Bricker et al., 2015; Chopra, 2013, Jul. 17; Dynarski, 2014). The problem of debt default is a major concern not only to the students but also to the top managers of financial institutions. The Federal Reserve Bank of New York (2015) reported that the average borrower is responsible for $27,000 in student loans, though the median number is $14,000. In 2012, student loans became the largest nonmortgage source of household debt in the United States (Li, 2013). Li (2013) claimed the student debt level is rising so rapidly that analysts at the Federal Reserve made comparison with the subprime mortgage crisis. (Li, 2013).

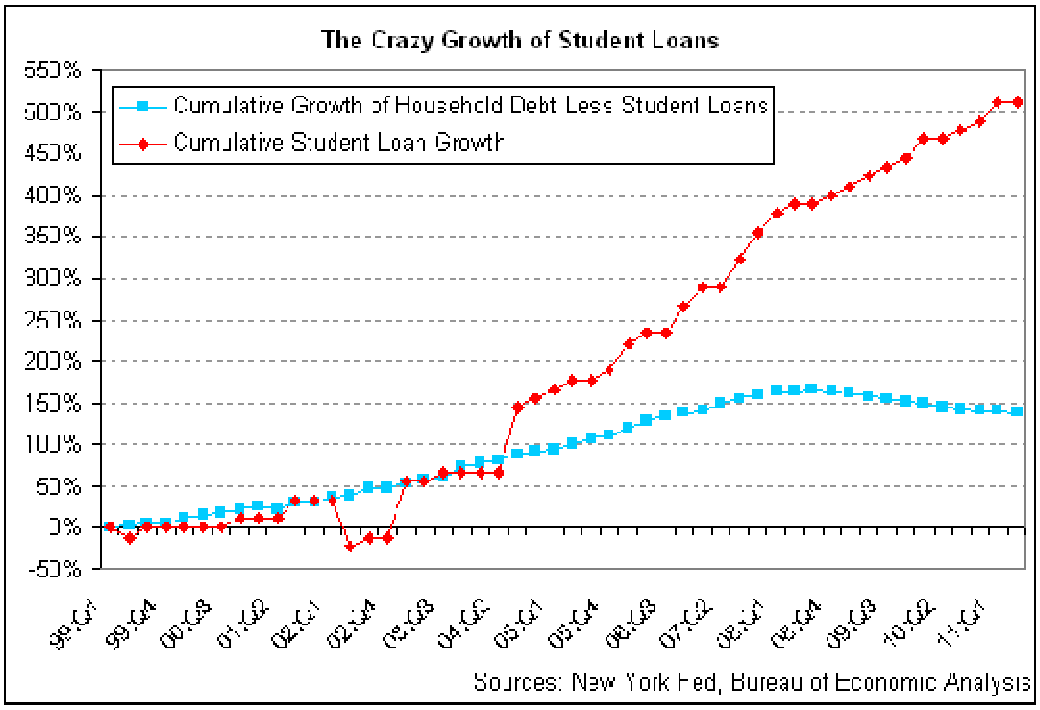

Figure 1. Student Loan Debt. Reprinted from *Chart of the Day: Student Loans Have Grown 511% Since 1999*, by D. Indiviglio, 2011. Retrieved from http://www.theatlantic.com. Copyright 2011 by Atlantic Monthly Group. Reprinted with permission.

As of 2010, a record one in five households (19%) holds student loan debt (Fry, 2012). This number is more than double what it was in 1990 (9%; Fry, 2012). While introducing the *Know Before You Owe Act,* Senator Harkins said, "Young Americans are being hamstrung by record debt levels, forcing them to delay other important investments in their futures (Durbin, 2013). Indiviglio (2011) described the situation as the *education bubble* and Dynarski and Kreisman (2013) have echoed the term. Indiviglio provided data from the New York Federal Reserve (see Figure 1) to argue the education bubble is more than twice as severe as the housing bubble of the mid-2000s. The red line in Figure 1 shows that student loan debt has increased over 500% (i.e., five-fold) from the first quarter of 1999 (99:Q1) through the first quarter of 2011 (11:Q1), and it is still growing. The blue line shows other household debt and includes home mortgage debt.

Dynarski and Kreisman (2013) disagreed with Durbin (2011) and Johnson et al. (2012), that there is a student loan debt crisis. Dynarski and Kreisman analyzed data from the College Board's 2009 Beginning Postsecondary Students Longitudinal Study for students first enrolling in fall 2003 to show that student debt levels are proportional to the estimated benefit of a college education in the United States. Dynarski and Kreisman said the real problem is a debt *repayment* crisis in the United States. The next section explains the repayment situation and the associated consequences.

It is important to clarify that not all students make bad decisions about their student loans. In fact, the majority of students (about 70%) who acquire loans, pay their student loan bills on time, and eventually enjoy the benefits of the higher education they purchased with the loan. Thirty-six percent of students who enrolled in 2003, and earned

bachelor's degrees by 2009, did not borrow any money (College Board, 2012). Only 5% of the 2003 cohort accumulated more than $50,000 in school debt (Baum & Schwartz, 2013; College Board, 2012, Figure 11B). However, seven million student borrowers are in default (Dynarski, 2014; Mitchell, 2015), and another 14 million students are struggling with delinquency (Cunningham & Kienzel, 2011). I am most interested in the default and delinquency population. Helping to prevent future defaults and delinquencies is the motivation behind this study.

Default and Delinquency Literature

My principal goal for this research was to learn lessons I can share with financial managers to help young people who are having the greatest challenge with student debt. Therefore, the author reviewed literature that studied the demographics of the people who default on their student loans. Ironically, the borrowers with the lowest levels of outstanding debt are the people most likely to default on their student loans.

Akers and Chingos (2014a) found no significant relationship between student debt and financial hardship. High-debt borrowers face financial hardship at only slightly higher rates of repayment difficulty then households with less debt (Akers & Chingos, 2014a). Graduate students such as law and medical students tend to have the highest debt levels, but also enter careers with the greatest potential to repay the loans.

Wright, Walters, and Zarifa (2013) did an extensive study of students in Canada. Wright et al. used data from the Canada Student Loans Program (CSLP) and Canada's 2005 National Graduates Survey (NGS) for their study. The purpose of the Wright et al. study was to identify what category of postsecondary graduates are most likely to default

on their government student loans within two years after graduation. The results of the Wright et al. research were that *field of study* (i.e., academic major) was an important predictor of loan default. College and university graduates from technical fields were less likely to default on their loans than graduates with liberal arts degrees. The same results were true of community college graduates (Wright et al., 2013).

Akers and Chingos (2014b) also had bad news about community college students. Even though community colleges have the lowest tuition costs of colleges in the country, the percentage of community college students that default on their loan is among the highest of all sectors studied (Akers & Chingos, 2014b). The default rate was as high as 21% in one community college year group (Akers & Chingos, 2014b). While community college students borrow at the lowest levels of all college students (i.e., associate degree, bachelor, masters, Ph.D.), their default rate is at the highest level (Akers & Chingos, 2014b). Akers and Chingos postulated that those who do not go on to earn a bachelor's degree have a particularly rough time repaying their debt because without the degree they cannot qualify for higher paying jobs.

Dynarski and Kreisman (2013) analyzed College Board data to find information about default trends. The authors determined there was no correlation between a person's propensity for default and the size of the loan (Dynarski & Kreisman, 2013). The students who were under 21 years old when they signed for a loan were at greatest risk of default and delinquency (Dynarski & Kreisman, 2013). Twenty-eight percent of the *under 21* demographic group in the 2003 cohort defaulted on their loans by 2009 (Dynarski & Kreisman, 2013).

Cunningham and Kienzl (2011) argued that government policies focus on student loan defaults because officials lack complete data on the overall student loan repayment problem. In their study, Cunningham and Kienzl demonstrated that for every borrower who defaults on his loan there are two additional borrowers who will be *delinquent* on their loans. Cunningham and Kienzl convincingly argued that 41% of all student loan borrowers faced the undesirable consequences of delinquency or default. Cunningham and Kienzl examined the records of 8.7 million borrowers with 27.5 million loans on record with five of the largest student loan guaranty agencies. Their findings revealed that the number of borrowers who are have difficulty promptly repaying their loans is an order of magnitude greater than normally stated by financial managers, academics, and policy makers (Cunningham & Kienzl, 2011).

Table 1

Percentage Distribution of 2005 Borrowers by Loan and Graduate Status

Under Graduates	Left without Degree or Credential	Graduated	All Borrowers
Timely repayment	26	48	35
Deferment / Forbearance without Delinquency	15	14	15
Delinquency without Default	33	22	28
Default	26	16	21
Total	100	100	100

Note. Adapted from "Delinquency: The Untold Story of Student Loan Borrowing," by A. F. Cunningham and G. S. Kienzl, 2011, *Institute for Higher Education Policy,* p. 20. Printed with permission.

Table 1 shows data from the Cunningham and Kienzl (2011, p. 20) study. The data highlights that the borrowers at greatest risk of delinquency or default are the

students who leave school without a degree or a certificate. The students who do not earn a degree incur the costs, but do not reap the benefits of a college education.

Johnson et al. (2012) reported a disturbing statistic that 30% of college students who took out a loan dropped out of school. Moreover, student borrowers who leave school without a degree are four times more likely than graduates to default on their loans. As of 2012, the total number of borrowers was 37 million students with outstanding student loan debt (Johnson et al., 2012).

This section provided some insight about the people who default. The students who are young (under 21 when they sign for a loan) and the students who do not earn a four-year degree are most likely to default (Cunningham & Kienzl, 2011; Dynarski & Kreisman, 2013; Johnson et al., 2012). The next section of this chapter describes the consequences of accumulated debt.

Consequences of Debt

There are at least two significant levels of consequences resulting from accumulation of student loan debt. First, there are the micro level consequences. The micro level reflects the impact on the individual borrower. The second level of consequence is at the macro level. The macro level represents the impact on the nation. This section will address these topics in turn.

MICRO level. The accumulation of debt can have a far-reaching repercussions on borrowers. The research demonstrates that a decision to accept a student loan influences subsequent life decisions such as career choice, timing of marriage, and retirement savings. Di and Edmiston (2015) referenced several studies to demonstrate that former

students with high monthly loan payments are prone to postpone home purchases (Brown et al., 2013), delay starting families (Gicheva, 2011), and save less for retirement (Gicheva & Thompson, 2015; Lammers, 2013).

Palacios (2014) warned his clients that starting in 2014 student debt will syphon $83 billion dollars out of the housing market per year. Palacios (2014) calculated that the number of Americans aged 20-39 years, times their average debt, plus some other variables, equates to 414,000 housing transactions that cannot happen. That number times the typical house price of $200,000 equals $83 billion (Palacios, 2014). These numbers do not consider the devastating personal impact of a bad credit score.

Boatman et al. (2014) explained that defaulting on a student loan damages the borrower's credit score. Future investments such as purchasing a home become more challenging and more expensive after a student's credit score is blemished (Boatman et al., 2014). Bad credit can also complicate future employment opportunities.

A damaged credit score reduces the former student's ability to borrow in the future (Di & Edmiston, 2015). This means the high-risk student who left school without a degree cannot borrow money to return to school. If a student is in default, he is not eligible for Pell Grants either, which means he is stuck with the debt and without a degree (Dynarski & Kreisman, 2013). Johnson et al. (2012) added that without a degree these students are unable to qualify for the good-paying jobs they need to pay down their loans before the buildup of interest overwhelms them.

Gicheva (2011) examined the relationship between student debt and the timing of marriage. The permanent income hypothesis suggests that student loans should have a

negligible effect on the timing of starting a family. However, Gicheva compared data from Survey of Consumer Finances with data from the Graduate Management Admission Test Registrant Survey and found student borrowing had a negative relationship to the probability of marriage. Gicheva determined that each $10,000 borrowed for college decreases the long-term probability of marriage for MBA students by seven percentage points.

Bozick and Estacion (2014) examined the data from the 1993 Baccalaureate and Beyond Longitudinal Study. They isolated 12,730 records of bachelor degree recipients during the 1992-1993 academic school year (Bozick & Estacion, 2014). The researchers then reduced the list to 9,419 subjects who had complete student loan debt information and the date of their first marriage was between the 1993 and 1997 (Bozick & Estacion, 2014). The results of the study showed a positive relationship between student debt and delaying marriage after graduation (Bozick & Estacion, 2014). A unique result of the Bozick and Estacion study was that the statistical relationship of debt level to delaying marriage was only significant for women. Bozick and Estacion claimed their finding questions the traditional models of family formation that emphasize the financial resources of men.

The Higher Education Act Amendments of 1998 compound the debt problem by almost eliminating the ability to discharge federal student loan debt through bankruptcy proceedings (New America Foundation, 2014). In some cases, the lender garnishes the borrower's wages or seizes income tax refunds to ensure repayment of the loan (Boatman

et al., 2014). These scenarios make life stressful for the borrower, and the stress adversely influences the borrower's health (Boatman et al., 2014).

MACRO level. Rothstein and Rouse (2011) conducted a natural experiment when a prestigious university introduced a "no-loans" policy by replacing student loans with grants. The purpose of the experiment was to determine if there was a causal effect of student debt on employment decisions (Rothstein & Rouse, 2011). The researchers found that higher levels of debt motivate the graduates to choose substantially higher paying jobs. Inversely, graduates with lower levels of debt were more likely to select lower paying, *public interest* jobs. This research indicates the federal loans policies, in concert with questionable student decision practices, may lead to the unintended consequence that graduates avoid public service work because they perceive an immediate need to find a higher paying job to pay off their debt (Rothstein & Rouse, 2011).

People with outstanding student loan debt delay buying cars and houses (Elliott & Nam, 2013). In general, indebted students consume less and invest less than students without school debt. The reduced consumption and investment represented by the aggregation of seven million students in default (Dynarski & Kreisman, 2013) and the estimated 14 million in delinquency (Cunningham & Kienzl, 2011) have an adverse impact on economic growth and retard the labor market for future college graduates (Di & Edmiston, 2015). Slower economic growth leads to higher unemployment and a reduced tax base for sales and income taxes. When a large number of people make bad decisions about borrowing money for student loans, a vicious cycle of debt-default-unemployment-default can be set in motion.

I presented this section on the consequences of the student debt to show that the student debt problem is real, relevant, and significant to millions of students (Dynarski, 2014) as well as to the management of the financial institutions. In Part 2 the reader will learn about various research studies on the student debt problem.

Part 2: Student Loan Literature

This section provides a survey of the literature related to student loans and student decisions. The objective of this section is to provide context to how scholars perceive the overall student loan decision from the time a student considers attending college until long after the student graduates and repays the loan. I organized Part 2 into three categories inspired by a comment in the Cunningham and Kienzl (2011) paper.

In the conclusion of their paper, Cunningham and Kienzl (2011) claimed that policy-makers must reframe the debate about government money used to finance college educations. Cunningham and Kienzl argued that scholars must investigate the causal chain of debt delinquency that starts with the *access to college* phase, continues through the *persistence to a degree* phase, and then moves into the *post-graduation financial management* of the student loan debt phase. To deal effectively with the debt problems financial managers need a model to trace good and bad outcomes from the initial loan decision through successful graduation and repayment of the loan.

I was interested in the process used for the initial loan decision during the accessing college phase. However, the decision involved assumptions about uncertain future events. For this reason, a perspective on the full cycle of the student loan was required. The reframing concept introduced by Cunningham and Kienzl (2011) was

important because the literature is void of examples where the goal of the loan decision was earning a degree and repaying the loan on time. Later in Chapter 2, there is a discussion of life cycle hypothesis (LCH) and human capital literature. This family of literature talks about the long-term goal of repayment. However, the contemporary research on student loans invariably focuses on shorter-term objectives such as accessing college or earning a degree or certificate (Cunningham & Kienzl, 2011). Before I presented the LCH literature, I introduced the contextual literature that discusses *access to college*, *persistence to a degree*, and *post-graduation financial management.*

College Access

Diamond et al. (2012) was a qualitative study conducted in the United Kingdom designed to explore student decisions about college attainment from a behavioral economic perspective. The researchers conducted interviews with 32 members of the faculty and staff at 10 universities. Diamond et al. did not talk with any students, which is one significant difference from this study. The authors designed their study to use concepts from behavioral economics to understand how young people make decisions about participating in higher education (Diamond et al., 2012). The goal of their research was to help people working in higher education better understand the choices prospective students make about whether, when, what and where to study (Diamond et al., 2012). The Diamond et al. study did not investigate decisions related to paying for the education, but their use of behavioral economics as a conceptual framework and interview methodology might inform my research.

In many ways, Diamond et al. (2012) described the questions I had about student decision-making. Diamond et al. also used the same conceptual lens that I have espoused since my research began. Diamond et al. provided a launching pad for my research. Diamond et al. investigated the *student choice* or *college attainment* decision that proceedes the student loan decision. This study picked up where Diamond et al. left off, and investigated the financial decisions that help the student stay in school and persist to acquire a degree.

The work of Diamond et al. (2012) was enormously helpful in substantiating my premise and guiding the research design of this study. The Diamond et al. researchers were specifically interested in how young people use mental shortcuts (i.e., heuristics) to reduce the burden of complex decisions about what and where to study. Like Diamond et al., this study also used interviews for data collection and the behavioral economics conceptual framework. However, in this study I was open to the idea that decisions can occur along a continuum within the rational choice – behavioral economics framework. Diamond et al. did not leave room for a rational choice decision option. Diamond et al. stated their assumption was that students make decisions influenced by biases and errant reasoning because the students used mental shortcuts during the decision process.

This research shared a common goal with Diamond et al. (2012). The desired end-state of Diamond et al. was to provide a better understanding of how and why prospective students make decisions so advisors and counselors could provide information, advice and guidance that leads to successful outcomes in student decisions to attend college. Likewise, the goal of this research was to provide students, parents, and financial

managers with the knowledge to assist students to make wise loan decisions that lead to college degrees and on time repayment of the loans.

Too much or not enough. Not everyone thinks college students are borrowing too much money. Avery and Turner (2012) wrote a compelling paper that refutes the popular idea that a college education has become too expensive. Avery and Turner found that for the average student the monetary returns on the college investment still exceed the costs. The authors claimed their data demonstrated that on average a college education is a better investment today than it was a generation ago (Avery & Turner, 2012). In other words, attending college is a rational decision because the benefits outweigh the costs. Avery and Turner argued that many students might not be borrowing enough money for college. After an exhaustive look at the data, the authors concluded that many students are limiting their life-long potential (i.e., permanent income) because they are under-investing in their education. Avery and Turner explored traditional life cycle financial calculations using 45 years of tuition and wage data to determine that the *average* college graduate is financially better off than the *average* non-college graduate. In other words, there is a good financial return on the college investment. This result is true for every cohort pairing (male or female). Then Avery and Turner added nonfinancial factors to the decision action to further their argument that graduating from college is an excellent investment. In their discussion of the debt decision, Avery and Turner acknowledged the decision is more complex than just doing a mathematical calculation. The authors introduced other considerations such as risk aversion and option value. I explore some of Avery and Turner's suggestions for further research in a later section.

Akers and Chingos (2014a) evaluated the Survey of Consumer Finances (SCF) data provided by the Federal Reserve Board to compare education debt levels and incomes of young households between 1989 and 2010. Their conclusion was that the financial well-being of American households with student loans may not be as dire as many news reporters fear. Akers and Chingos argued that approximately 25% of the student debt increase is because Americans are obtaining more education (i.e., graduate degrees). Akers and Chingos used the SCF data to demonstrate the average lifetime income of college-educated Americans has kept pace with increases in debt loads. This finding is consistent with the Avery and Turner (2012) return on investment (ROI) argument. Thirdly, the monthly payment for the median loan borrower has remained at 3-4% of monthly income. The authors concluded by pointing out that as students take on more debt to go to college, they are taking on more risk. For most students, the decision to assume the risk is rewarded with increased earnings, but some students will make bad decisions that reduce their financial security (Hershbein and Hollenbeck, 2014). Akers and Chingos suggested additional research to provide student loan risk mitigation measures.

Take a loan – do not take a loan. Boatman et al. (2014) found that some students who should be investing in their future are making a decision to not take out a loan and forego a college education. Boatman et al. proposed there are intellectually gifted students who would do well in college, but do not acquire a loan because they are risk averse. Behavior economists referred to this situation as *loan aversion* (Boatman et al., 2014). Hillman (2015) echoed the under-investing concerns of Boatman et al. and wrote

that many students will not borrow even when there is financial need. Hillman claimed there might be cultural reasons or personal preferences, such as debt aversion, that inhibit student borrowing.

Rothstein and Rouse (2011) noted the average level of student debt represented about one percent of a college graduate's lifetime earnings. If student behavior is consistent with the life cycle hypothesis, then time should smooth out this small amount of money and not affect other decisions such as career choice. However, Rothstein and Rouse saw evidence in their research that students do not act as rational actors. One of their postulations was that debt may have larger income effect on students from lower income backgrounds. Lower income students compared the quantity of school debt to historically low-income levels of family members. This ratio would make the debt appear much greater and influence the new student to be *debt averse* (Rothstein & Rouse, 2011). Rothstein and Rouse concluded that holding debt reduces the student's utility function. The borrower may try to accelerate loan repayments, or exhibit overly frugal behavior to compensate for the reduced utility function related to the loan payments (Rothstein & Rouse, 2011).

Rothstein and Rouse (2011) illuminated two points relevant to my research. First, the Rothstein and Rouse research provided evidence that in some situations students do not make decisions in a manner consistent with rational choice theory (Becker, 1962; Simon, 1959). Second, Rothstein and Rouse and Boatman et al. (2014) discussed the *debt aversion* phenomenon that often leads students on a decision path not to attend college. The debt aversion and loan aversion branch of literature is important but outside the

scope of my study. In contrast, students who assume the risk, accept the loan, and attend college are the topic of this study.

Degree Persistence/Degree Completion

The second phase of the Cunningham and Kienzl (2011) causal chain was the degree persistence phase. Cunningham and Kienzl argued it is important for students to stay in school and attain a degree to avoid default or delinquency. The research of Akers and Chingos (2014) supports this conclusion. I discussed the Akers and Chingos study above with the default literature. As of 2009, the average student who started at a four-year public school, but did not persist and earn a degree, carried $9,300 in federal loan debt (U.S. Department of Education, 2013). Akers and Chingos determined that individuals who do not get a four-year degree, despite the relatively low debt level, are twice as likely to default on their loans (Akers & Chingos, 2014).

The selection of the academic major is an important element of staying in college and persisting to graduation. The school might dismiss a student for poor performance if he/she selects an academic major that is mathematically challenging and the student does not have proper preparation. On the other hand, selecting a less mathematically rigorous major might have long-term financial consequences. Wright et al. (2013) illustrated that the selection of the academic major is an important determinant for predicting loan default. Wright et al. conducted an empirical study to identify which postsecondary graduates of Canadian schools are most likely to default on their government student loans. The results of the Wright et al. research were that field of study (i.e., academic major) is an important predictor of loan default. College graduates from technical fields

were less likely to default on their loans than were graduates with liberal arts degrees (Wright et al., 2013). This might indicate the demand for liberal arts degrees is low compared to demand for degrees in technical majors.

I now know that selection of the academic major and earning a four-year degree are important predictors of timely repayment of a student loan. A rational decision maker would include this information in the decision calculus along with the decision maker's probability of successfully earning a four-year degree. I was curious if students think about this important data before they sign for a student loan.

Financial Management

Exercising good financial management practices after graduation is the third phase of the Cunningham and Kienzl (2011) causal chain for paying student loans on time. Phase one of the causal chain is where the students make decisions about which school to attend. In phase two, the students select their academic major and work hard to earn a degree. The final hurdle comes when the graduate faces ten years of debt repayment. If the graduate is successful in paying the bills on time, she can enjoy the benefits of investing in higher education. Cohen and Kudryavtsev (2012) showed that even after the student graduates, paying the bills on time could be challenging.

Wright et al. (2013) did the research discussed above to identify which Canadian students are most likely to default on their student loan. In the discussion section of their paper, Wright et al. talked about the importance of post-graduation financial management. The authors referenced Bank of Canada, which used data from the Survey of Financial Security as the basis for their assertion that many graduates consume beyond

their means after graduation (Wright et al., 2013). Wright et al. postulated that people develop habits of borrowing and spending during their college years that carryover into adult life after graduation. This pattern of behavior might contribute to the difficulty some graduates have in paying their school bills on time. In the closing paragraph of the paper, the authors speculated that the skills acquired by liberal arts graduates, are less helpful in preparing graduates for money management (Wright et al., 2013). This fact may explain why people with liberal arts majors have higher default rates than graduates with majors that involve business and math skills (Wright et al., 2013).

Cohen and Kudryavtsev (2012) demonstrated that students, even MBA students, are not always utility maximizers when it comes to making financial decisions. This study used questionnaires to test the degree of rationality exhibited by investors as they construct an investment portfolio or make decisions about loans. Cohen and Kudryavtsev surveyed 67 Israeli MBA students from the Israel Institute of Technology and the University of Haifa.

Cohen and Kudryavtsev (2012) provided the participants with recent investment data and asked them to select any combination of stock, corporate bonds, and government bonds to assemble the investment portfolio. Then the researchers ran computer models based on known interest rates, market technical data, and expectations of future interest rates to determine whether the portfolios were characteristic of a rational investor. It is important to note that Cohen and Kudryavtsev characterized the rational portfolio as one constructed by an investor who made his or her decisions based on expectations, experience, and knowledge. This criterion caught my attention because the rising college

student making a student loan decision has little, if any, financial experience. Several scholars argued that rising college students in the United States do not have the necessary financial knowledge to make large financial decisions such as paying for college (McCarthy, 2015; Mandell, 2008). This literature stimulates my curiosity as to whether students acquire sufficient experience and knowledge to make the student loan decision and manage their finances after college graduation so they can pay their school bills on time.

Most of the time these highly trained MBA students made rational financial decisions using quantitative data, but occasionally they did not make a rational choice. The results of Cohen and Kudryavtsev (2012) support the supposition that financial decision-making is more nuanced than saying the decision is either a rational choice or an irrational choice. Complex decisions, such as the student loan decision, might be a blend of rationality and emotion. This supposition has increased merit when there is a consideration for the long time horizon of the loan repayment and the uncertainty about the level of employment ten years into the future.

The literature reviewed in Part 2 showed that the student loan decision is a relatively small, critical link in the long chain of events for someone to successfully graduate and enjoy the benefits of higher education. Cunningham and Kienzl (2011) are correct that financial managers and policy makers need to expand the student loan discussion to include thoughtful discourse about the challenges a student faces gaining *access to college*, *persisting to a degree*, and pursuing good *post-graduation financial management* of the student loan. A typical student takes four years to earn a bachelor's

degree and 10 years to repay a federal loan using the standard repayment plan (14 years total). Many students may not consider 14 years into the future when they make their student loan decision. In this study I explored how much of the student loan decision process is described from a rational choice perspective and how much of the decision process is better described by the behavioral economics paradigm In Part 3 I will discuss these decision frameworks.

Part 3: Decision Theory

A new high school graduate must engage in a series of consequential decisions about his future. The new high school graduate will decide whether he will go or not go to college. If a student makes the decision to go to college, then a decision is required to determine where the student should attend college. There is also a decision about how to pay for college. These are important and often difficult decisions. These decisions have enormous implications for the life trajectory of a young person (Diamond et al., 2012). The outcome of these decisions will determine the person's career opportunities, social networks, social status, and outlook on life (Diamond et al., 2012). With so much at stake, a young person would be well advised to learn how to make good decisions or seek the help of a skilled financial manager. Fortunately, some great minds have carefully considered the topic of decision-making.

Scholars can trace the line of decision literature back to Adam Smith's classic, *Wealth of Nations.* The concepts Smith exposed have evolved into a decision framework commonly referred to as the *rational choice theory.* This path of literature includes

expected utility theory, the *life-cycle hypothesis* (LCH), and *permanent income hypothesis*.

If Senator Durbin's assessment that the nation is experiencing a student debt crisis (Durbin, 2013) was correct, then college students may not be acting according with the principles of rational choice theory. The research in behavioral economics, of which behavioral finance is a subset, may provide an alternate explanation for the student debt phenomenon. This paper specifically reviewed the work in the *framing of decisions* (Tversky & Kahneman, 1981), *cumulative prospect theory* (Tversky & Kahneman, 1992), and the *theory of planned behavior* (Ajzen, 2012).

Miller and Sardais (2013) argue that scholars have organized decision research into three categories. Miller and Sardais explained the first and the most frequently studied category is the analysis and perceived elements of decision-making. The authors refer to this topic as normative or rational decision-making. The second category of decision studies is the emotional and motivational forces that influence the way decision makers perceive and analyze facts to come to a decision. This body of literature has studied how factors such as obsession, ambition, and social pressures affect cognition and contribute to different decision outcomes (Miller & Sardais, 2013). The third and least studied category is the intermediate phase between data gathering and the final decision. Miller and Sardais claimed that researchers must understand the *frame* (i.e., mental picture of the situation) that a person uses to learn how the person makes sense of a situation and arrives at a decision.

Rational Choice Family of Theories

In this study I was concerned foremost with the topic of the financial decision about paying for a college education, and specifically, the decision-making process used to acquire a loan. Therefore the review began with the classic literature in economic decision-making.

There is a long history of economists, such as Adam Smith and John Stuart Mill, who contributed to rational choice theory. Nobel Laureate Gary Becker (1962) summarized previous literature by explaining that rational choice theory was not about a person making lightning fast calculations to support hedonistic motives. Rational choice was about utility maximization using well-ordered preferences in an environment of scarcity (Becker, 1962). Rational people will use all available information, probabilities of events, and potential costs and benefits to determine their preferences and to select the best course of action (Becker, 1962). Rational choice theory is also known as the traditional theory of economic decision-making and the rational actor is frequently referred to as *homo oeconomicus* (Morselli, 2015)*, economic man* (Simon, 1955), or *econ* (Thaler, 2015).

In the contemporary student loan literature, there are four related branches of literature associated with rational choice theory. The four branches are the *expected utility theory, life-cycle hypothesis, permanent income hypothesis*, and *human capital theory*. I explained each branch in turn and provided the applicable references below.

Expected utility theory. *Expected utility theory* is a very formal version of rational choice. *Expected utility theory* states that in situations of uncertainty, a person makes a

rational decision by multiplying the probability of an event by the size of the expected payout of the event (Bernoulli, 1738/1954). The reader can find applications of the *expected utility theory* in the insurance industry and professional casino gambling. College students also make the loan decision in a context of uncertainty. For most students, there is no guarantee the college student will have a job after graduating, and there is no guarantee about the salary the student will receive after graduation. Uncertainty is a factor in the student loan decision.

Life-Cycle hypothesis. The intellectual journey leading to this research started with the researcher's desire to understand the student loan debt phenomenon in the context of the *life-cycle hypothesis* (LCH) of financial saving and consumption (Modigliani & Brumberg, 1954). Modigliani and Brumberg (1954) observed that people build up financial assets in the early stages of their working lives, and during their non-working life (i.e., retirement) they expend the accumulated resources. Modigliani and Brumberg adapted Keynes' (1936) macroeconomic idea that collectively people make consumption decisions as a function of the quantity of discretionary income and a preferred level of savings. Keynes looked at the consumption topic from the macro perspective. In other words, the economist aggregates the consumption versus savings decisions of all consumers into the action of a single entity. In contrast, Modigliani and Brumberg took a micro-economic look at the saving and consuming behavior of individuals. Modigliani and Brumberg postulated that individual consumers aim for a stable level of consumption throughout their lifetime.

Permanent income hypothesis/human capital. Friedman (1957) expanded on the works of Keynes (1936), and Modigliani and Brumberg (1954). Friedman presumed the *homo oeconomicus* belief that people are self-interested, rational thinkers. Friedman expanded on the life-cycle hypothesis by extending the planning horizon beyond one person's lifetime. Like the life-cycle hypothesis, the *permanent income hypothesis* postulates that people will spend money at a level consistent with their expected long-term average income. The level of expected long-term income then becomes the level of permanent income the decision makers use as a benchmark for their spending decisions. Permanent income hypothesis differs from life-cycle hypothesis in that Friedman contended people would earn and consume with consideration for passing wealth to their descendants. The permanent income hypothesis is part of the rational justification for spending on a college education with the expectation that a college education will lead to a higher *permanent* income over a lifetime (Friedman, 1957). Not only is the permanent income hypothesis important to my study because it provides the rationale for college students to borrow money to pay for college, the hypothesis is also important because it introduces the importance of considering longer decision-making horizons. Earlier in this chapter, I introduced Cunningham and Kienzl (2011) and their idea to reframe the debate to extend the student loan discussion beyond graduation to include a financial management phase. In essence, Cunningham and Kienzl challenged people to extend the planning horizon of the student loan decision process.

McKinney, Mukherjee, Wade, Shefman, and Breed (2015) used Perna's conceptual model as a framework to study how community college students use rational

choice theory when making loan decisions. The model explained in Perna (2007) integrates aspects of human capital theory and social capital concepts. McKinney et al. explored how community college students evaluate the costs and benefits of loan use to finance their education. This question reflects a classic rational choice mindset. McKinney et al. found evidence that students did not fully consider, or understand, the consequences of the loan decision. They also found that students had misconceptions about debt repayment. McKinney et al. asserted that community college students often borrow money to pay for immediate life and school bills without adequate consideration of the long-term implications of their financial decisions. McKinney et al. discussed two concepts that are central to my study. First, scholars believe the human capital theory (i.e. rational choice) was relevant to the college student loan decision process (McKinney et al., 2015; Perna, 2007). Second, McKinney et al. (2015) found that community college students demonstrated an inaccurate application of rational choice principles. McKinney et al. concluded their paper by saying their study added to the body of knowledge on student borrowing behavior, but there is still much that managers do not know about college student borrowing behaviors and attitudes.

Researchers have periodically analyzed to test if the life cycle and permanent income hypotheses are still relevant. The researchers check to see if people are still better off if they invest in higher education. The research question asks if borrowing money for college is still a rational decision. Carnevale, Rose, and Cheah (2011) and Avery and Turner (2012) asked the question then demonstrated the vast majority of students are better off in the *long run* by borrowing money to pay for education.

Carnevale et al. (2011) studied the U.S. Census data and concluded that earning a college degree is usually worth the investment over time. Carnevale et al. showed that the economic gap between people with and without a college degree is widening. In 2002, people who attained a Bachelor's degree typically earned 75% more money in their lifetime than similar people who only attained a high school diploma (Carnevale et al., 2011). By 2011, the person with a Bachelor's degree earned 84% more than the person with only a high school diploma (Carnevale et al., 2011).

Akers and Chingos (2014) agreed that cumulative debt numbers are rising, but argued that most students are better off because they borrowed the money and they are paying their bills on time. Becker (1993) and Baum, Ma, and Payea (2013) are among many researchers who have substantiated the thesis that college graduates on average earn higher long-term incomes than non-college graduates earn.

On the surface, it appears that college students make a rational choice by investing in their college education. When the numbers are aggregated, it is true that the average student earns a positive ROI on her higher education investment (Akers & Chingos, 2014). However, Baum and Schwartz (2013) pointed out that many students are getting themselves into trouble with student debt. Baum and Schwartz referenced data from Shapiro et al. (2012) to highlight that after six years, 30% of the 2006 cohort had dropped out of school without a degree or certificate. Baum and Schwartz (2013) argued that too often policy-makers erroneously assume students are using the rational utility-maximizing decision process. Baum and Schwartz contended the higher education financing decisions are more difficult and more complex than the concepts presented in

the rational choice literature. Baum and Schwartz argued that policy-makers should adopt the ideas presented in Simon (1955) and the many articles by Tversky and Kahneman. I looked further into the Baum and Schwartz recommendation and started with a review of Simon (1955).

Bounded rationality. Simon (1955) initiated a sea change in decision science with his seminal article that questioned the traditional ideas of rational choice. Simon proclaimed the notion of the rational *economic man* was in need of drastic revision. Simon used an economic game theory model to show there is a rational tradeoff of time and energy for a good, but it may be suboptimum payoff. Simon argued that a suitable payoff plus time saved justifies replacing the notion of a universally rational person with a person who is constrained by access to information and the cognitive computational capacities associated with the real person on the street (Simon, 1955). In 2002, the psychologist, Daniel Kahneman, etched Simon's *bounded rationality* concept into decision science history. Kahneman received the Nobel the prize for his research that illuminated some of the limitations (boundaries) of rational choice (Kahneman, 2003).

In Simon (1959), the author explained how the traditional economic model described and predicted the behavior of consumers and entrepreneurs. The discussion of consumer behavior described in Simon is important because the decision to contract for a loan is a consumer decision. Simon opened the door for behavior economics when he wrote that economists, and especially the micro economists, were concerned about normative economic behavior. Simon claimed that economists wrote about how people

ought to act (normative economics), not how they actually behave (positive economics) when making a financial decision (Simon, 1959).

Simon (1955) evoked the idea of turning to the literature of psychology to help understand this complex decision phenomenon. In the next paragraph, Simon wrote that the distance between the fields of economics and psychology in his day were too far apart. He suggested his paper might help close the distance (Simon, 1955). In less than 20 years, a psychologist was delving into the economic decision process (Tversky & Kahneman, 1974).

Concepts from Behavioral Economics

Simon (1955; 1956: 1959) explored the way people make decisions. The data certainly supports the argument that students do not make rational choices. The proponents of this argument are quick to reference the U.S. Department of Education (2012b) data to show the federally funded student loan default rate increased by 49.25% over the past five years. The default rate increased steadily each of the past five years and as of FY 2014 Q3, the amount of bad federal loan debt owed to the federal government is $98.1 billion (New America Foundation, 2015). If the loan decisions are rational, then how can scholars explain this poor financial behavior?

Over 20 years ago, Tversky and Kahneman (1992) may have provided an explanation for student loan behavior in their Nobel Prize winning paper. Tversky and Kahneman presented an alternative perspective for decision theory that is now known as the field of *behavioral economics*. Tversky and Kahneman claimed there was sufficient evidence to question the expected utility models ability to describe individual choice in

situations of uncertainty. Tversky and Kahneman opened their paper with the proclamation that expected utility theory dominated decision-making models for several decades (50s-70s); however, it had come under serious question by the 1980s. In a series of studies, Tversky and Kahneman, (1974, 1981, 1986, 1992) challenged the generalizability of rational choice theory and demonstrated that several types of decisions are *predictably irrational* (Ariely, 2009). Managers might improve their understanding of the student loan debt phenomenon by looking at the student loan decision process through the lens of *behavioral economics*.

Tversky and Kahneman (1992) detailed five major phenomena of choice in decision-making. The phenomena are *framing effects, nonlinear preference, source dependence, risk seeking, and loss aversion*. These phenomena contradict the *rational choice* models and scholars have confirmed the findings associated with these topics in a number of experiments (Coleman 2015; Tversky & Kahneman, 1992). I was convinced that I could use Tversky and Kahneman's theoretical framework to help understand the inconsistencies between rational choice theory and the outcomes from student loan decisions.

Knoll's (2010) study is one of the most comprehensive in behavioral economics and decision-making. Her work identifies four concepts of psychological and emotional behavior factors that influence financial decisions. These concepts are *informational issues, heuristics and biases, inter-temporal choice,* and *the decision context* (Knoll, 2010).

This section of the paper identifies and investigates eight concepts within the behavioral economics field that researchers frequently discuss in the context of college attainment and student loan literature. I shortened a longer list to these eight behavioral economic concepts that are most relevant to the student loan decision process. The first concept addressed is the problem of complexity and the limits of human cognition.

Complexity and heuristics. Neth, Meder, Kothiyal, and Gigerenzer (2014) wrote one of many articles explaining that people do not act like rational robots when making decisions. People resort to using heuristics when a decision is complex, involves uncertain outcomes, or the decision maker lacks computational resources (Neth et al., 2014). A heuristic is a mental shortcut for quickly making decisions (Neth et al., 2014). The heuristic technique is generally effective and efficient, but the technique can lead to mistakes stemming from bias (Neth et al., 2014).

Dynarski and Scott-Clayton (2006) argued that the federal student loan system is very complex and therefore, makes the loan decision difficult for perspective students. Dynarski and Scott-Clayton went so far as to compare the complexity of the federal student loan system with the U.S. income tax code. Dynarski and Scott-Clayton used empirical data to demonstrate how the complexity of the student aid system disproportionately burdens low-income students. The authors also used detailed data from federal student aid applications to illustrate how a simpler process could produce a greater benefit to the borrowers and the taxpayers who guarantee the loans. Dynarski and Scott-Clayton applied lessons from behavioral economics and optimal tax theory in their explanation.

Satisficing is a type of decision-making heuristic mentioned by Neth et al. (2014). Satisficing simplifies the decision process by only searching through the available options until the decision maker selects an acceptable, but not optimal, course of action. Simon (1956) introduced the term *satisficing.* In his article, Simon described satisficing as an application of decision-making in an environment bounded rationality (Simon, 1955). Simon explained that it is often difficult or even impossible, to have all of the information required or computational capacity to make the decision that provides the maximum utility. Hamilton (2013) used the satisficing framework for her investigation of the graduation rate of college students relative to the financial support provided by parents. I did not see satisficing mentioned in the student loan literature or the college selection literature. I added this section about satisficing to my literature review after I saw the topic emerge in my data analysis.

Baum and Schwartz (2013) cited Kahneman et al. (1991) when they discussed the complex decision situation. Baum and Schwartz explained that people commonly use the heuristic of defaulting to the status quo when faced with a complex decision. People faced with a complex decision will not make an active decision, but gravitate towards the passive choice or the default option (Baum & Schwartz, 2013).

The work accomplished by Baum and Schwartz (2013), Dynarski and Scott-Clayton (2006), and Neth et al. (2014) was important to my study. It is highly probable that students find the student loan decision to be complex and too difficult for them to decompose into a traditional rational calculation. An element of my research was to listen in the interview for comments that confirm or deny that complexity was a factor for the

student during the loan decision process. If complexity was a challenge in the decision process, how did the students deal with the challenge?

A subset of the complexity problem was the problem of dealing with too much data or information overload. Downs (1957) wrote about the political economy and public choice theory. In his article, he refuted an argument that voters were unintelligent. Downs explained that voters were intelligent, but intentionally uninformed. Downs explained that gathering information in the real world is costly in both time and money. Voters cannot afford to know everything about all of the choices. He argued that voters realize their one vote in a large group of voters has miniscule power to change the outcome of the election and even less weight for bringing about a personally beneficial policy outcome after the election. Hence, Downs proclaimed that voters act as rational agents and only sift through the mountain of available data to acquire enough information about an election to provide a benefit larger than the cost of acquiring the information. Downs coined the term *rational ignorance* to describe this phenomenon. I did not see any reference to students exhibiting rational ignorance behavior in the student loan or college financing literature. During the interviews, I heard students make comments that reminded me of the rational ignorance topic. In Chapter 4, I explained the applicability of the rational ignorance phenomenon to this study.

Overconfidence/optimism. Overconfidence leads people to accept dubious risks because their subjective estimate of the probability of success is higher than the objective reality (Baum & Schwartz, 2013). Baum and Schwartz (2013) argued that students could improve the quality of their decisions if the student understood how the overconfidence

bias influences decisions. Pryor et al. (2012) provided some compelling evidence that students might be making questionable decisions because they are over-confident. The survey results from Pryor's study showed that 83.4% of new college freshmen expected to graduate in four years from the college they had just entered. There was a mismatch between the expectation of the students and the reality of time required to complete college. The historical data showed only 40.6% of students complete their education at the respective university in four years (Pryor et al., 2012). The overconfidence situation is significant in the college loan decision-making process because the cost of the loan increases proportionally with each year the student is in school.

Smith and Barboza (2014) commented that their empirical estimates found a strong presence of an overconfidence effect. Their survey participants self-reported an unrealistically high score on financial knowledge. Smith and Barboza concluded that overconfidence leads students to make decisions to hold excess debt.

Time discounting/present bias. Time discounting is another foundational concept in the behavioral economic literature. The literature used terms like *time preference*, *present bias, time-inconsistent preferences*, or *hyperbolic discounting* to describe the various nuances of this concept (Samson, 2014). This body of literature investigated the relative value people put on money or goods at different points in time (Frederick, Loewenstein, & O'Donoghue, 2002). Rational choice theory suggests that a decision maker should use a time-value of money calculation with a constant discount rate and make the final decision by comparing either future values or net present values. However, behavioral economic research consistently demonstrates that people weigh present

rewards (i.e., immediate gratification) more heavily than future payouts (Frederick et al., 2002). The implication is that the average person does not use a steady discount rate for their decision (Boatman et al., 2014). When rewards are very distant in time, they cease to have value to the average consumer.

Baum and Schwartz (2013) observed that time preferences often affect the decisions to attend college. College involves costs today and benefits in the future. People who value immediate gains significantly more than future benefits use a high mental discount rate to calculate their financial decisions. Young people with high discount rates chose the immediate reward of a job and the associated income today. It is difficult to convince these young people to pay thousands of dollars in tuition and wait several years to enjoy a better career and higher salary in the future (Baum & Schwartz, 2013).

Sims, Neth, Jacobs, and Gray (2013) conducted a study that provides an interesting twist to the *either-or* dichotomy of the rational choice or behavioral economic response to the time preference question. Sims et al. (2013) asserted that *melioration* concept deviates from rational choice because the decision maker bases the decision on the immediate reward rather than the overall maximization of utility. Melioration is defined as choosing a lesser, short-term gain over a greater long-term benefit (Sims et al., 2013). Melioration is sometimes referred to as *temporal myopia* (Sims et al., 2013). Sims et al. monitored subjects in repeated decisions known as the Harvard game. The Harvard game places subjects in situations that require the subject to make choices between behavior that support melioration theory or a rational choice option (Sims et al., 2013).

The experiment presented choices with immediate and delayed consequences. The selection of one alternative had nontrivial effects on future choices payouts (Sims et al., 2013). A key feature of the experiment was that participants had to learn the consequences of their actions through experience (Sims et al., 2013). Sims et al., demonstrated that financial decisions in their experiment improved over time because the subjects learned from experience. The concept of learning consequences through experience highlights an important point about the college student loan decision. Most students have little if any experience with the consequences of a financial decision comparable to the magnitude of the student loan. Would new students make better loan decision if they had more experience with financial decisions? Can new students learn the consequences of financial decisions in a simulated environment, as pilots learn by practicing emergency procedures in a training simulator?

Herding. Most people are communal creatures and there is evidence that people will prioritize the *wisdom of the crowd* over their personal understanding of the facts (Berdahl, Torney, Ioannou, Faria, & Couzin, 2013). Behavioral economists use the term *herding* to refer to the phenomenon of people using the actions of others as a guide instead of spending the time and energy to seek out high-quality information on their own (Price, 2013). Price (2013) speculated that information access is a likely explanation why evolution has favored herding. Price (2013) explained that by mingling with the group, individuals could more easily benefit from knowledge acquired by other group members.

Woods and Urwin (2010) asserted that financial decision makers default to the safety of the herd culture. The decision maker judges prudence by referencing the actions

of other investors (Woods and Urwin, 2010). Kallinterakis, Munir, and Radovic-Markovic (2010) wrote another paper that examined the herding phenomenon in stock market activity. Kallinterakis et al. (2010) used the cross-sectional standard deviation (CSSD) of individual stock returns in the Bosnian stock market and compared the data to their cross-sectional average. Their theory was that herding behavior is reflected in a decline of a stock returns' dispersion. In other words, the observer sees herding behavior in the co-movement of asset prices in financial markets (Dhaene, Linders, Schoutens, & Vyncke, 2012).

As indicated above, researchers have well documented the concept of herding in equity market activity. This *herd mentality* phenomenon is a possible, but untested, explanation for the questionable quality of student loan decisions. When making college decisions, do the members of a high school clique recycle the same unsubstantiated information about colleges? When making college decisions, do family members recycle the same old information?

Availability heuristic/availability cascade. Herding can lead to the misapplication of the availability heuristic. As stated above, most people are communal creatures and enjoy the companionship of other people. When the herd consists of a cluster of high school seniors planning to go to college, then the information casually talked about in the group tends to be recycled or repeated by the group members. The repetition of information may keep the information near the forefront of a student's mind. The availability heuristic is a mental shortcut people use to make decisions about the likelihood of an event based on how immediately an example or case comes to mind. For

example, investors may judge the quality of a stock based on information that was recently in the news about the company while ignoring other relevant facts (Tversky & Kahneman, 1974). If students depend on each other for information about student loans, then an echo chamber effect could distort the quality of their subsequent decisions.

Availability cascade (Kahneman, 2013) is a concept closely associated with availability bias. In the world of 24 hour news cycles and social media, one media report about a relatively minor event can be echoed through social media and generate a disproportional response. For example, prominent media reports of students drowning in debt might generate other articles with the perils sounding greater and greater over time (Baum & Schwartz, 2013). The media attention might lead to a large-scale government reaction and make it difficult for average citizens to put the phenomenon into proper perspective (Baum & Schwartz, 2013).

Anchoring. In the context of behavioral economics, the term anchoring describes the idea that people tend to start from a reference point and assess the appropriateness of options based on the changes each option moves the outcome from the reference point (Baum & Schwartz, 2013). This anchoring methodology contrasts with rational choice literature that proposes a decision-maker should assess each option based on the likely end state, not the starting reference (Baum & Schwartz, 2013).

Baum and Schwartz (2013) provided an interesting perspective on the anchoring concept and college decisions. Baum and Schwartz wrote that the student's socioeconomic background creates a reference point for higher education choices. Educated and affluent families generally expect their high school students to attend

college. The affluent families perceive that a student who does not go to college and earn a bachelor's degree has failed to achieve his/her potential and the situation is a *loss* (Baum & Schwartz, 2013). Whereas, there may be little expectation for attending college if a high school student comes from a lower-income family where neither parent attended college. In fact, the expectation for the lower income student may be to graduate high school and enter the workforce as soon as possible so that the student can supplement the family income (Baum & Schwartz, 2013). These are two very different mental reference points that highlight the significance of a person's tendency to rely on default options, especially if the decision is a complex one (Kahneman et al. (1991).

Framing. Tversky and Kahneman (1981) pioneered the idea that many bad decisions are the result of a decision process they called *framing.* Tversky and Kahneman partially defined decision frames as the norms, habits, and attitudes of the decision maker. The landmark work of Tversky and Kahneman talked about decision-making in general, but does not specifically address financial decisions.

Boatman et al. (2014) discussed one form of financial decision framing by citing prospect theory from Tversky and Kahneman (1992). Boatman et al. reminded their readers that the statistical evidence shows most people fear the loss of a resource more than they value an equivalent gain. Therefore, the way an adviser presents a decision creates a decision frame. Is there something about the way a financial advisor offers the student loan that creates a framing effect in the perception of a student?

Framing is a fundamental concept in behavioral economic literature. Miller and Sardais (2013) wrote an interesting article that does an excellent job of summarizing the

salient points of the concept. Miller and Sardais used a poker-based experiment to discover how *frames* shape a person's decisions. Miller and Sardais defined a *frame* as an integrated, synthetic mental configuration that provides a lens through which people come to understand a situation. The authors argued that a person selects information that fits the frame and excludes information that does not fit in the frame (Miller & Sardais, 2013).

The researcher asked participants to verbalize their thoughts and the researchers monitored the participants as each one attempted to make sense of identical situations. Miller and Sardais (2013) found that a person's *frame* influenced which information the participant sought and how the participant used the information in a situation. The frame characterized the way participants interpreted the information and the way they synthesized pieces of information to make a decision. In the poker experiment, the researcher identified a handful of frames used, or misused, by the participants (Miller & Sardais, 2013). Miller and Sardais (2013) were intrigued that the participants used the same information processing behavior over and over again.

Decision context/decision sequence. I was well into writing this paper when I found Diamond et al. (2012). Diamond et al. investigated the decision to attend college made by students in the United Kingdom. Diamond et al. conducted a systematic literature review and 32 expert interviews. Oddly, Diamond et al. did not interview any students. The researcher interviewed college staff members and asked them how students make decisions.

One of the original research questions for this study asked about the sequence of decisions in the decision process. Diamond et al. (2012) made a very specific statement on this topic. The authors wrote that university workers in admissions and recruitment agreed that students appear to select a school first and then figure out how to pay for school as a separate secondary issue. Harrison and Hatt (2012) also found that students tend to select a school first and then work out the financing. This research finding of the sequence of decisions suggests a framing effect is established and the frame influences the student loan decision. If students place a priority on the locality of the school and social comfort (Harrison & Hatt, 2012), then perhaps students are not making rational decisions about the affordability of the school.

This study extended the work of Diamond et al. (2012) in three important ways. First, I investigated the appropriateness of their findings for a population of students within the United States. Second, this research moved down the decision path from the decision to go to school, to the decision process about paying for higher education. Third and most important, this study directly involved students. I interviewed students about their student loan decision process.

The literature presented in the *Concepts of Behavioral Economics* section implies that factors other than rational choice influence financial decisions, but the literature is inconclusive about which factors affect the student loan decision and by how much. I believe the behavioral economic concepts are worthy of investigating to see what effect they may have on the student decision process, but the concepts lack an organizational structure for discussing them within a decision process. I think a consumer decision

model, specifically the Blackwell-Miniard-Engle model, may provide the needed organizational structure.

Consumer Decision and Behavior Models

My focus was on the decision process a student uses to consume a college loan, so it is appropriate that I introduce some relevant consumer decision models. I examined dozens of models, but only discussed three models in this portion of the chapter. Two of the models are decision models and the last model is a behavior model that overlaps with the first decision model. The consumer decision models are important to this study in two ways. First, the models explained how researchers have examined the decision process in similar, but not identical, situations. Second, the models helped me organize my thoughts about elements of rational choice theory and behavioral economic theory.

Blackwell, Miniard, and Engel (BME) model. The Blackwell, Miniard, and Engel (2006) consumer decision model seen in Figure 2 provides an organizational structure for the discussion of the student loan decision process. The model compares elements from the rational choice family of theories with elements from the behavioral economics family of theories. The authors presented the BME model in four parts. The parts are (a) information input; (b) information processing; (c) decision processing; and (d) variables influencing the decision process (Blackwell et al., 2006).

The BME model generally represents the rational choice concepts on the left side of the diagram in the areas identified as information input and decision processing. Behavioral economic concepts are represented on the right side of the BME model in the area identified as the variables influencing the decision process. I have explained these concepts in more detail in the *Concepts from Behavioral Economics* section of this chapter. I addressed the *attitude* element below in the discussion of the theory of planned behavior.

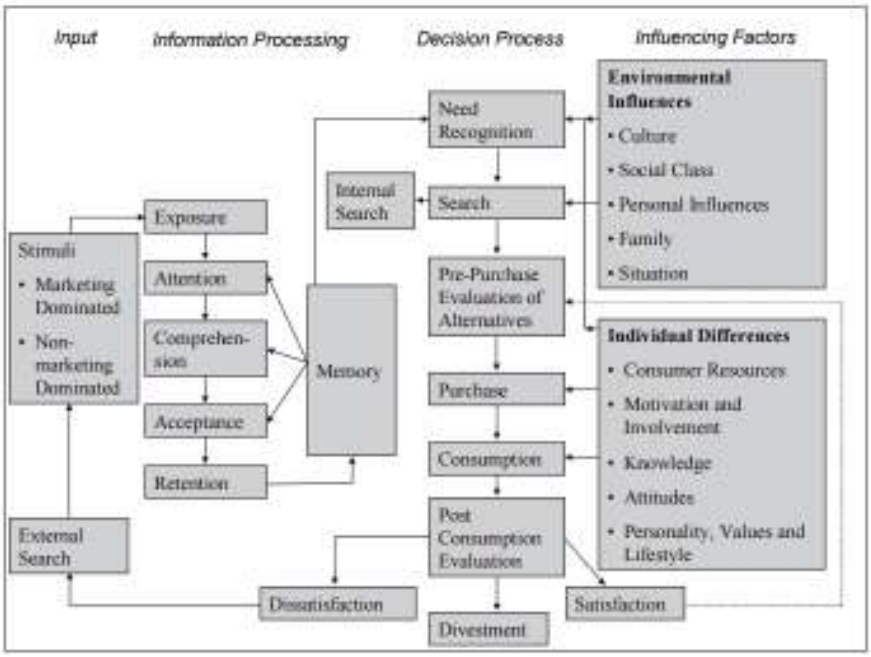

Figure 2. BME Model. Reprinted from *Consumer Behavior* (10th ed.), by R. D. Blackwell, P. W. Miniard, and J. F. Engel, 2006, Mason, OH: Thomson. Copyright 2006 by Thomson. Reprinted with permission.

There is one important aspect of the BME model that does not apply to the initial student loan decision. The *post-consumption evaluation* portion of the model explains the concept of building brand loyalty by providing the customer a positive experience that the consumer remembers the next time they shop (Ashman, Solomon, & Wolney, 2015).

A college freshman makes an initial purchase of the student loan, so he/she does not have a direct memory of a previous experience. Do students receive inputs from family or friends about their loan purchase experience? Does the previous loan purchase experience make a difference in the student loan decision process?

Iterative financial model. Milner and Rosenstreich (2013) reviewed the prominent consumer decision-making models (CDMs) to identify strengths and limitations. Milner and Rosenstreich briefly explained the strengths and weaknesses of the Nicosia, Engel-Kollat-Blackwell (predecessor to the BME model), Howard and Seth, and McCarthy-Perrault-Quester models. Then the authors claimed the existing models were not well suited for explaining decisions about consuming financial services. Milner and Rosenstreich demonstrated that people often make financial decisions iteratively over time and not in the single linear progression displayed in previous models. Milner and Rosenstreich then presented a modification to consumer models by showing an iterative path to decisions that is better suited for financial decisions (Figure 3).

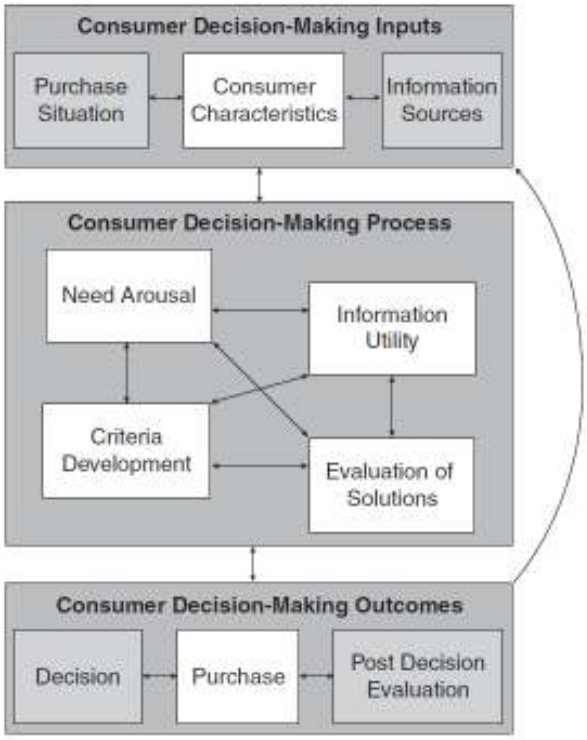

Figure 3. Consumer Decision-making Model for Financial Services. Reprinted from "A Review of Consumer Decision-Making Models and Development of a New Model for Financial Services," by T. Milner and D. Rosenstreich, 2013, *Journal of Financial Services Marketing*, *18*(2), p. 111. Copyright 2013 by Palgrave Macmillan. Reprinted with permission.

The Milner and Rosenstreich (2013) research was important to my study because the decision to sign a contract for a student loan is a consumer decision made about a financial product. The Milner and Rosenstreich model provides an alternative framework to the BME model. Both models show conceptual relationships for the complex student loan decision. The Milner and Rosenstreich model also presents elements of rational choice theory and behavioral economics.

Theory of planned behavior (TPB). Chudry, Foxall, and Pallister (2011) used Ajzen's TPB as the theoretical framework for their research on the student loan debt problem in the United Kingdom. Chudry et al. cited nine papers to support their claim

that researchers have well documented the increasing problem of the student loan debt burden. In their introduction, the authors referenced the many ways scholars have studied the student debt topic (e.g., money-management pressure, fear of debt, need for part-time employment, and a reason for withdrawing from school). The authors made a strong case to argue that scholars almost exclusively wrote articles that used the quantitative methodology to describe the observed behavior (Chudry et al., 2011). Chudry et al. proclaimed that few studies have attempted to investigate the underlying reasons why students behave in a manner that either exacerbates or improves their debt problem.

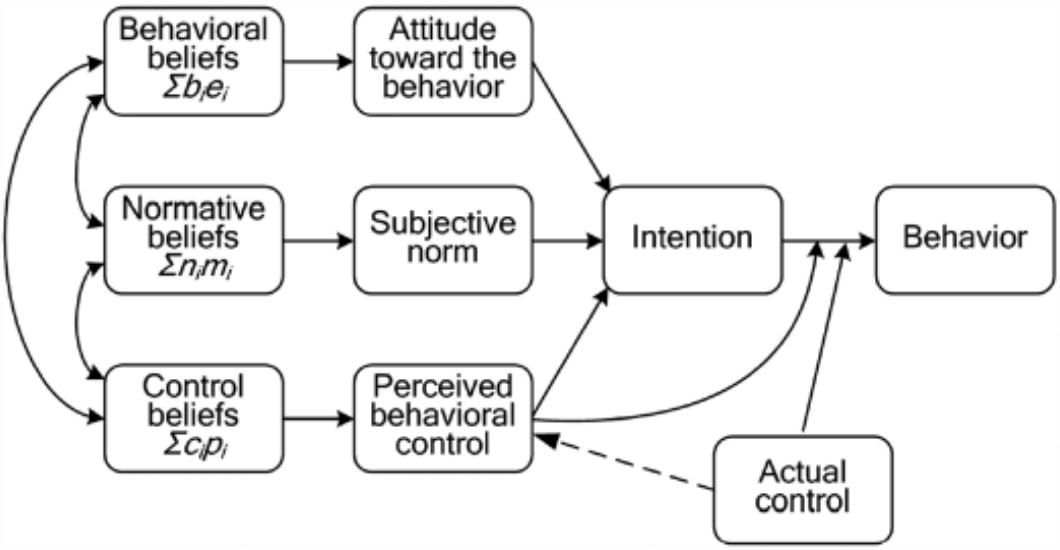

Figure 4. Theory of Planned Behavior (TPB) Model. Reprinted from "Martin Fishbein's Legacy: The Reasoned Action Approach*,"* by I. Ajzen, 2012. *The Annals of the American Academy of Political and Social Science, 640*(1), p. 19. Copyright 2012 by Sage Publishers. Reprinted with permission.

Figure 4 depicts the theory in the form of a structural diagram (Ajzen, 2012). Chudry et al. (2011) examined the attitudinal drivers, beyond simple need, for borrowing

money. The Ajzen (2012) model focused on attitudes, subjective norms, and intentions. The Chudry et al. study added the variables of past behavior, involvement with money, and decision-making style to the Ajzen model.

The Chudry et al. (2011) study was significant because the researchers used an independent measure of observable behavior as the dependent variable in the multi-attribute model of behavior. The authors believed this methodology was essential during the study of indebtedness because there is a strong tendency for participants to inflate claims (i.e. overconfidence) of their ability to overcome personal liability and to understate their level of debt (Chudry et al., 2011).

The Chudry et al. (2011) study provided two important connections to my study. First, the reader should notice the overlap between the consumer decision model and the theory of planned behavior. The Ajzen model and the BME model identify beliefs, attitudes, and intentions as influencers in the purchase decision (i.e., purchase behavior, Ajzen, 2012; Blackwell, 2001). The student loan literature, with the exception of Chudry et al., seldom mentions the topic of attitude or intentions. I was curious to see if students revealed any themes about loan attitudes or intentions during the student interviews. The second contribution of the Chudry et al. study was that the authors collaborated my observation about the overwhelming amount of student debt literature that is quantitative and descriptive. There is a need for more qualitative studies to explain the data.

An interesting part of this literature review was the distinct absence of references in the student debt literature to consumer decision models, despite the fact that attending college is a consumer decision. For example, Bettman (1979) developed an information-

processing model and discussed the consumer's response to complexity and the use of heuristics as a simplifying strategy to mitigate the complexity. Neth et al. (2014) wrote about the use of heuristics in financial decision-making. In the article, Neth et al. described Bettman's ideas but they did not reference Bettman (1979). Likewise, Dynarski and Scott-Clayton (2006) wrote about the complexity of the student loan process but made no reference in their literature review to Bettman (1979) or any consumer decision literature that discussed complexity or the use of heuristics.

Part 4: Alternative Explanations

During discussions about my research, some people argued with me that the problem with student debt accumulation is not the result of questionable loan decision. People cited other factors such as poor *financial education* or *lack of information* as the cause of the problem. These arguments have some merit. These discussions about alternative explanations for student loan debt motivated me to look at the literature on these topics. Was there something I could learn about the loan decision process from these potential explanations? The literature I found fell into four categories. The categories were financial literacy, information, math skills, and attitudes toward debt.

Financial Literacy

Some researchers have argued that lack of financial education is the explanation for the increase in student debt and default in the United States (McCarthy, 2015). In this section, I provided a summary of the works by Smith and Barboza (2014), McCarthy (2015), and Fernades, Lynch, and Netemeyer (2014). These researchers looked at various

aspects of financial literacy and college student loans. I found it interesting that the authors had inconsistent conclusions.

Smith and Barboza (2014) used data from a survey administered to a sample of 380 graduate and undergraduate students in an ordered probit model to investigate the effects of trans-generational financial knowledge, academic performance, and self-reported financial knowledge on financial management practices. Smith and Barboza asserted the problem is that students have easy access to credit, but the students are ill equipped to make even basic financial decisions. Smith and Barboza reported that their empirical data demonstrated a strong overconfidence effect, as reflected by unrealistically high self-reported financial knowledge. The authors asserted that the poor financial knowledge directly contributed to illogical levels of student debt (Smith & Barboza, 2014). Brown, Haughwout, Lee, and van der Klaauw (2015) reported a similar financial literacy problem. Brown et al. (2015) explained that only 35% of Americans understood interest compounding or the way credit cards work. The results of the Smith and Barboza research revealed evidence to support the hypothesis that early financial education is a positive factor in maintaining lower levels of indebtedness.

In contrast, McCarthy (2015) found no significant correlation between financial education and student loan debt repayment. McCarthy conducted a mixed-method study for her Doctor of Education dissertation. McCarthy designed the study to investigate relationships between the level of financial literacy in undergraduate college students and their subsequent student debt. McCarthy surveyed 254 junior and senior-level college students using the college version of the Jump$tart Personal Financial Literacy survey.

McCarthy then conducted a focus group session with seven students. Analysis of her data determined the level of financial literacy is not a reliable predictor for student debt (McCarthy, 2015). McCarthy also ran the data using a Chi-squared Automatic Interaction Detection (CHAID) technique. The CHAID test demonstrated the interaction of multiple factors (e.g., first-generation status, parent income, and academic major) was a more accurate predictor of student debt (McCarthy, 2015).

McCarthy (2015) was relevant to my research for two reasons. First, McCarthy (2015) determined that financial literacy is not the simple answer for fixing the student loan decision problems. Second, she demonstrated that there are many variables related to financial literacy and students. Researchers have yet to unravel this complex DNA helix of relationships in the student loan decision process.

Fernandes et al. (2014) stated in their paper that policy-makers around the world have embraced financial education as the necessary solution to the student debt problem. However, the research of Fernandes et al. showed that financial literacy interventions improved financial behaviors by a meager 0.1% (Fernandes et al., 2014). Over the last decade, at least 12 experts have observed the debt problem and prescribed increased financial literacy as the solution (Fernandes et al., 2014). However, this “solution” does not appear to be working. Fernades et al. conducted three empirical studies on the topic. Fernades et al. determined that financial education alone could not deter bad student loan decisions. Financial education or financial counseling alone will not solve the student loan decision problem.

I presented the inconsistent results from Smith and Barboza (2014) in contrast to McCarthy (2015) and Fernades et al. (2014) to suggest that researchers do not fully understand why or how students make financial decisions. There is still much to learn about the role of financial literacy and information in the student loan decision process. My research might equip managers with a tool for mentoring students with new knowledge that leads to fewer loan defaults.

Information

Having the appropriate information is critical for making any decision. Accurate and timely information is a valuable commodity when it supports a decision that involves four years of a person's life and tens of thousands of dollars. In the context of student loans, the term *information* evokes discussion about one of two categories of information. For lay people, the term information evokes the idea of counseling about the loan acquisition, the responsibilities, and the loan repayment process. Financial managers, on the other hand, think about the information needed to calculate a rational loan decision. In the case of the student loan decision, a rational actor would like to know the occupation and more importantly, the expected salary the borrower will enjoy after graduation. The borrower might also want to know when other major expenses, such as buying a car or house, will come due. The sophisticated borrower would also like to know what would happen with currency inflation during the loan repayment period. Unfortunately, the student loan decision is very difficult for a rational actor because uncertainty clouds the answers to these questions. Also, the time horizon of nine to fifteen years to attend school and repay the loan adds to the complexity of the calculation.

Information processing represents one-fourth of the Blackwell, Miniard, and Engel consumer decision model discussed in Part 3 of this chapter (Blackwell et al., 2001). Miller and Sardais (2013) wrote about the synthesis of information in the decision process. Miller and Sardais explained that synthesis involves information selection, information interpretation, and the combination of information to make sense of a situation.

College Board is a not-for-profit membership association founded in 1900. The mission of College Board is to connect students to college success and opportunity (College Board, 2010). College Board (2010) reported the results of a study that surveyed 1,000 parents, 1,000 students (age 18-24), and 250 non-traditional students. Analysis of the data highlighted a consistent theme. The participants understood that graduating college was important. However, finding the right information, and comprehending the college financing process was difficult for many students (College Board, 2010).

Hira and Brinkman (1992) wrote one of the many articles that recommended student counseling or financial education as an intervention to mitigate the high debt situation. Hira and Brinkman proclaimed their study provided empirical evidence that students lack knowledge about their loans and financial management. Hira and Brinkman specifically recommended that students receive more detailed loan counseling. For more than thirty years, there has been a steady drumbeat of academics suggesting educational programs and tailored communications to help students make good loan decisions (Chudry, Foxall, & Pallister, 2011; Hershbein & Hollenbeck, 2014). During the same

thirty years, the debt level of the average student has risen steadily (The Institute for College Access and Success, 2013).

Abboud-Chalhoub, Matos-Corporán, and Santiago-Castro (2015) surveyed 10% of the undergraduate students (194 participants) at a four-year university in Puerto Rico. Only 10% of the students surveyed (i.e., 19) reported that they received any financial counseling. Only one student in the entire survey population thought the financial counseling was useful (Abboud-Chalhoub et al., 2015). This article suggests that financial professionals can provide better student loan advice. This study was designed to provide financial professionals with information to improve their understanding of the decision-process students use to acquire a loan and equip the professionals to provide better loan advice.

Mueller (2013) examined descriptive statistics to confirm a majority of students did not know the interest rate, or term of repayment, for their loans. Mueller argued that student loans are an essential component of attaining higher education because few households have the financial resources to obtain a degree without borrowing some money. Because borrowing money for college is so prevalent, Mueller insisted that lending institutions, counselors, and university administrators must provide clear messages about the loan process.

To assist students, the Consumer Financial Protection Bureau (CFPB) has coordinated with the U.S. Department of Education in the *Know Before You Owe* project (CFPB, 2011). A key initiative of the *Know Before You Owe* project is to provide a *financial aid shopping sheet* (CFPB, 2011). The *financial aid shopping sheet* is designed

to provide students and their families with relevant information before they make their college and loan decisions. The specific information on the page sheet includes the total cost of attendance, a clear distinction between scholarships and loans, a listing of federal loans available to the student, and the estimated monthly debt payments after graduation (CFPB, 2011; U.S. Department of Education, 2015b). An important part of my research was to identify the desired information, and the role of information has in the student loan decision process.

As mentioned earlier, an important piece of information for a rational loan decision was the anticipated salary after graduation. Wiswall and Zafar (2014) conducted an empirical study to investigate the decision students make about academic majors. The researchers examined the student's perceptions of future earnings for several academic majors to create subjective expectations data. Wiswall and Zafar also collected data on beliefs about earnings uncertainty, labor supply, marriage, and spousal characteristics. The authors ran the regression between historical data of earnings associated with academic majors against the data representing student perceptions.

The sophisticated methodology used in the Wiswall and Zafar's (2014) study is impressive and appreciated by scholars, but it is too complicated for students to use when making their student loan decisions. The concepts addressed in the study were critical for making an effective loan decision and central in my preparation for this research. I have blended ideas from Becker (1993), Cunningham and Kienzl (2011), and Wiswall and Zafar, into a concept diagram found in Appendix B.

My hope was that the concept diagram would illustrate the rational actor's perspective on the student loan decision process. This diagram is something that financial managers may be able to use when working with students. I was eager to start collecting data and see if the diagram had any resemblance to what students do in real life.

Math Skills

Agarwal and Mazumder (2013) provided a different perspective on the topic of financial decision-making. Agarwal and Mazumder argued there is a relationship between bad financial decision-making and a person's math skills. Specifically, people with weaker skills in mathematics are more likely to make bad financial decisions (Agarwal & Mazumder, 2013). The researchers compared a subject's math test scores against proprietary data sets that included credit card decisions and home equity loans made by the subjects. The results showed a strong correlational between low math test scores and suboptimal credit card transfers and home equity loan decisions that resulted in higher interest rates (Agarwal & Mazumder, 2013). Agarwal and Mazumder discussed two interpretations of their results. Their first thought was that greater math ability may positively correlate with the virtue of patience (i.e. willingness to wait). People who are patient may be less prone to make financial mistakes when time is an important variable in the decision process. The second interpretation was that math ability directly relates to the ability to understand financial concepts. In other words, math skills are indispensable for the time-value-of-money calculations required in loan decisions (Agarwal & Mazumder, 2013). The authors concluded the article by stating their findings improve the quality of empirical evidence linking cognitive abilities to financial decision-making. The

authors also insisted that more research is required to understand the relevance of these findings to improve financial decisions in the population (Agarwal & Mazumder, 2013).

Attitudes toward Debt and Borrowing

Chudry et al. (2011) argued that if policy-makers are serious about a more viable approach to student debt interventions, then they must concentrate on the variables that relate to the decision-making process theoretically and empirically. Chudry et al. thought, "Changing attitudes toward debt and borrowing may require changing an individual's involvement with finance, normative beliefs, and perceptions of control toward borrowing and not merely knowledge of financial sources" (p. 140). I designed this study to identify the relevant variables identified in the student loan decision process so financial managers can guide students through an improved process.

Part 5: Methodology Literature

Researchers have sliced, diced, and teased quantitative data about students and their loan behavior. The vastness of quantitative research is the context for the Chudry et al. (2011) statement, "Published work on student debt (and students' use of financial services/products) appears almost universally descriptive" (p. 119). For thirty years, researchers have described the behaviors, the demographics, and the scope of the problem. However, scholars and managers still do not know why the high student debt phenomenon is so widespread. It is time to stop teasing the data and throwing surveys at students. Researchers need to talk directly with the students to understand their experience and the complexity of the loan decision. Chudry et al. wrote that scholars must contemplate the words and ideas of those who experience the reality in question to

understand the personal finance issues they face. Chudry et al. produced one of the few studies to use a qualitative methodology to understand this phenomenon.

Avery and Turner (2012) agreed that students and financial managers need answers for several significant research questions about how students make college attainment and loan borrowing decisions. Avery and Turner suggested that a scholar conduct research to determine the skills and characteristics students could self-observe before college entry that would help predict their success in higher education. If students understood how the success factors aligned with the various college options, then students could tailor their college decisions based on their personal strengths and weaknesses. Avery and Turner concluded their paper by discussing the complexity of the college decisions. The student's decisions about where to attend, what to study and how to finance the studies are all interrelated. Avery and Turner reported that financial managers could better serve students if the information they provided personalized information to suit the student's decision needs.

Davtyan (2010) also suggested a qualitative approach to discover cognitive, personality-based, and familial influences associated with money management behaviors of college students. Davtyan suggested, "Through the use of qualitative techniques, such as interviews and focus groups, additional research might even reveal previously undetected barriers that preclude students from actively pursuing personal finance education" (p. 135).

Dowd (2008) claimed there is a need for an expanded research agenda focused on student motivations, aspirations, and expectations. Dowd was convinced that simply

providing information to students about financial aid is insufficient for motivating them to seek out their optimal level of financial aid. Dowd argued that managers and researchers would benefit from a richer understanding of decision-making that includes sociocultural and psychological constructs along with the economic view of individuals engaged in rational decision-making.

Similar Studies

After reading over two hundred articles, I did not find any studies that attempted to understand the undergraduate student loan decision process. I did find a few studies that addressed student debt or the student populations. This section will provide an overview of those studies and explain the similarities and differences.

Graduate students and loan debt. Dorado (2014) was also curious about the student loan decision process. Dorado and six colleagues wanted to know what factors influenced a student's decisions to incur school debt for a graduate degree. The team of researchers interviewed 116 master's degree students in the academic majors of health sciences, business, and education enrolled at not-for-profit public or private universities in California. Dorado analyzed the data using a conceptual framework centered on the Bronfenbrenner's Bioecological Framework for Human Development of individual decision-making. The results from the Dorado analysis had three findings. First, graduate students did not understand their student loan borrowing and repayment options. Second, graduate students relied on advice from family members and mentors instead of guidance from their university financial aid officers. Third, graduate students consistently viewed

the prestige of the school, career mobility, and networking as providing a sufficient return on their graduate degree investment (Dorado (2014).

Even though Dorado (2014) used the Bioecological Framework for Human Development conceptual framework, the results of the study have relevant implications for my research. For example, graduate students have more experience with the student loan process and should be more conversant with loan information than undergraduate students. Graduates students also had more time and opportunity to acquire information about post-graduation employment salaries. Nevertheless, the results of the Dorado study indicated that even graduate students make non-rational decisions that are consistent with behavior economic theory. Dorado did not use the terms *optimism bias* or *overconfidence effect*, but he described elements of these behavioral economic concepts. I designed my study to learn if the financial decision process of undergraduates is consistent with the results Dorado experienced. This study differed from Dorado in two ways. First, my study will analyzed data using a conceptual framework based on behavioral economics and rational choice theory. Second, the participants of my study were undergraduates.

Credit cards. At least two previous studies investigated student debt behavior involving credit cards. Kuchler (2012) did a quantitative investigation of credit card debt repayment. The author used data from an online financial management service to assess the degree of short-run impatience by the borrower. The subjects came from many occupations, and none of the subjects were students. Short-run impatience is a variation of the economic behavior concepts of *present bias* and *hyperbolic discounting* discussed

earlier. The economic behavior concepts of *present bias* and *hyperbolic discounting* might explain the student debt phenomenon.

Javine (2013) attempted to predict the level of student loan debt using demographic information and financial knowledge. The author surveyed 506 participants using a financial knowledge test in combination with questions about financial practices. The variables were income level, credit card debt, grade point average, race, first-generation status, and academic major. The author analyzed the data using a probit regression. Javine determined that the number of years in higher education had a positive correlation with higher debt levels. Student loan debt levels correlate negatively with grade point average (Javine, 2013). African American students usually had higher levels of student debt than other races (Javine, 2013). Credit-card debt and financial independence tracked positively with student loan debt levels (Javine, 2013).

Shaffer (2014) reported on similar studies about student debt and credit card debt. The studies identified that college students owe between 24% and 31% of their yearly income in credit card debt (Shaffer, 2014). Shaffer explained that financial managers have coined the phrase *financially at-risk* (FAR) to describe these students. Shaffer also explained that colleges are losing more students to financial mis-management than they are to academic failure.

Methodology

Olshavsky and Granbois (1979) were among the first researchers to challenge the traditional consumer decision literature that emphasized a rational decision approach. I cannot trace the pedigree relationship from Olshavsky and Granbois to the contemporary

authors of behavioral economics literature, but the reasoning used by both groups is remarkably similar. The traditional consumer decision theory is almost identical to rational choice theory. Both sets of literature talk about the rational person gathering information, then analyzing the information to make a decision that provides the maximum benefit to the decision maker.

Olshavsky and Granbois (1979) recognized that the direct observation methodology of asking consumers to verbalize their decisions contributed to a Hawthorne Effect in the study results. Subjects knew the researchers were observing their decision-making process; therefore, there was an overstatement of the process (Olshavsky & Granbois, 1979).

Olshavsky and Granbois (1979) was a seminal study that provided the foundation for consumer decision modeling. The study includes rational choice and behavioral economic concepts in the consumer decision process (Olshavsky & Granbois, 1979). This is one more example in my literature review where I saw evidence that the student loan decision process probably includes elements of both rational and behavioral theory.

Choi (2014) reviewed the literature presented in peer-reviewed journals from 1985 to 2013 to investigate the impact of student loans on career decisions. Choi discussed the second and third order effects a student loan decision has on subsequent financial decisions. Selecting a career path and buying a house are examples of subsequent decisions. Choi concluded her paper by stating scholars need to understand the decision processes under debt pressure in more detail and beyond the limitations of quantitative research.

Zerquera, Torres, Ferguson, and McGowan (2013) provided one of the few examples of a qualitative study that investigated the student loan phenomenon. Zerquera et al. (2013) investigated how students use different financial sources to pay for school and found a significant delta between the students' perceived costs of attending college versus actual costs of attending college. Zerquera et al. also suggested that someone should conduct more qualitative research to understand this complex phenomenon.

Gap in the Literature

There is no lack of articles on the student debt topic. However, the majority of the literature is descriptive and produced from quantitative studies. Some studies explain how much student debt exists, which demographic is inclined to high levels of debt, how debt affects choices made by students, and what students say about their ability to repay their debt. This chapter provided evidence that the topic of undergraduate student loan decision process was ripe for research. Financial managers and policy-makers need more information to understand the student loan decision process so they can advise and assist students to prevent the burdens of excessive debt.

Cho et al. (2015) completed their literature review of 72 articles by saying, "Further research is needed to understand more about the student's and family's decision-making process when deciding whether or not to pursue an investment in postsecondary education (p. 239)." Cho et al. suggested that the future research assess the elements of a rational choice decision process. I started my research on the student loan decision process months before Cho et al. published their article. Cho et al. studied over 72 articles

and came to the same conclusion about a gap in the literature concerning the student loan decision process that I came to after reading 118 articles.

Summary

I organized this chapter into five parts. I explained the scope of the student loan problem in Part 1 and reviewed the literature that discussed the debt problem from several perspectives in Part 2.

In Part 3, I presented literature from three families of decision theory. The rational choice family of theories (Becker, 1962; Friedman, 1957; Modigliani & Brumberg, 1954) represents the traditional view of decision-making. Behavioral economics was the second family of theories presented. Behavioral economics scholars introduced psychology to the decision process research (Baum & Schwartz, 2013; Neth et al., 2014; Tversky & Kahneman, 1981, 1986, 1992). The third family of decision theory included a series of consumer decision models (CDM). The CDM literature provided an organizational structure for discussing the student loan decision process that includes elements of rational choice theory and behavioral economics (Blackwell et al., 2005; Milner & Rosenstreich, 2013). The literature suggested that an accurate assessment of the financial decision process might provide managers with a tool for mentoring students in a manner that leads to fewer loan defaults.

In Part 4, I discussed some of the popular explanations as to why students amass unmanageable school loan debt. These explanations included poor financial literacy and a lack of appropriate information. In Part 5, I presented a review of studies that are similar to my study and I explained how my study supplements these studies. Some of the studies

used a behavioral economics framework, and some of the studies were qualitative studies. At the end of Part 5, I made my argument that there was a gap in the literature concerning the undergraduate student loan decision process.

In this chapter, I investigated the student debt topic from many perspectives. Most papers use empirical data to describe the problem. Many policy papers prescribed mitigations. What is known, and well documented in quantitative research is that several million undergraduate college students are struggling with unmanageable personal finances (Akers & Chingos, 2014b; Dynarski & Kreisman, 2013; Kraiem, 2015). The problem started with the college loan decision. Elliott and Nam (2013) and Li (2013) also informed their readers that mangers at every level from the local car dealership to the Federal Reserve are concerned about the student loan debt problem. What is not known is how students make the important financial management decision to contract for a student loan. I did not find another study where the researcher talked with undergraduate students to ask them what decision-making process they used that led to the current outcomes. There was a gap in understanding about the undergraduate student loan decision process. I argued that a qualitative exploratory case study might explain how undergraduate students make the financial management decision to incur debt to pay for their college education. A better understanding of the undergraduate loan decision could pave the way for providing financial managers with tools to help students manage their finances and prevent them from incurring crippling debt during their college years.

The next chapter provides a detailed overview of the research design for this study. In Chapter 3, I explained how I identified participants for the study and engaged the students to collect data. In Chapter 3, I also described the plan for data analysis.

Chapter 3: Research Method

In this chapter, I provided details about the research methodology and addressed issues of trustworthiness. The chapter begins with the purpose of the study and the research questions. I used this information as the foundation for the explanation of why I elected for a qualitative study. Then I explained the details for participant selection, the data collection process, and the data analysis process. I concluded this chapter with an explanation of how I addressed the issues of trustworthiness in my qualitative study. The Walden Institutional Review Board approval number for this study was 06-14-16-0417805 and it expires on June 13, 2017.

The purpose of this qualitative case study was to explore and understand the student loan financial decision process using a conceptual framework that contrasts rational choice theory (Becker, 1962; Friedman, 1957), and behavioral economics (Tversky & Kahneman, 1974, 1981, 1986, 1992). Scholars claimed that financial managers have an incomplete understanding of the decision process used by students when they acquire their college loans (Cunningham & Kienzl, 2011; Diamond et al, 2012). My goal was to provide financial managers with new information that helps them mentor students to make more complete and effective financial decisions. The authors of previous literature suggested that an accurate assessment of the financial decision process might provide managers with a tool for mentoring students in a manner that leads to fewer loan defaults. The loan decision-making process of undergraduate students was the central phenomenon under study. The loan decision process was also the case. I defined the student loan decision process as the sequence of four major decisions, and the

indications as to whether the student used a rational choice framework, a behavioral economics framework, or a hybrid framework when making the loan decision. I conducted interviews to collect the data. I designed my study with the goal of using the research results to fill a gap in the literature about the decision process students used to make this critical financial management decision. Specifically, I hoped to create a model from the study results that financial managers can use to guide students through more complete and effective financial decisions that lead to fewer loan defaults.

Research Design and Rationale

Research Questions

Central Research Question:

How do undergraduate students make the financial management decision to incur debt to pay for their college education?

Supporting Questions:

1. What is the sequence of the major decisions in the process?
2. What are the key decision factors used by the student in the loan decision process?
3. What consideration did the student give for the financial management of the debt during and after college?
4. How much of the loan decision process is a mental exercise versus an emotional experience?

Research Tradition and Design

I designed the research as a qualitative study using an exploratory case study strategy. In this research, I was concerned with “meanings, not measurements,” and

"quality, not quantity" (Patton, 2015, p. 119). Therefore, I used a strategy of purposeful sampling (Patton, 2015). I used a qualitative data strategy for the data collection (Patton, 2015). I used a case study analysis strategy derived from content analysis (Patton, 2015).

The central phenomenon I studied was the student loan decision-making process. The loan decision process was also the case. The primary data collection site was a meeting room on the campus of a public university campus in the Rocky Mountain region. The student loan decision process was defined as the sequence of four major decisions, and the indications as to whether the student used a rational choice framework, a behavioral economics framework, or a hybrid framework when making the loan decision.

Schultze and Avital (2011) explained the purpose of the qualitative interview is to understand a person's experiential life. I engaged each participant in a conversation to understand her loan experience. I wanted to comprehend how the participant interpreted this experience (Schultze & Avital, 2011). I hoped to stimulate a discussion where the participant provided rich data about her student loan decision experience. The design of the interview was important to accomplish this objective.

Miles et al. (2014) explained that I could not determine the validity of the study until after I analyzed the data. An excellent time to consider content validity was during the writing of the interview protocol (i.e., interview guide). I designed the questions in the interview protocol so the participants could describe their experiences and thoughts about the loan decision process. The protocol closely followed the research questions. I cross-referenced the protocol questions to the research supporting questions. I derived the

research questions from the literature review of the student loan decision process, which is the case I studied (Maxwell, 2013).

Rationale

Miles, Huberman, and Saldaña (2013) specifically identified a process (e.g., meal preparation or organizing an event) as an example of a case. I analyzed the student loan decision process. The student loan decision process was my unit of analysis for the study (Yin, 2014). The process, location, and time were the bounding constraints of my case. The elements that bound the decision-making process were the decision variables and the decision sequence. I also bound the case by location. I only investigated the decisions made by students attending a public university in the Rocky Mountain region. Lastly, there was a chronological element to the case boundaries. I bound the case in time because I only investigated decisions associated with the four-year undergraduate period. I did not investigate the financial decisions of graduate students or the financial decisions made after graduation.

At first, I considered a phenomenology study because I thought I wanted to understand the student *decision experience*. I transitioned to the case study because I realized I wanted to understand the student thinking and the *decision process* more than the shared student experience (Patton, 2015). I seriously considered a grounded theory study for this research. The grounded theory study would be appropriate if I had wanted to generate a theory of why the debt phenomenon occurs (Hussein et al., 2014). My literature review convinced me that many theories related to the debt phenomenon already exist. The challenge for financial managers is that they do not know exactly how

the theories apply to the decision process. An ethnography study or narrative study impressed me as the least applicable approach for my research (Patton, 2015).

Role of the Researcher

I was the only researcher working on this study. I participated in all of the interviews. I was also responsible for the data analysis and reporting the findings. I have a social relationship with three of the instructors in the economics department at the university where I collected the data. The instructors are former colleagues from another university in town. My former colleagues were not involved with this research. During the research, I worked for a private sector company that had no affiliation with the participating university. I had no professional, instructor, or supervisory relationships with any of the faculty or student participants at the university where I collected the data. I did not know any of the participants prior to the interviews. There were no conflicts of interests because I was participating in this research. During the research, I did not work in the student loan industry, nor did I have any friends or family members who have active loans. This study was purely a scholarly investigation.

Methodology

Participant Selection Logic

The student loan decision-making process was the unit of analysis for the study (Maxwell, 2013). I collected data from undergraduate college students using one-on-one interviews. I selected participants based on their attendance at a four-year public university in the Rocky Mountain region of the United States.

Initially, I thought I would choose *risk seeking* undergraduate college students who had school loan debt above $6,200 by 1 December of their first year. The statewide mean of student loan debt is $24,540 (The Institute for College Access and Success, 2013), so a freshman with $6,200 of debt would track above the mean ($24,540 divided by four years).

On second thought, I decided to interview a cross-section of *immediate college enrollment students* (U.S. Department of Education, 2015a). I attempted to select seven students from each class year (e.g., seven freshmen, seven sophomores, etc.). I looked for a balanced group of participants with half of the participants representing science, technology, engineering, and math (STEM) majors. The other half of the participant population were non-STEM majors. I did not study students attending a private college or students in graduate school. I did not study the decisions of non-traditional students (e.g., students who worked several years and then attended school). I limited the study to students who had a loan.

The optimum sample size is the one that achieves saturation in the interview responses (Patton, 2015). Patton (2015) provided a conceptual answer of *saturation* instead of providing a definite number for a qualitative sample size. *Redundancy* is another word to describe the concept of saturation. Lincoln and Guba (1985) suggested sampling "to the point of redundancy" (as cited in Patton, 2015, p. 300). Lincoln and Guba encouraged the researcher to continue sampling until no new information is gleaned, and the responses start to duplicate previous responses (i.e., redundancy).

For many students, the saturation answer is frustrating and unsatisfying (Mason, 2010). To alleviate tension for new researchers, Mason (2010) did a literature study of 561 qualitative studies that used interviews to see how many samples researchers used for their respective studies. Mason discovered the median sample size was 28 and the mean sample size was 31, but the distribution was non-random. A statistically significant proportion of studies used sample sizes that were multiples of ten. Research papers with a sample size of 20 and a sample size of 30 tied (26 papers each) for the greatest frequency (Mason, 2010). Based on the information provided by Mason, I planned to interview 28 participants and I achieved saturation by interviewing 28 participants.

Procedures for Recruitment and Participation

The population for this study was undergraduate students at a state university in the Rocky Mountain region. Based on Mason's (2010) research on qualitative sample size, I planned to interview 28 participants, seven from each college year group. I used purposeful sampling to identify the 28 participants who had a student loan. I selected 14 students who were STEM majors and 14 non-STEM majors. To recruit the participants, I advertised the study on social media directed at students attending the university and I posted approved invitations in several buildings on campus. Participants self-identified as meeting the inclusion criteria.

All of the participants were volunteers. The participants were free to end the interview early and were not required to provide any explanation for ending early. I provided $30 in cash to the participants to compensate them for their time. I conducted the interviews in an approved meeting room on campus. I scheduled the interviews for a

one-hour session. I anticipated the active interview portion would take 45 minutes. I planned the extra 15 minutes for transition and for completing the consent form. I talked with the participants one at a time. By the end of the pilot study, the transition and consent form time lasted 10 minutes. The active interview portion averaged 31 minutes.

At the end of the interview, I thanked the students for their participation and reminded them that I would send them a copy of the transcript. I escorted them to the building entrance. I sent every student a copy of the transcript for member checking.

Pilot Study

The pilot study was a dress rehearsal of the data collection portion of the formal study. The objective of the pilot study was to test the researcher developed interview protocol and the instructions. After I obtained IRB approval (Walden IRB approval number 06-14-16-0417805), I conducted three practice interviews using the protocol in Appendix D. I made an audio recording of the pilot interviews. I conducted the pilot interviews exactly as I planned to do the interviews with the research participants. The students who participated in the pilot study did not participate in the main study. I used the pilot study transcripts to do a practice analysis of the results. During the practice analysis, I looked for consistency between the interview responses and the research questions. In other words, I wanted to confirm the interview responses provided the data needed to answer the research questions.

Data Collection

Yin (2014) indicated there are at least six possible sources of evidence for case studies. The sources are documents, archival records, interviews, direct observation,

participant observation, and physical artifacts (Yin, 2014). I used recorded face-to-face interviews as the primary data collection tool for my dissertation. I was the primary collection instrument. I used the interview protocol in Appendix D to guide the collection of the data. The participant's words were the fruit of the collection process. I collected the data using an audio recorder and supplemented the data with field notes. I recorded the metadata for each interview in an electronic research log. I used a journal to capture my thoughts and reflections about the interviews. I updated the research log and journal immediately after each interview.

Step one of my data collection process was receiving IRB approval to collect data. The IRB review included a review of my consent form and my interview protocol. This review by experts outside of my committee served as a safeguard that I planned to treat my participants appropriately. The IRB review provided additional credibility for my interview protocol.

Step two of the process was the solicitation for and selection of participants. I described this step in the Procedures for Recruitment and Participation section above. Patton (2015) suggested that I collect the case study data at the lowest unit of analysis possible. In my study, I engaged individual undergraduate college students as the lowest level associated with my unit of analysis. Naturally, I entered all of the activities for solicitation and participant selection in my research journal.

In step three, the potential participants contacted me via email or cell phone to notify me they were interested in contributing to the research. Participants had an opportunity to ask questions about the study. Then I scheduled the interview at a time that

was convenient for the participant. I provided a specific rendezvous time, place, and phone number for coordination. Before the interview, I provided the participant with a copy of the consent form, an overview of the research, and some sample questions. My intent was for the participant to have some time to reflect on the topic rather than walking into the interview with a cold start. This technique provided the maximum opportunity for the participant to think about consenting to the research. During the pre-interview step, I confirmed that I had the required contact information (i.e., email and phone number) so I could send the transcript and report for *member checking*. I entered the meta-data of all the communications with potential participants into my data collection log.

Step four was the initial meeting with the participant at the interview location. Doody and Noonan (2013) stressed the interview location was important because it affects the relationship between the participant and interviewer. Doody and Noonan provided considerations for a location that is welcoming and free of distractions. I used an approved meeting room on campus. The meeting room had close access to the reception desk and toilet facilities. It was a quiet room in a public setting. A glass wall for the room faced a common area. During the initial meeting, I wanted to make the participant feel aware of her surroundings and comfortable with the process. I reviewed the consent form with the participant. Before the participant signed the consent form, I asked if she had any questions about the process. I made sure I had a signed copy of the consent form before I continued to the next phase. Once I had a signed consent form, I presented the participant with $30 in cash as compensation for her investment in my

research. The review of the consent form included a reminder that the participant could stop the interview at any time and keep the cash compensation. Then I reminded the participant that I would use an audio recorder to assist me with an accurate collection of the data (i.e., the participant's words). Doody and Noonan wrote that it is critical for me to build trust and rapport in the initial meeting phase because the participant will be more open and honest if she feels like an equal and respected partner in the meeting.

After I accomplished the initial meeting tasks, I was ready to start step five. During step five, I asked the interview questions. Yin (2014) proclaimed that the open-ended case study interview is one of the most important methods for collecting facts and opinions during in-depth exploratory research. The Yin proclamation persuaded me to use face-to-face interviews as my data collection tool. Patton (2015) wrote that a researcher interviews people to learn from them the things she cannot observe directly. To understand the thinking process used by the participants, I needed to go beyond observation and ask open-ended *what* and *how* type questions about their loan decisions.

I wanted the participants to share their sense of reality about the loan decision process (Yin, 2014). I used a semi-structured interview approach that was curious and facilitative: not interrogative (Patton 2015). As much as practical, I wanted to ask each participant the questions on my protocol using the same words, in the same order. Doody and Noonan (2013) wrote that the interview structure makes it easier for a novice researcher to code and find themes in the data. I used the interview protocol to keep me focused on the topic and help me stay on schedule. However, I was not robotic in the data collection so as not to risk missing opportunities for understanding (Patton, 2015). I say

this was a semi-structured interview because I occasionally deviated from the protocol and followed the evidence where it led (Yazan, 2015). I probed and explored ideas predetermined in my codebook. I created the codebook from the concepts discussed in the literature review plus guidance from Saldaña (2013).

My strategy for the sequence I asked questions came from Rubin and Rubin (2012). I started with broad questions that oriented the participant in time and context (Rubin & Rubin, 2012). Then I asked questions with a more narrow focus. For example, one of my last questions addressed the participant's plan for the financial management of college expenses now that she has some experience at college.

I had to be an attentive listener (Rubin & Rubin, 2012). I listened carefully to each response so I could *see* the situation from the perspective of my participant (Rubin & Rubin, 2012). I hoped to gather descriptions from the interviewee that I could later use to weave together a picture of the complicated process (Rubin & Rubin, 2012). An interview is different from a conversation (Rubin & Rubin, 2012). I asked questions that revolved around my research questions. Then I had to let the participant do most of the talking.

This study was an exploratory study involving a single case (i.e., the student loan decision process). I did not be make a cross-case comparison with the data. I did not know where the interview responses would take me. The authors of the literature reviewed in Chapter 2 indicated the interview results would involve elements of rational choice (Becker, 1962) and economic behavior (Baum and Schwartz, 2013), but my exploration could go in a different direction. Miles et al. (2013) argued not to use

structured instrumentation in situations like mine where the interview could lead in many directions. For this reason, I used a semi-structured approach.

Step six of the data collection process was the conclusion of the interview. I provided the participant an opportunity to add information about anything I did not ask. I reminded the participants I would send them information because transcript review and member checking are important parts of the research trustworthiness process. At this point in the meeting, I thanked each participant for investing her precious time to help me with my research. Then I escorted my new friends to the door and thanked them again.

In step seven, I had a professional transcription service convert the audio recording to a transcript. I am not proficient at transcription. Miles et al. (2014) warned against *slippage* that occurs when a person who is not proficient attempts to do transcription. I paid the transcription service with the expectation that I would have a higher quality transcript to work with during the analysis phase. Another consideration was that the transcription service promised a 48-hour turn around on the product. There was no way I could transcribe the interview recording accurately in 48 hours.

I sent the transcript via email to the participant. I respectfully asked the participant to review the transcript and write comments if the transcript was not accurate. If I did not hear back from the participants within seven days, I assumed that silence was agreement.

I also collected documents such as loan applications and loan counseling handouts for use as secondary data sources. Yin (2014) asserted that a unique strength of the case study is its capacity to deal with a variety of evidence. The documents described activities that a student must accomplish to acquire the loan. I thought the wording in the

documents might influence the student's financial decision process. The documents helped me outline the formal loan process.

Data Analysis Plan

Data analysis and interpretation. My role as the researcher included data analysis. I followed the advice of Patton (2015) and used an exploratory case study strategy derived from content analysis of the data. The process was a blend of the search for data themes method associated with phenomenology and the cumulative coding cycles method with reflexive analytical memo writing that is consistent with grounded theory (Bryman, 2012; Maxwell, 2013; Miles et al., 2014).

Qualitative analysis is an inductive process where researchers develop their patterns, categories, and themes from the bottom up (Bryman, 2012; Lichtman, 2013). My overall analysis objective was to produce a valid account that is intelligible and coherent (Dey, 1993). I achieved this objective using the eight-step approach explained below.

In step number one of the data analysis, I organized the data. Traditionally, the phrase *organize the data* refers to transcribing the interviews and arranging the data by types of information (Yin, 2014). I accomplished these activities to organize the data and load it into the computer software. I used the MAXQDA software to assist me with data organization and data analysis. MAXQDA is a powerful software tool for collecting data, storing data, organizing data, and coding data. I used MAXQDA to organize the word documents containing the interview responses (i.e., interview transcripts). Then I walked through the interview responses and created MAXQDA nodes that corresponded to my

codebook. After the coding was complete, I used the MAXQDA tools to assist in the analysis of the data and identify themes.

The organization process started with the literature review. I started my reflection of the overall meaning of my data by developing a concept map derived from existing literature (see Appendix B). The concept diagram I developed during the literature review was helpful in organizing my thoughts about the information, developing the interview protocol, and developing the first draft of the codebook.

During step two, I obtained a general sense of the information and reflected on the overall meaning of the collected data (Patton, 2015). I read each interview transcript all the way through without stopping to consider a specific concept. Maxwell (2013) encouraged the researcher to begin working with data immediately and not wait for all of the data collection to be completed. For this reason, I read each transcript in its entirety within 24 hours of receiving the transcript. I did not wait until I had all of the transcripts and then try to create a general impression of the data.

In step three, I did more organizing of the data and then started coding the data. In this phase, I began by entering all of the transcript documents in the MAXQDA software. I made sure I identified the data with only the participant's number. There was no information in the transcripts that someone could use to identify an individual. There were a few cases where someone might use a combination of unique data to identify someone. In those situations, I redacted the data about towns and schools that were unique to the participant. The redactions did not affect the research. I entered the initial codebook in the software. Then I began coding (Miles et al., 2014) or categorizing as

Maxwell (2013) described the process. Lichtman (2013) encouraged coders to look at documents and ask questions about the material. For example, what is a brief summary of the participant's comments? I found descriptive words to label topics and abbreviate the topics into codes. Saldaña (2013) directed researchers to use a first and second cycle coding process. The first cycle involved assigning the initial word or short phrase that summarized a portion of the text or image (Saldaña, 2013). For example, I assigned the code *herding* to a sentence in the transcript where the participant explained selecting a university because that is where some of his family had attended college. Miles et al. (2013) listed 25 first cycle coding methods. The 25 methods fall into the three elemental methods of *descriptive*, *In Vivo*, and *process* coding (Miles et al., 2013). I concentrated on *process coding* because this study was about the student loan decision-making process. The first cycle coding included sub-coding (Saldaña, 2013). As the term implies, sub-coding is assigning codes that are subordinate to a higher-level code (Saldaña, 2013).

I referred to step four in my process as the *description* step (Dey, 1993). This step was consistent with the second cycle coding prescribed by Saldaña (2013). In this step, I looked for patterns in the data and used pattern codes (Saldaña, 2013). Categories or themes, causes - explanations, people relationships, and theoretical constructs are the four pattern codes described by Miles et al. (2013). Pattern codes should aggregate material into smaller groups of data (i.e., categories) that start to identify emerging themes or explanations (Miles et al., 2013). Dey (1993) wrote a section that described a similar process. Dey said the researcher should classify the data and begin to make logical connections between the data.

I read seven different publications on qualitative data analysis and discovered there was no consistency in how the authors described the analysis process. For example, the seven authors used the term *category* in three different ways. I tried to be consistent in how I used the analysis terms. In this paper, the term *code* is the label I used to assign symbolic meaning to a phrase or sentence of text (Saldaña, 2013). A category is the next level in my hierarchy. In my paper, categories are a grouping of related codes (Dey, 1993). I had fewer categories, than codes. Dey (1993) uses the term *classes* interchangeably with the term *category*. I avoided using the terms *classes* and *codification* (Saldaña, 2013). In this paper, a *theme* is the next level up from category in the hierarchy. A theme represents a pattern, trend or concept in the categories (Saldaña, 2013). As I continued with the bottom-up analysis, I started to notice a few repeating themes in the coded data. The next challenge I faced was to *richly describe* the themes (Patton, 2015). The intricate descriptions of the themes explained in the qualitative narrative became the findings of my research (Patton, 2015). The themes that emerged from my analysis were the answers to my research questions (Saldaña, 2013). I worked iteratively with the data until the themes told me a story.

In step five, I used the pattern matching technique explained by Yin (2014). At this point in the analysis, I looked to see how well first cycle codes matched the predicted patterns prescribed in the conceptual frameworks. I read the transcripts looking for terms, expressions, and concepts used to explain the rational choice theory, economic behavior, and the consumer decision model in the literature (Yin, 2014).

In step six of my analysis, I looked for themes in the coding. To help me visualize the story, I used the MAXQDA *code matrix browser* feature to see the results (Miles et al., 2013; Patton, 2015). I looked for clustering and patterns in the data (Miles et al., 2013). I also looked for a logical chain of evidence in the interview data that represented the student loan decision process (Miles et al., 2013). During step six, I diagramed the student loan decision process based on my data analysis (Miles et al., 2013). I wrote answers to the supporting research questions in the Study Results section of Chapter 4, and identified the three behavioral economic themes.

Step seven was the *sense-making* phase of my analysis. In this step, I made an interpretation of the data and documented the interpretation in Chapter 5. At this point in the analysis, I moved past the descriptive data and determined the significance of the information (Patton, 2015). I wrote my initial interpretation of the case as I saw it in the data (Yin, 2014). Then I challenged my initial interpretation with alternative explanations (Miles et al., 2013; Yin, 2014). I applied the advice of Yin (2014) to pattern match for rival explanations for the data. During the literature review, I identified financial literacy, access to information, math skills, and attitudes toward borrowing as possible alternative explanations for the student loan default phenomenon. I compared the coding results with the associated literature in Chapter 2. I looked to see if the data confirmed information presented in the literature review or if my data supported a conflicting view (Patton, 2015). A third option was that my data pointed to a new concept that no one has written about (Patton, 2015). My responsibility in this phase was to convert the data into a story that explained the lesson learned (Lincoln & Guba, 1985). An important part of step

seven was reviewing my research questions. I wanted to see how well the data answered the research question. My task was to listen to the collective voices of my participants and answer the research questions from the perspective of my participants. I was listening for commonality in the answers or a diversity of responses across a broad spectrum.

Lichtman (2013) explained that the qualitative analysis process is not as simple as the linear process described above. Dey (1993) used a spiral image to illustrate and explain the iterative analysis process. I entered the spiral at the bottom of the pile of data (i.e., transcripts) and exited the spiral at the top with a narrative (Dey, 1993). In the process, I reviewed and reflected on the data. As the researcher, I circled around and around while touching each topic in the analysis process (Dey, 1993).

Step eight was the *member checking* step. After the dissertation chair approved the draft of Chapters 4 and 5 of this paper, I sent all of the participants an electronic copy of the Study Results section of Chapter 4 and the Interpretations of Findings section of Chapter 5. I asked the participants to provide feedback or make corrections. Loh (2013) wrote about the value of member checking of transcripts. Loh also highlighted a criticism of member checking. The concern is that participants may want to create a better image of themselves or they may have an agenda in changing the transcript. Most of the experts explicitly recommend using member checking as a technique to improve the trustworthiness of qualitative research (Maxwell, 2013; Miles et al., 2013).

Issues of Trustworthiness

Credibility

To improve the quality and credibility of this qualitative study, I used three techniques suggested by Patton (2015). The first technique is *theory triangulation* (Paton, 2015). This technique required me to compare and contrast the data within the three intellectually diverse frameworks. I examined the data in light of the decision science theory presented in the rational choice theory, the psychology based behavioral economics perspective, and the management based consumer decision model. Theory triangulation methodology forced me to see the data from different vantage points and helped me to mitigate assumptions and biases that come with any one theory.

Transcript review was the second technique employed to improve the credibility of this study. I emailed a copy of the applicable transcript to each of the participants. In the email, I asked the participant to review the transcript and send me changes if she saw any mistakes in the transcript. Miles et al. (2013) explained the importance of transcript review. The researcher must have good data before the analysis begins. Transcript review was a way to double check the work of the transcription service.

Member checking was the third credibility improvement technique I practiced. *Member checking* (*respondent validation*) is the best way of eliminating misinterpretation of the participant's meaning (Maxwell, 2013). After I wrote and reviewed Chapter 4, I emailed a copy of the Study Results section of Chapter 4 and the Interpretation of Findings section in Chapter 5 to my participants. In the email, I requested the participants send me comments and critiques on the findings.

Transferability

Transferability is the word used to describe how generalizable the results from this study are to the general population or to another population (Lincoln & Guba, 1985; Miles et al., 2014). Miles et al. (2014) wrote that the transferability burden is on the researcher. I attempted to be persuasive and objective in the writing of the findings to convince readers the results have meaning to other groups beyond the participants of my study.

To improve the transferability of the results, Miles et al. (2014) suggested that I document my methodology in detail and keep a research log. I did both. I also used *thick description* when describing the data collection methodology, the data analysis, and the findings from this study (Houghton, Casey, Shaw, & Murphy, 2013). Patton (2015) explained an objective of the thick description is to connect my case study to the broader managerial problems of student debt. Furthermore, Patton stated that the descriptions should help the reader understand the degrees of significance of each finding. I tried to identify the degree of transferability for each of my findings (Houghton et al., 2013).

Dependability

The research process must be consistent, stable over time, and repeatable by other researchers for the results to be dependable (Miles et al., 2014). Miles et al. (2014) advised researchers to document all of the procedures and maintain an audit trail. I provided a detailed documentation of my procedures in this chapter. The transcripts, research log, and journal are available for audit. An indicator of dependability is that the findings are consistent across all data sources (Miles et al., 2014).

Confirmability

Confirmability refers to the degree that other researchers can confirm or corroborate the quality of results (Houghton et al., 2013). I used two strategies for enhancing the confirmability of this study. First, I regarded Yin's caution about *reflexivity*. Reflexivity is the problem that occurs when participants reflect the attitudes or their perception of the desired responses back to the interviewer (Yin, 2014). Maxwell (2013) used the term *reactivity*. Yin (2014) stated that case studies using directed interviews are susceptible to the reflexivity problem. Yin warned that casual conversation with the participant could subtly influence the participant's responses. I guarded against this problem by pilot testing the interview protocol and adhering to the protocol during the interview.

Patton (2015) had a different perspective on reflexivity. Instead of words of caution, Patton encouraged researchers to embrace the concept of reflexivity. Patton said I should increase my self-awareness about the way I view the world because of my age, experience, culture, and education. Patton explained that I could improve the trustworthiness of my study by being transparent about my background, worldview, and biases.

The second strategy to improve confirmability was to conduct a *data audit* that chronicles the data collection and analysis procedures (Lincoln & Guba, 1985). Lincoln and Guba (1985) suggested an analysis of the research processes to identify the potential for bias. I used a research journal to document the data collection process and monitor against reflexivity (Houghton et al., 2013).

Ethical Procedures

To ensure I complied with the informed consent process, I followed the Institutional Review Board (IRB) procedures. I presented my plan to the IRB at Walden University. The Walden University IRB approved the research plan. The Walden IRB approval number for this study was 06-14-16-0417805. I also provided my IRB plan to the staff at the participating university along with my request to access the campus and interact with students. The participating university provided a letter approving my request to conduct research on the campus and interact with students as described in my IRB plan. I received approval from the Walden IRB and the staff at the participating university before I contacted any participants.

The approved consent form (Appendix C) provided written explanation of the participant's rights. The written form explained the purpose of the study, the right of the participant to stop the interview at any time, and my responsibility to safeguard the confidentiality of the data. I asked the participants to sign the written form.

Participants in the study were volunteers. The participants were free to end the interview early and were not required to provide any explanation for stopping early. I provided $30 in cash to participants to compensate them for their time. All of the interviews ended in less than one hour. The one hour included time for transition and completing the consent form.

I did not want to cause any distressing thoughts for my participants, so I used the pilot study to ensure the protocol questions collected data to answer the research question without raising negative emotions about the debt. To this end, I did not ask how much

debt the students had accumulated, nor did I ask any personal questions about their financial situation. I had a plan to discontinue the interview if a question evoked a negative emotional response from the participant. Fortunately, I did not encounter any emotional situations.

I maintained confidentiality for the participants by collecting and storing the participants name and contact information in a separate database (research log) from the interview responses. I used a participant number to relate the data to consent forms and transcripts if follow-up was required.

I collected the interview data using an audio recorder and paper field notes. I maintained the participant names and contact information in an independent digital file on an external hard drive. The participant names and contact information are stored in a locked drawer separate from the transcript information. A professional transcription service transcribed the audio data into digital word documents. The audio files and digital transcripts did not contain personal identification information. As a precaution, I had a legal representative of the transcription service sign a non-disclosure agreement.

I uploaded the digital word documents into the analysis software. During the data collection and analysis phase, I safeguarded the audio and digital transcripts in my home on a password protected external hard drive that is air gapped from the internet. The paper field notes and the external hard drive are stored in a locked desk drawer. Backup files and the post analysis data (paper and electronic) will be stored for five years on a password protected and encrypted external hard drive in my safety deposit box at my bank. I will shred all of the paper materials (e.g., field notes) after the five-year hold

period. At the end of the five-year period, I will wipe the external hard drive containing the audio files, digital transcripts, and analysis using a data destruction program such as DBAN. Likewise, I will conduct a data destruct of the participant information files.

Summary

In Chapter 3, I described the design for this qualitative study using an exploratory case study strategy. The primary data collection method was face-to-face interviews with students who voluntarily responded to the invitation to participate in the study. My plan was to interview 28 undergraduate students at a public university and I interviewed 28 participants. For the data analysis, I practiced the inductive investigation technique using the iterative process described by Yin (2014) and Miles et al. (2014) to identify themes in the data. Throughout the research, I upheld the *do no harm* ethical standard. My minimum ethical standard throughout the research was adherence to the Walden IRB procedures (Walden University, 2015). At the end of the chapter, I documented the techniques used for the credibility, transferability, dependability, and confirmability of the research (Yazan, 2015). I presented the methodology information in Chapter 3 to prepare the reader for Chapter 4 where I explained the results of the study.

Chapter 4: Results

The purpose of this qualitative case study was to explore and understand the student loan financial decision process using a conceptual framework that contrasts rational choice theory (Becker, 1962; Friedman, 1957) and behavioral economics (Tversky & Kahneman, 1974, 1981, 1986, 1992). Scholars claimed that financial managers have an incomplete understanding of the decision process used by students when they acquire their college loan (Cunningham & Kienzl, 2011; Diamond et al, 2012). The research goal was to provide financial managers with new information that could help them mentor students to make more complete and effective financial decisions. The authors of previous literature suggested that an accurate assessment of the financial decision process might provide managers with a tool for mentoring students in a manner that leads to fewer loan defaults. The loan decision-making process of undergraduate students was the central phenomenon under study. The central research question was: How do undergraduate students make the financial management decision to incur debt to pay for their college education?

In this chapter, I provided information about the data collection and data analysis phase. I specifically addressed the pilot study, the research setting, the demographics of the interviewees, the evidence of trustworthiness, and the study results. The results of the data analysis are the heart of this chapter. I presented the study results as an answer to the central research question and answers to the four supporting research questions.

Pilot Study

The pilot study was a dress rehearsal of the data collection portion of the formal study. The objective of the pilot study was to test the researcher developed interview protocol and the instructions. After I received IRB approval (Walden University approval number 06-14-16-0417805), I conducted three practice interviews using the protocol in Appendix D. I made an audio recording of the pilot interviews. I conducted the interviews exactly as I planned to do the interview with the research participants. In general, I conducted the pilot study as I proposed in Chapter 3 and the IRB Application.

The pilot study was the catalyst for me to address the logistical activities required for the study. After I had the IRB approval, I printed copies of the official Consent Form and the approved Invitation to Participate. I kept these in a binder with the Approval Letter from the participating university, and the Non-Disclosure Agreement with the transcription service. I started a journal and created a participation log.

I went to the participating university and posted an Invitation to Participate in compliance with the university's bulletin board policy. I also created a Facebook page and posted the Consent Form and the Invitation to Participate on the Facebook page. I circulated the Facebook link to my social network.

During the Pilot Study, I interviewed one female and two male students. All the students were undergraduate students between the ages of 18 and 23 years. One student was a sophomore, and two were seniors. Two of the students were science-technology-engineering-technology (STEM) majors. One of the students was not a STEM major.

The pilot study administration and interview portions went smoothly. During the process, I re-arranged some of the protocol questions to make the interview flow more smoothly. I was able to refine my presentation and talk through the consent form in 10 minutes. I improved my interview technique and was able to conduct the interview in 30-35 minutes. I learned from the pilot study that I needed to offer $30 in cash instead of a $20 gift card to incentivize a sufficient number of participants. I submitted a request to the Walden IRB to change the compensation.

Three weeks later, I had the IRB approval for the requested change. I returned to the participating university to post the revised Invitation to Participate and start conducting interviews.

Research Setting

The study population for this research was undergraduate students, ages 18 through 23 years, who attended a public four-year university in the Rocky Mountain region of the United States. I interviewed 28 students that met the selection criteria. I presented table of the detailed demographic information in the Demographic section of this chapter.

I conducted the interviews in an approved meeting room on campus. The meeting room had close access to the reception desk and toilet facilities. It was a quiet room in a public setting. During the initial meeting, I made an effort to make the participants feel aware of their surroundings and comfortable with the process. I reviewed the consent form with the participants. Before each participant signed the consent form, I asked if the potential participant had any questions about the process. I had obtained a signed copy of

the consent form before I asked any interview questions. I completed all of the interviews within the planned one-hour time window. The average meeting time was 45 minutes. I conducted the interviews during the first half of the fall semester. I was not aware of any personal or organizational conditions that influenced participants at the time of the study. I was not aware of any personal or organizational conditions that might influence the interpretation of the study results.

Demographics

I interviewed 28 students who attended a public university in a Rocky Mountain state. All of the participants were fluent in the English language. The students were undergraduate students between the ages of 18 and 23. Six students were freshmen, eight were sophomores, six students were juniors, and eight were seniors. Fourteen of the students identified their academic major as Science, Technology, Engineering or Mathematics (STEM). The other fourteen identified their academic major as something other than STEM (e.g., business). Fourteen of the students were female (f) and 14 students were male (m). I outlined the demographic data in Table 2.

Table 2

Participant Demographics

Participant ID	Class	Academic Major	Gender
Pilot Test			
P11	Senior	non-STEM	m
P12	Sophmore	STEM	m
P13	Senior	STEM	f
Main Study			
P14	Sophmore	STEM	m
P15	Sophmore	STEM	f
P16	Senior	STEM	f
P17	Sophmore	STEM	m
P18x	*data rejected / non-traditional student*		
P19	Junior	STEM	m
P20	Fresh	STEM	m
P21	Junior	STEM	m
P22	Senior	non-STEM	f
P23	Junior	non-STEM	f
P24	Junior	non-STEM	m
P25	Senior	non-STEM	f
P26	Senior	non-STEM	m
P27	Fresh	non-STEM	f
P28	Sophmore	non-STEM	f
P29	Senior	non-STEM	f
P30	Sophmore	STEM	f
P31	Sophmore	STEM	f
P32	Junior	STEM	m
P33x	*data rejected / non-traditional student*		
P34	Sophmore	non-STEM	f
P35	Sophmore	non-STEM	f
P36	Senior	non-STEM	m
P37	Fresh	STEM	m
P38	Senior	non-STEM	m
P39	Fresh	STEM	m
P40	Fresh	STEM	m
P41	Junior	STEM	f
P42	Fresh	non-STEM	f
P43	Senior	non-STEM	m

Note. Science, Technology, Engineering and Mathematics (STEM), non-STEM is the category for participants with academic majors such as business or psychology.

Data Collection

The data collection process started when I received IRB approval to work with human participants. The IRB review included a review of the consent form and the semi-structured interview protocol that I developed. IRB approval was step one of the data collection process.

Step two of the process was the solicitation and selection of participants. I received permission from the university staff to post flyers on bulletin boards at approved locations across the campus. The flyers were identical to the Invitation to Participate approved by the Walden University IRB. I updated the Facebook page and created a WIX.com website where I posted the IRB approved Invitation to Participate and the Consent Form. The websites and the flyers (invitations) included my email address and cell phone number as contact information. I posted the first set of invitations on 18 June 2016. The school staff removed the flyers on the first and third Fridays of each month. I reposted the invitations every two weeks until I had 28 good interviews.

In step three, the potential participants contacted me via email, phone call, or text message. On 19 July, the first student contacted me and we did the first pilot interview on 21 July. It was a very slow summer. The fall semester started on 22 August. Then students contacted me in close succession. I was very busy the next four weeks collecting data. I finished the last interview on 29 September 2016. I was glad that I recorded all of the activities for solicitation and the interview dates in a research journal. The research journal was a valuable resource during the data analysis.

Step four was the initial meeting with the participant at the interview location. I rendezvoused with each participant at the entrance to the building. Then we walked together to an approved meeting room nearby. The rooms were perfect for the interviews. The rooms were in a well-lighted public area. After I had closed the glass door, the rooms were very quiet and free of distractions. I made some welcoming remarks, presented the $30 in cash, and reviewed the consent form with each participant. I emphasized that the process was voluntary and the participant was free to stop the interview at any time. I verbally asked each participant for his or her permission to make an audio recording of the interview. The consent form also included a pre-printed statement about the audio recording. Before the participant signed the consent form, I asked if she/he had any questions about the process. I have signed consent forms from all of the participants.

After we had accomplished the formalities, we were ready to start step five. During step five, I asked the interview questions. I used a semi-structured interview approach that was curious and facilitative. I used the IRB approved interview protocol to guide the discussion and keep me on schedule. I tried to make the interview as much like a conversation as possible. Occasionally I deviated from the 12 prepared questions to gain clarity about a participant's response. Doody and Noonan (2013) counseled new researchers to be disciplined and mirror the same questions with all participants. I tried to heed this advice.

The interviews were free flowing and time passed quickly. I met with each student one time. The average interview time was 31 minutes plus 10 minutes for the opening formalities (approximately 45 minutes per student). There were no incidents

during the interviews. No one asked to skip over a question. I did not detect any stressful emotion. There were numerous periods of laughter and joking from the participants. The data collection occurred almost exactly as planned.

I interviewed everyone over 18 years old who wanted to participate. In total, I interviewed 33 students. Three students composed the pilot study group. Then I interviewed 28 students for the main study. During the interviews, two students identified themselves as non-traditional students. Without saying anything about their ineligibility for the study, I politely completed the interview, and I let them leave with the compensation money. The next day, two more students contacted me. We scheduled and accomplished the interviews. Then I removed the flyers on campus and posted a completion note on the websites.

Data Analysis

My strategy in this exploratory case study was to derive findings from content analysis of the data. The process was a blend of the search for data themes method associated with phenomenology and the cumulative coding cycles method with reflexive analytical memo writing that is consistent with grounded theory (Bryman, 2012: Maxwell, 2013; Miles et al., 2014).

In step number one of the data analysis, I organized the data. I had the interview audio files transcribed. The transcripts came back as word documents. There was no information in the transcripts that someone could use to identify participants, so I assigned a participant number to each document to keep them organized. Then I imported the documents into the MaxQDA computer software.

During step two, I attempted to develop a general sense of the information and reflect on the overall meaning of the collected data (Patton, 2015). I followed the advice of Maxwell (2013) who encouraged researchers to begin working with data immediately. I did not wait until I had all the transcripts and then try to create a general impression of the data. I read each transcript in its entirety as soon as the transcript was available.

In step three, I started coding the data. In this phase, I imported the transcripts one by one into the MaxQDA software. During the pilot study, I created the first draft of the codebook in the software. Then I began *coding.* I assigned a term or short phrase from the literature review to describe sections of the transcript (Miles et al., 2014).

I used the *first* and *second* cycle coding process described by Saldaña (2013). In the first cycle, I assigned the initial word or short phrase that summarized a portion of the text (Saldaña, 2013). I concentrated on *process coding* because this study was about the student loan decision-making process. The coding also included *descriptive* coding (Miles et al., 2013). As I went through the first cycle coding, I had to add a few terms to expand the codebook. The first cycle coding included sub-coding (Saldaña, 2013). Sub-coding is the act of assigning codes that are subordinate to a higher-level code (Saldaña, 2013). I used the technique described by Maxwell (2013) and called the higher-level codes *categories* and I identified the sub-codes as simply *codes.* I presented the categories and codes in Appendix E.

Step four of the analysis process was the *description* step (Dey, 1993). This step was consistent with the second cycle coding prescribed by Saldaña (2013) and was the next iteration of categorization. In this step, I looked for patterns in the data and used

pattern codes (Saldaña, 2013). Miles et al. (2013) described the four pattern codes as (a) categories or themes; (b) causes – explanations; (c) people relationships; and (d) theoretical constructs. For example, in the first cycle coding, I identified segments of the transcript with the codes *complexity*, *fear*, and *herding*. Authors frequently used these terms in the literature about behavioral economics. In the second cycle coding, I aggregated these terms into a category titled *behavioral economics*. Then I looked for patterns or emerging themes in how the participants talked about these topics (Miles et al., 2013). For example, I coded P14's statement, "I ended up going to the college that my sister went to, my sister and her husband," as an example of *herding*. I also coded P36's statement, "I would say most of my close friends all went to college at different places," as a counter example of herding. During this phase of the data analysis, I looked through all of the data related to herding for a pattern. In the case of herding, I saw evidence of herding, but not a compelling theme of herding behavior (Price, 2013). I explained the three themes I found in the Study Results section of this chapter.

In step five, I practiced the *pattern matching* technique explained by Yin (2014). I looked to see how well first cycle codes matched the conceptual frameworks described in the literature review. I examined the transcripts for terms, expressions, and concepts used to explain the rational choice theory, economic behavior, and the consumer decision model in the literature (Yin, 2014). This portion of the analysis strongly overlapped with step three, the first cycle coding. The codebook I used for first cycle coding was derived from the conceptual frameworks. The pattern prediction work in step five consisted of a closer look at the words or phrases that appeared in the interview transcripts.

In step six of the analysis, I looked for themes in the coding. To help me visualize the story, I used the Summary Grid feature of the Analysis Tools available in the MaxQDA software. I looked for clustering and patterns in the data (Miles et al., 2013). I also looked for a logical chain of evidence in the interview data that represented the student loan decision process (Miles et al., 2013). During step six of the analysis, I diagramed the student loan decision process to answer the central research question (see Figure 5). I wrote answers to the supporting research questions in the Study Results section of Chapter 4, and identified the three behavioral economic themes.

In step seven, I made an interpretation of the data and documented the interpretation in Chapter 5. At this point of the analysis, I moved past the descriptive data and determined the significance of the information (Patton, 2015). Step seven was the *sense-making* phase of the analysis. I wrote the initial interpretation of the case as I saw it in the data (Yin, 2014). Then I challenged the initial interpretation with alternative explanations (Miles et al., 2013; Yin, 2014).

Step eight was the *member checking* step. Did the participants agree with the interpretations? After the dissertation chair had approved the draft of Chapters 4 and 5 of this paper, I sent all of the participants an electronic copy of the Study Results section of Chapter 4 and the Interpretations of Findings section of Chapter 5. In the accompanying email, I asked the participants to provide feedback or guide me in making corrections.

Evidence of Trustworthiness

Credibility

I used three techniques to establish the credibility of this research. The first technique was *theory triangulation* (Paton, 2015). I compared and contrasted the data within the three intellectually diverse frameworks. I examined the data in light of the decision science literature presented as rational choice theory, the psychology based behavioral economics perspective, and the management based consumer decision model. Theory triangulation methodology forced me to see the data from different vantage points.

Transcript review was the second technique employed to improve the credibility of this study. I emailed a copy of the applicable transcript to each of the participants. In the email, I asked the participant to review the transcript and send me changes if he saw any mistakes in the transcript. Miles et al. (2013) explained the importance of transcript review. The researcher must have good data before the analysis begins. Transcript review was a way to double check the work of the transcription service. One transcript did not reach the participant because I had a bad email address. None of the participants who received the transcript responded with changes. In the assessment, the commercial transcription service did an excellent job of transcribing the audio files to text.

Member checking was the third credibility improvement technique I practiced. *Member checking* (*respondent validation*) is the best way of eliminating misinterpretation of the participant's meaning (Maxwell, 2013). After I wrote and reviewed Chapters 4 and 5, I emailed a copy of the Study Results section of Chapter 4 and the Interpretation of

Findings section of Chapter 5 to my participants. In the email, I requested the participants send me comments and critiques on the findings and interpretation.

I also used an element of *peer review* to improve the quality of the research analysis. On 19 August 2016, I met with Dr. Anne Hacker to discuss my qualitative coding technique. Dr. Hacker taught the qualitative research methods session at the Walden Residency. I provided Dr. Hacker with the research purpose statement and showed her the research questions. I also showed her the codebook I developed and explained how I the derived codes primarily from the theoretical framework literature as well as significant in-vivo codes. I showed her transcripts and explained how I coded the documents. She asked some questions about the definition of some of the codes, made a suggestion about sub-codes, and shared a technique for consistently using codes. Dr. Hacker said I was knowledgeable about the process. She also said that based on what she saw in the one meeting, my coding process looked correct.

Transferability

Transferability is the word to describe how generalizable the results from a study of a sample are to the general population or to another population (Lincoln & Guba, 1985; Miles et al., 2014). A fellow researcher will likely have consistent results if he or she repeated this study with students at a public four-year university in the United States. The methodology and codebook used in this study would also be transferable to a study involving participants attending a private university in the United States. I think the student loan process results would be consistent. However, I anticipate the decision factors such as the *prestige of school* would appear more frequently and *concern for costs*

would appear less frequently in the transcripts of private school participants. This study about student loans would be irrelevant in a country that provides college education solely at taxpayer expense (e.g., Finland or Germany).

Dependability

Miles et al. (2014) wrote that the research process must be consistent, stable over time, and repeatable by other researchers for the results to be dependable. I have documented in detail all of the procedures for participant solicitation, data collection, and data analysis. The interview protocol and codebook used in this research are in the appendices of the paper. As explained in the *data collection* portion of this chapter, I was very consistent in the execution of the interviews. This study would be easy to repeat for someone who read this paper and used the accompanying artifacts (e.g., the invitation to participate, consent form, interview protocol, and code book).

Confirmability

A researcher can confirm the steps I explained in this study by examining the research log, the signed consent forms, the audio files, and the MaxQDA files. All of the physical evidence confirms that I collected the data in the manner described.

It is more difficult to say whether another researcher would arrive at the same conclusions. I brought a unique perspective to the analysis of the data because of my age, education, experiences, and interest in the topic. In defense of the confirmability of these results, I offer that I am not using this paper to promote any policy or agenda concerning student loan practices. I think the findings are non-controversial and consistent with previous research.

Study Results

Research Question

How do undergraduate students make the financial management decision to incur debt to pay for their college education? This was the central research question of the study. I learned this question has two answers. The first answer was the process answer that explained the multiple steps that occur over several years. The student decided to go to college, selected a school, and then the student realized she needed a loan to pay for the education. The student decided how much of the Financial Aid Package she would accept. Then the student repeated decisions each year she was in school. For the average student, it will take four to six years before she stops making decisions related to student loans (U.S. Department of Education, 2012a). In the *Sequence of the major decisions* section of this chapter, I answered the process elements addressed in the first three supporting research questions.

I learned through the data analysis that this question also has a more complicated psychological version of the answer. I responded to the more nuanced psychological version of the answer with the answer to the fourth supporting question. In the three sections titled *Rational Choice*, *Behavioral Economics*, and *Consumer Decision-making Models,* I provided evidence and explanation for the findings.

What is the sequence of the major decisions in the process? This was the first supporting question. I heard a consistent pattern of behavior among the participants. The pattern involved four decision points (DP): (a) decide to go to college, (b) decide which college to attend, (c) figure out how the student would pay for the college education, and

(d) decide how much of the Financial Aid Package to accept. I illustrated this pattern in Figure 5. The students would take out as much loan as necessary to fill the annual void between the money available and money required for all of the expenses (e.g., tuition, lodging, food, transportation, and books). P39 summarized the student sentiment when he said, as he shook his head from side to side, “The (loan) process was smooth, but it felt like I don't know, it's a last resort type thing because loans are terrible. Yeah. It had to be done.”

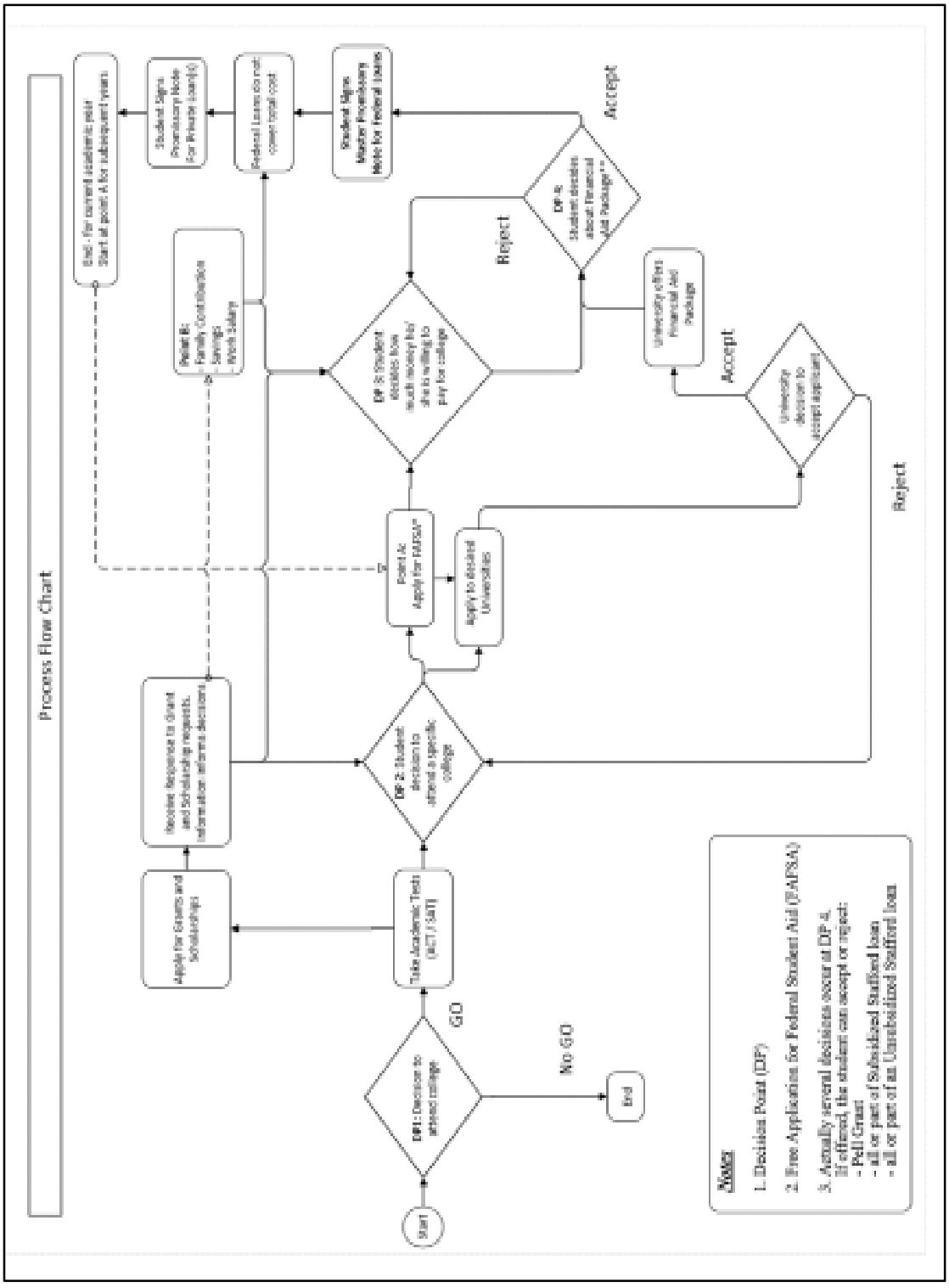

Figure 5. Process Flow Chart

One variation of this pattern was whether the student committed to a school

before learning how much grant and scholarship money she would receive for attending the desired school. Grant and scholarship are contingent on completing the Free Application for Federal Student Aid (FAFSA). The laws governing FAFSA changed on 1 October 2016 (White House Press Secretary, 2015). When the students in the study completed their FAFSA applications, they had to submit the FAFSA in a window of time between January and July before the applicable academic year. The majority of students had already made their school choice before they received their Financial Aid Award Letter.

The first step of commitment towards a college education and the loan decision was to sit for a standardized college admission test (either SAT or ACT). P19 stated the situation very bluntly, "Junior year (of high school) sucks because you have to take the ACT." The majority of participants said they took a standardized test in the spring semester of their junior year. Registering for the standardized test and paying the $39.50 in early March was a behavior that revealed the student was seriously planning to attend college. The $39.50 registration fee provided the student an opportunity to send the ACT scores to four universities. Sending standardized test scores to a university subtly drew the student into another important decision, where to go to school. The results of the interviews identified school selection as the next critical step towards the final loan decision.

The next big event for students was completing the online FAFSA form. The results of the FAFSA application review ultimately decided eligibility for federal grants and loans. If the student completed the FAFSA form in sufficient time, a financial aid

award letter explaining the student's eligibility for federal grants and loans accompanied the university's acceptance package.

The school selection decision (D2) was an integral subset of the student loan decision. The school selected was the biggest factor in the overall cost of the student's education. In turn, the cost of the education was the driving factor for the amount of loan money sought by the student. The college cost was composed of three elements related to the school. The primary expense was the tuition charged by the school. The second expense was room and board. The third element was the cost of living in the area the school was located. The cost of room and board varied widely depending on whether the student lived on or off campus and whether the school was located in a high-cost area.

Students practicing rational choice theory should engage in a cost-benefit analysis that compares the benefits of an education from a particular school before committing to enrolling at the school and incurring the costs associated with the four years of schooling (Becker, 1962, 1993). None of the students interviewed in this study described a formal cost-benefit study that involved an analysis of more than five schools. Twenty-one of the 28 participants (75%) described a process of deciding on which college they wanted to attend before they counted the costs for attending school. P22 expressed this process in the statement, "I went with (University A) out of convenience…. I decided on (University A) first, and then the cost being a lot lower was just a bonus." Location of the school seemed more important than cost to the majority of students. P36 provided a representative explanation:

> I knew I wanted to be far enough away from my hometown that my parents couldn't just drop in on me and I wasn't going home all of the time. Close enough so that if I did want to go home or my parents wanted to come and visit it was feasible and worth it. Both schools were about two hours away.

The remaining seven participants (P14, P19, P22, P23, P29, P31, & P43) described an iterative decision process of narrowing the number of possible schools using a combination of decision factors that included costs. I discussed the common decision factors and the iterative decision process later in this chapter. P29 summarized the first iteration of her school selection process as, "I just knew it was probably going to be in-state because it's cheaper. It's not going to be a private college. My mom has opinions about private colleges." This response shows the student was *counting the costs*, but there were other decision factors involved (e.g., her mother's attitude about private schools).

The final step in the process was completing the Entrance Counseling and the Master Promissory Note (MPN) online form at Studentloans.gov. Three of the participants (P32, P37, & P43) seemed knowledgeable about these important steps in their loan process. The majority of the students went through the online form with little awareness of the consequences. The portion of the MPN that students remembered was the requirement to provide personal verification data. The students demonstrated very low knowledge about the terms and conditions of the loans. P26 was representative of the group. He said, "Yeah. I think my parents just told me an amount that I should do and I didn't really question it." I discussed this phenomenon in more detail in the *Loan Decision* section below.

What are the key decision factors in the loan decision process? This was the second supporting question. As discussed earlier in the chapter, the school selection decision (DP 2) was pivotal to the loan decision process. The choice of the school determined the cost of tuition and indirectly the cost of housing. The selection of a school plus the results from the FAFSA assessment combined to determine the student's eligibility for Pell Grants, work-study programs, and federal loans. Each school had options for offering a student academic merit scholarships and athletic scholarships.

Table 3

Top Five Decision Factors Mentioned in the Interviews

Decision Factor	Frequency of code	# of Participants	% of all 28 Participants
Location – Close to home	44	24	85.7%
Career Path	34	21	75.0%
Cost of attending school	30	19	67.9%
Balance / Fit	22	12	42.9%
Academic Program	16	13	46.4%

The participants were quick to respond when asked why they selected one school instead of another school. The criteria the participants articulated are what I titled *decision factors*. Table 3 is a list the top five decision factors I heard. I ordered the list based on the frequency I heard students mention the criteria. The numbers are not statistically significant. I presented the numbers to provide a comparison.

The participants in this study did not make the school selection decision based on a single decision factor. Each participant listed a combination of two or three decision factors she considered in her school selection decision. For each decision factor in the

table, the number of participants was for unique participants (e.g., 21 of the 28 participants mentioned career path). However, several of the participants who said *career path* also mentioned *location* as an important decision factor in their school selection decision.

I need to caution readers about the decision criteria table because there was overlap in the coding. Most notably, the *career path* decision factor and the *academic program* decision factor relate to some of the same comments about selecting a school because the school has an academic program well suited to their career interests.

The decision factors for school selection expressed by the students in this study were generally consistent with their British counterparts in the study completed by Diamond et al. (2012). Diamond et al. found that U.K. students weigh academic reputation, location, distance from home, course suitability, and employment opportunities among the most significant factors in choosing where to attend college. In this study, the participants listed academic reputation of the school low on the list of decision factors, but the other criterion were listed in the top five.

Location was by far the strongest decision factor in the school selection portion of the process. Initially, I coded location as anytime I heard a mention of locality as a consideration. After I re-read the study written by Diamond et al. (2012), I realized the participants talked about the location in three ways. One group was apparently talking about the location of the school regarding its proximity to home. There were two subgroups to this category. The first group valued proximity to home because the participant could save money by living at home and commuting to school. A smaller

subgroup valued that the school was located in a familiar setting. The students liked that they could limit the stress of learning new surroundings while they were also transitioning to a new school environment. The members of this group said that it was important to them to have the support of friends and family close by, even though they chose to live on campus or in a shared house just off campus. The third reference to location related to a unique setting. Three students gravitated to the school because it was close to the mountains. The students liked the availability of outdoor activities such as hiking, rock climbing, and snow skiing. The campus also has an exceptional view of the mountains.

Financial management during and after college. The third supporting question was, "What consideration did the student give for the financial management of the debt during and after college"? I introduced this question early in the research. This was an exploratory study and I did not know which direction it would go. During the literature review, I saw that Wright et al. (2013) postulated that people develop habits of borrowing and spending during their college years that carry over into adult life after graduation. While designing the research for this study, I pondered the idea that poor financial management during the school years would lead students to take on more debt. At the time, this sounded like an interesting question, and it still is. However, after doing the interviews and the data analysis, I realized this question about financial management wanders from the central question about the student loan decision process.

I saw two items of interest in the data related to the question of financial management. First, participants indicated they were generally very frugal. Half of the

participants lived at home to save money at some point in their time at college. P37 said straight out, “I'm like very frugal ... I buy what I need and nothing more. I do my best to save.” P32 echoed the sentiment when he said, “I don't need a parking pass because I can take the shuttle, I mean that's already coming out of my fee. I'm very frugal with my money. I'd rather spend an hour worth of travel time each day than pay $400 a semester.”

Second and more important, I did not have sufficient data to draw any conclusions about financial management and student loans. In general, participants gave indications they were learning how to cut costs at college and minimize the amount of the loans they contracted for in each successive year. However, I learned that I did not aptly design the research to deal with the scope of this supporting question about *financial management*. To separate fact from perception, I would need to know details about the participant's cash flow status and the actual amounts of the loans the participants were undertaking. These details were outside the boundaries of the IRB approval for this study. I think it would be difficult for a new researcher to get IRB approval to ask personal financial details in an interview. This type of research is better suited for an anonymous survey study.

Mental exercise versus an emotional experience. The fourth and last supporting question was, “How much of the loan decision process is a mental exercise versus an emotional experience?” The research methodology did not provide me with the data to answer this question with a precise quantitative answer. What I did with the findings for this portion of the research question was to compare and contrast the participants’

responses to the rational choice and behavioral economics literature. The answer to this supporting question unfolds in the next three sections.

Rational Choice

Rational choice theory was the first perspective used for the conceptual framework triangulation. A dominant theme in the data was that the students were generally pragmatic in their student loan decision-making, but not *rational* optimizers in the economic meaning of the term. I made this claim based on two groups of data I reviewed. First, 12 of 28 students (42.86%) demonstrated frugality by attending a public school close to home and then elected to live at home to save money. However, four of the students admitted their decision was more for convenience than a conscious calculation. Second, over half of the participants said that applying for scholarships was a prudent action that can reduce the need for student loans, but they did not apply for scholarships.

I need to qualify this statement about pragmatic but not rational. If this were a quantitative study, the histogram of the population would show a normal distribution around the declaration about *pragmatic, but not rational.* Two participants demonstrated a very low understanding of the loan process and admitted they needed constant help with financial matters. On the other end of the population, two participants demonstrated very high financial acumen, were very knowable about the federal loan process and talked as if they were rational actors. In the middle was a group of intelligent young people who were trying to get through college while minimizing their debt burden. These students did not talk about utility maximizing or even seeking help from available professionals.

These students wanted to finish school and "I'll worry about (the loans) later I guess" (P36). P38 said, "It was so important for me to be at (University A) that's it was almost like the cost didn't matter."

At one end of the participant spectrum, I had non-rational students such as P29 who admitted, "I avoided applying to any school where I had to write an essay. That kind of took out a lot of them." P35 acknowledged she did not do a cost-benefit analysis and explained, "That's when I kind of just decided, I'm going to take out whatever loans I have to take out and make it work." On the other end of the other end of the spectrum, I saw pragmatic students such as P40 who told me:

> In terms of deciding what college to go to, it was definitely the financial aspect, because I know being from a low-income family, I had to make the right decision of where I'm going to get a good education as well as can I afford it or not. Those are definitely what drove where I was going to go.

I said the students were pragmatic. I support this claim by highlighting the statement on the participating university's website that boasted in 2015 that the average student at the school borrowed $16,780 in federal student loans, "one-third less than the national average, or the approximate cost of a used car." The website also claimed that students at the school had the best repayment rate of federal student loans in the state. The federal student loan default rate at the participating school was 2.9% compared to a national rate of 13.7%. I provided this information to support my claim that the participating university is a good value school that draws students who are thrifty.

Living at home to save money. None of the students did a formal cost-benefit analysis before selecting a school, but after they had started school, they found ways to reduce costs. The strongest evidence that students in the study were pragmatic was the steady drumbeat of comments about living at home to reduce the cost of school to avoid student loan debt. P15 said, "I decided to live at home for as long as I possibly could." P17 spent his first year on campus, then "I moved off campus. Stayed home. It was quite a bit cheaper to not live in the dorms." P19 was also concerned about the cost of living on campus. He said, "I decided if I go to (University A), I'm going to live with my parents, so I can cut the cost room and board."

Grants and scholarships. A grant is gift aid usually provided to students who apply and the awarding organization determines the student has financial need. A scholarship is financial support for a student's education that the student does not have to repay. The two most common types of scholarships that universities award are for academic achievement or athletic prowess. Every dollar a student receives in grants and scholarship money is one less dollar a student needs in loan money. The *rational* actor would invest time and energy in acquiring enough grant and scholarship money in each academic year to pay his education costs for that school year. In the academic year 2012-13, full-time undergraduates at four-year public colleges received an average of $5,750 in grants and scholarships from all sources (Barr, 2014).

Each school has its policies and procedures for awarding grant and scholarship money. It is normal that the same student will receive very different scholarship offers from various schools. Some of the students in the study said they weighed grant and

scholarship money into their school selection decision. For example, one of the participants decided to move from out of state to attend University A because she received a *full ride* athletic scholarship.

The students who considered grant and scholarships in their school selection decision admitted that the opportunity for scholarships in subsequent years was ambiguous and added to the complexity of their decisions. The students said there was plenty of information available about scholarships, but there were conflicting responses about the utility of applying for scholarships. P22 said, “It was a website that had all the opportunities for scholarships, like a list of scholarships you could go and apply for, but it cost money to apply for a lot of those, and it was just a lot of effort.” In contrast, P42 responded, “It was worth the time to look for scholarships? Yes, it was definitely worth it.”

If there is *worth* (i.e., benefit) in applying for scholarships, then I have to question if some of the participants were rational in their loan decision sequence. P31 said, “I get here. I'm looking for scholarships. I realized that scholarships are few and far between. It is really hard to get scholarships. At least, that's my experience.” Her comment, “I get here” (P31), sounds like the student did not research scholarship opportunities until she was already at the school and signed a federal loan. At least she was looking into scholarship opportunities. The senior, P43, told me he did not apply for scholarships. However, at the end of the interview when P43 was asked if he had any advice for high school students contemplating college, he said, "Definitely take advantage of the scholarship applications even though they are pretty tedious and take a lot of time. If you

sit down and put 2, 3 hours into that application, it'll pay off." I presented these examples to support my assertion that the participants have pragmatic ideas, but did not perform as rational actors during their involvement in the loan decision process.

Loan decision. The fourth student decision (DP 4) illustrated in Figure 5 was the loan decision. The student had a decision to make if the university accepted the student for enrollment and offered the student financial aid. Would the student accept or reject the loan offer? Two observations emerged from the data analysis on the *end game* loan decision.

The first observation was that acquiring the federal loan was too easy. The participants mentioned the ease of using a website to make a large financial commitment so frequently that I identified *too easy* as a theme in the findings. The students signed in at a website and in a few minutes they were committed to repaying tens of thousands of dollars in loans. Students described the situation as surreal because they did not touch a stack of money or leave the transaction with a document. When the student clicked the accept button, the university electronically transferred funds to the student's university account to pay for tuition and instantaneously updated the debt amount in the student's FAFSA account. P11 raised my awareness to the situation during the first pilot study interview. P11 said, "Basically, they made it really, really easy for me to get a loan. So easy I don't remember even how I ended up getting these loans." In fewer clicks and with less critical thinking than it takes to make an online Amazon purchase, students made a legal commitment to one of the biggest financial decisions of their lives.

The second observation was that participants demonstrated a very low awareness about the terms of the loan. Only 4 of 28 participants knew the loan's interest rate. The response I received from P42 when I asked about interest rates was, "Not so much. I really didn't know. I was like, okay I can worry about that after I graduate." P28 told me she had a class in high school that explained loans. However, when I asked her about the interest rate on her loan she said, "I don't know. I'm not knowledgeable. Sorry" (P28). Twenty-four of the students gave some version of "I don't know" when asked about the interest rate on the loan. The interest rate on a loan is an important detail required for a rational decision.

The participants provided similar responses to questions about subsidized versus unsubsidized loans. Only a few students knew what the difference meant to the long-term cost of their loan. P31 was forthright in saying, "I have no idea what the difference is. I'll be honest." P30 admitted:

> I never understood the loan. I still fully don't understand the loan. All I know is I'm going to be in debt for a long while after I'm out of college. That kind of sucks. I think the process is too easy.

This absence of understanding about loan mechanics contributes to the finding that the majority of students were not rational actors in the loan decision process. The conclusion was that students did not give much thought about options that would reduce their need for a loan. The majority of students were uninformed about loan details such as the interest rate, loan subsidy, and repayment options. In some cases, the students sounded like taking a loan was a forgone conclusion as soon as they decided to attend

college. I addressed why I think the decisions unfolded in this manner in the section titled Behavioral Economics.

Behavioral Economics

The fourth supporting question inquired whether the loan decision process was a mental exercise or an emotional experience. In this section, I explained what I discovered about the emotional or non-rational aspects of the decision process. Researchers in the field of behavioral economics study the psychological, social, and emotional factors in the decision process. I identified three behavioral economic themes in the student loan decision process. The three themes were: (a) *intention* as explained in the theory of planned behavior; (b) herding; and (c) complexity. The discussion of the data from the behavioral economics perspective provides the second dimension of the conceptual framework triangulation.

Theory of planned behavior. The dominant theme in the findings of this study was how impactful the intention to attend college was in the loan decision process. According to Ajzen (2012), behavioral intentions are the summation of a person's attitude toward the behavior, subjective norms, and the perceived behavioral control to accomplish the behavior. The subjective norm is the person's perceived social pressure to engage or not to engage in the behavior (Ajzen, 2012). Twenty-five of the 28 participants (89%) shared a common message about the social norm in their life to attend college. A strong belief by the students that student loan money furnished the control to accomplish the desired behavior of attending college reinforced this subjective norm. The intention to

attend college was very powerful. Once the student made the decision to attend college, it seemed like they would accept any level of debt to graduate.

All but three of the participants (P20, P21, & P31) told me there was an expectation in their family for the participant to attend college. The participants were determined to find a way to attend college. For example, P14 said, “I had an older sibling in college, so that was always present in my life, just the idea that after high school, you go to college." P19 explained, “My mother has her bachelor's, and my dad has his master's degree. Growing up, it was never a question. I had to go to college.” “I always knew I was going to go to college and that I wanted to go to college” (P22). This finding is consistent with the research of Ajzen (2012) and Churdy et al. (2011). The attitude that earning a college education was a strong force in the participant's drive toward acceptance of the student loan. Graduating college was a subjective norm in their lives, the participants developed an attitude that they would behave in accordance with this social norm, and student loans provided the *control* to overcome the financial barrier to earning a college degree.

Herding. The topic of herding appeared at two decision points (DP1 and DP2) in the research findings. My conclusion about herding differed at each decision point. The first decision point was the choice to attend college (DP1). At this point, I saw clear evidence that 24 of the participants were inclined to follow the herd. As P30 said:

> (Going to college) was never really a question. That's just what is expected of my family. Both my parents went to college. Their parents went to

> college. Their parents went to college. It's not really a question with do I want to or should I. We just go.

When I read this quote during the data analysis, I mentally finished the quote with "we just go"…down the cattle path. As stated in the theory of planned behavior section, after the participants made the decision to attend college, the other decisions started to become predictable.

I interviewed students who were attending college, so the students had an obvious bias to attend college. P20, P21, and P31 were the contrarians in the sample group. These three students did not feel the same compulsion to follow the herd to college. P31 told me:

> None of my friends ended up going to college. I hung out with a crowd in high school that wasn't really big on academics, to say the least. That might have influenced my decision to take a semester off and think; maybe I'm not even going to go to college.

I am curious what the results of a study about herding would be if the research population were all high school graduates of the same age. The population would include people who decided to attend college and people who decided not to attend college. Is there an equally strong herding force that guides young people not to attend college?

The second decision point asked which college the student should attend (DP 2). I anticipated a herding effect by participants to the school attended by friends or family members. The data disproved my assumption that herding would influence the student's decision about school selection. Before I started the interviews for the study, I was

expecting to hear that students would say things that indicated they were following parents or friends to a specific school. I only heard five instances of herding (P14, P15, P17, P26, and P36). P14 was the first participant after the pilot study. P14 said, “I ended up going to the college that my sister went to, my sister and her husband so my brother in law.” His comments so early in the interview process reinforced my bias on this topic. Fortunately, I looked at all of the data and saw that it was the location of the school and not the herding effect that drew all of them to the participating university. P14 also said, "It is a really beautiful part of the state. I always…enjoyed that area and going there was on my mind.” P26 spoke about the herding effect from a different perspective when he said, “I had friends that were here, and that was probably a very large reason that I came here, because of the support system, roommates, stuff like that.”

The herd influence was relatively weak compared with other decision factors the participants mentioned (5 of 28 participants/18%). I heard numerous testimonies that cost and location of the school were much stronger influences. Most participants were not concerned about what their high school friends were doing for college. There were the five participants listed in the previous paragraph who made comments describing herding. Then there was a conspicuous absence of comments about friends or family influencing the decision. P36 provided the only anti-herding comment as he quickly mentioned, “My close friends all went to college at different places.” Then he moved on to talk about entrance exams. The participants displayed a remarkable level of independence from the herd when it came to the college selection decision.

Complexity and satisficing. “It's way too complicated” (P23). In 2006, Dynarski and Scott-Clayton (2006) argued the federal student loan system was very complex and, therefore, the loan decision was difficult for prospective students. Years later some participants in this study would argue the loan system has not improved. P35 captured the feelings of a third of the participants when she said:

> It was a really long and confusing (ordeal). I think that a lot of us, coming from high school, don't really have any idea about how to take on the loan process or even how to do taxes or anything like that. We're coming into it, looking around at everyone, going, "What do we do?" Then we're afraid to ask for help because we're supposed to be adults, and yet we have no idea what we're doing."

In response to the question, “What do we do,” Neth et al. (2014) said that people use heuristics when a decision is complicated. A heuristic is a mental shortcut for simplifying the decision process. Satisficing is the mental shortcut the participants described. Malakhov (2014) used the analogy of the billiards players to explain the satisficing heuristic. Billiard players do not take measurements and perform geometric calculations before taking a shot (Malakhov, 2014). Billiard players quickly assess the situation and shoot. Some players see the angles better than other players do, and some players have more experience to draw from than others do. There were two typical examples of satisficing in this research.

The participants described the use of the satisficing heuristic in the school selection step (D3) and the loan acceptance steps (D4) of the student loan process.

Satisficing is generally effective and efficient, but as Neth et al. (2014) reminded us, the technique can lead to mistakes stemming from bias or misinterpretation of the situation. In this chapter, I identified how the participants used the satisficing heuristic. In Chapter 5, I explained the implications of using the satisficing heuristic. I also suggested techniques managers can use to improve student decision-making and avoid the mistakes cautioned by Neth et al.

Participants acknowledged there are thousands of universities in the United States. Instead of considering all of the school options available and making detailed comparisons, the participants quickly narrowed their school selection to a list of two or three schools. The students looked for the first acceptable school instead of the optimum school. The students applied a decision process that did not discover an optimal choice, but a choice that was sufficient in satisfying the need (Simon, 1956).

P20 did not waste any time with his decision. P20 said, “I only looked at two schools, and I selected the one I was in. Probably my own gut said this was the school I'm going to be in to increase my chances of becoming successful.” P19 described the typical college selection process. “I knew, from the beginning, that I wanted to stay in state” (P19). P19 talked about the academic programs at the three in-state schools on his list and concluded, “From those three, I picked the one.” P35 was another student who operated from a short list of schools to minimize the complexity of the decision. Her advice to other students was, “Definitely don't do what I did because…, now that I look back on it, it was a stupid decision to just focus on one school” (P35).

The steps leading to the student decision about the financial aid package (DP4) were the most complex. The complaints about complexity fell into two general categories. The first category was the scholarship challenge. The second category was the complex nature of the FAFSA process that resulted in the Financial Aid package decision.

Scholarships can help pay for many college expenses. However, I heard a lot of frustration about scholarships and angst about the complexity. I did not see evidence that the students used a systematic search, discovery, and application process to obtain awards. The students made little effort to apply for scholarships, or they used a series of shortcuts. P22 told me that she started to investigate scholarship opportunities, but she became disenchanted with the experience. P22 said, “It cost money to apply for a lot of those, and it was just a lot of effort at the time. I just didn't put (the effort) into it, but I really wish I had.” P30 lamented, "There are so many scholarships out there, and they're all so specific. I thought that I would qualify for a lot of them.” P30 described her process of skimming through websites to search for opportunities. Then P30 said, “It was really hard to find those qualifications and figure out, okay, what do I need to apply for. That was really hard. Whenever I did find one, I would apply for it.” P30 shared her frustration that she was not awarded any scholarships even though she was a minority female. “I didn't get any" (P30)! P31 explained that she did not have a system for looking and applying for scholarships. She was successful in receiving two small awards. However, P31 bemoaned:

> People made it seem as if scholarships are just given out like candy. Like, "Oh, you're left-handed, you can get a scholarship." No. I get here. I'm looking for scholarships. I realized that scholarships are few and far between. It is really hard to get scholarships. At least, that's my experience. Maybe I'm not looking in the right places.

P35 expressed the height of scholarship frustration:

> It was just like, “Sign up for this and you can sign up for all these scholarships.” It's so frustrating to think about because I get all these emails. Then they send you to another website that you have to sign up for, then another one, and another one. It just feels like a waste of my time to figure out how to actually get it. I'm jumping through all kinds of hoops to get to whatever scholarship money you think I could be getting. But I don’t qualify for any.

Part of the student frustration with scholarships was their ignorance about the duration of the scholarship. Most scholarships target incoming freshmen and end after the first year of school. P19 expressed this frustration when he said, “I won a couple of scholarships, but those ran out after my first year of university.”

P17 had a different approach to the scholarship complexity problem. His shortcut technique was to hire scholarship advisors. P17 told me, “It's a group of people, it's their job. You pay them a certain amount of money, and then they basically help you do scholarship application stuff. They use that information you gave them to apply for scholarships for you."

Some students (P22, P25, P26, & P31) thought the FAFSA process was complex because there are many steps to the application that they must accomplish in a specific order. Other students (P23, P29, P30, & P41) described the process as complex because they were not familiar with all of the financial terms. For example, P23 said, "(The FAFSA) was worded in a lot of legal jargon that average person wouldn't understand." The most confusing terms were *subsidized* and *unsubsidized* federal loans. P29 summarized the subsidy confusion with the following: "I remember you'd go to that website and you'd pick which (loans) you wanted. They were *subsidized*, or I'd have to select *unsubsidized*. You'd have to make sure you were picking the right one. I remember my sister messed that up (P29)."

One example of students using the satisficing heuristics was their willingness to accept the advice of anyone who appeared knowledgeable on the subject. Twenty-three of the 28 participants (82%) said they accepted assistance on the FAFSA from a friend or family member. P30 said, "I do remember (the FAFSA) was pretty confusing. You have to do a section yourself and then your parents do the other section. I remember doing it myself and having my mom looking over my shoulder helping me get through." P26 thought an advisor was necessary because the loan process was complicated. P26 said:

> Hopefully, in the future they make it easier for students to figure out what they're signing up for because there are friends of mine that don't have help. They're the first person in their family to have ever gone to college. They can't call mom and dad and ask them what loan they should take out or if they should take out a loan. "

I was intrigued when I saw the satisficing pattern in the data. I was familiar with the concept, but I had not seen satisficing mentioned in the student loan literature. In a review of the literature, I found satisficing in the glossary of the Diamond et al. (2012) study, but the authors did not discuss satisficing in the body of the paper. After the data analysis had identified the student practice of satisficing, I went back and searched the literature databases. I did not find satisficing associated with student loan decisions in any papers. I think this is odd because the school selection step and loan acceptance step of the student loan process lend themselves well to a satisficing approach.

Consumer Decision–Making Models

I referenced the consumer decision and behavior models as the third perspective of the conceptual framework triangulation. Contracting for a student loan is an example of a consumer decision to procure a financial service. I think the BME consumer model applies to the student loan purchase decision. The three columns on the left of the BME diagram (input, information processing, and decision process) accurately reflect the expected actions of a student operating under rational choice theory. The model depicts the actions in a rational sequence. The participants described walking through these steps, such as *Need recognition*, *Search*, and *Purchase*. The far right column of the model, labeled *Influencing Factors*, reflect concepts from the behavior economics literature. The significance of *influencing factors* was definitely in the data analysis.

Subsequent purchase decisions. Assuming a student attends college for four years in his quest for a bachelor's degree, the student will make four decisions to accept or reject a federal student loan. The staff at the Department of Education designed the

federal loan systems to disburse the loan money once per year to cover costs for the immediate academic year (August to May). Students who are considering the idea of taking a loan are required to complete the FAFSA in the months preceding the loan disbursement. As of October 2016, the student can submit the FAFSA as early as October for the academic year starting in the following August. Then the student will typically receive the Financial Aid Award Letter in the spring preceding the academic year. The letter directs the student to a secure website where she will select a loan option. The student's use of her electronic signature completes the loan agreement.

The bottom portion of the BME consumer model (Figure 6) illustrates the *Post Consumption Evaluation* process. The *divestment* path at the bottom of the figure refers to the disposal, recycling, remarketing of a tangible consumer good (Blackwell et al., 2006). This path does not apply to this study. The other two paths are *satisfaction* or *dissatisfaction*. If the student was satisfied with the loan purchase, then the student will repeat the process in future years when loan money is required. The model shows that the student considered the previous satisfactory experience in subsequent Pre-Purchase Evaluation of Alternatives.

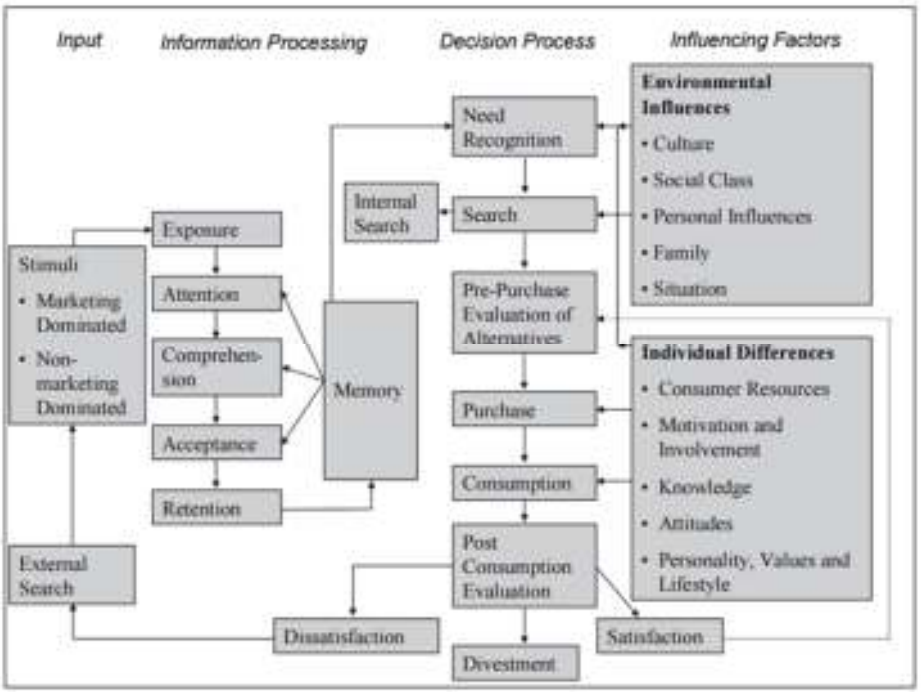

Figure 6. BME Model. Reprinted from *Consumer Behavior (10th ed.),* by R. D. Blackwell, P. W. Miniard, and J. F. Engel, 2006, Mason, OH: Thomson. Copyright 2006 by Thomson. Reprinted with permission.

Theoretically, if the students were dissatisfied with their loans, then the students would conduct an *external search* to find a competitor supplier or a substitute financial good in subsequent years. Nine of the participants (P25, P28, P30, P32, P35, P36, P38, P42, & P43) made comments that indicated they had no alternative options to the federal loan. P36 bluntly said, “It sucks. It's not fun to owe the government thousands of dollars. I think it's necessary.” Whether or not the students were satisfied with their loans, they felt like they had no choice. The students believed the federal government had a monopoly on the student loan process. Therefore, if the student needed money to finish school, then the student had to go to the government in subsequent years for a federal loan.

Related to their sense no choice among loan providers was a capitulation to the sum of loan costs. P36 also said, “I never really kept track of (the costs) just because I was like, As long as I'm here, I don't really know. I don't really care. I'll worry about (paying) later I guess." P43 expressed a similar sentiment by saying, “It was I'll take care of (getting the loan) right now and then worry about (paying) later.”

If the analysis was correct about some students habitually taking subsequent loans without considering alternative funding options, then it is important that students make a well-informed decision the first time they accept a loan. There is an opportunity here for financial managers to guide students and parents through the alternatives. I need to repeat that most of the participants talked about minimizing costs and seeking alternative funding such as scholarships or working. I detected that only seven of the participants (25%) followed this course of action. This path may have been their best course of action. I cannot help but think that more guidance would improve their probability of making wise loan decisions.

Iterative decision-making. I saw a pattern in the data that students make the loan decision iteratively over time. As more information becomes available to the student, the decision factors are modified (i.e., criteria development), and students reevaluated their solutions until a final decision was distilled in the process (Milner & Rosenstreich, 2013). The results of this investigation into the student loan financial consumption activity confirm what Milner and Rosenstreich (2013) said about financial decisions in general. Milner and Rosenstreich concluded that people do not make financial decisions in a single linear progression of steps. People often made large financial decisions iteratively

over time. Milner and Rosenstreich modified the consumer decision model to show an iterative path to decisions that is better suited for financial decisions.

The student loan decision process is a series of tightly coupled decisions including the decision to attend college (DP1), and which college to attend (DP2). Then there are external decisions made that feed the student's decision process. First, there is the external decision made by the Department of Education staff as to whether the student qualifies for federal grants or loans. Second, the university staff uses Department of Education guidance to decide what loans and the quantity of the loans they will offer the student. There is a high level of interdependency on these decisions, so each new piece of information sets in motion a recalculation of potential courses of action. The participants in the research indicated they engaged in this process in earnest for six months to a year. A few students (P15, P21, & P29) reported they just ran out of time and accepted a sub-optimal solution.

P21 said that as the time to start school approached his thought process was, "let's just get in, get going, get done and get out." P21 knew he had not made an optimum decision, but his decision was satisfactory and sufficient given the time available. He was ready to transition from high school into college and press on to graduation.

Summary

I derived the results for this qualitative exploratory case study through the analysis of data obtained from interviews with 28 undergraduate students attending a four-year public university in a Rocky Mountain state. The analysis of qualitative data

provided the information to answer the central research question and the four supporting questions.

I answered the central research question: How do undergraduate students make the financial management decision to incur debt to pay for their college education? I answered the question by developing the process flow chart in Figure 5. The flow chart illustrated that the participants made a decision to attend college, selected a school he or she thought was a *good fit,* and then tried to figure out how they would pay for their college education. The participants contracted for as much loan money as was required to pay their higher education bills. P35 said it best, "Whatever, just so I could pay off school. Then I'd figure out how to pay it back later."

I analyzed the data and identified amplifying information about the student loan decision process. I diagramed the decision process and identified decision variables (i.e., decision factors). I saw in the data evidence that the students in this study were pragmatic in their student loan decision-making, but not *rational* in the economic meaning of the term. I also found three prevalent behavioral economic themes in the decision process of the participants. First, the elements of attitude, subjective norm, and perceived control from the theory of planned behavior appeared to be strong forces in the decision to accept a loan. Second, students described the process as complex. The participants described using the satisficing heuristic to deal with the complexity of their decision process (Hamilton, 2013; Simon 1956). Third, the students used the *default* heuristic (Azar, 2014) when making subsequent loan decisions in their sophomore, junior and senior years of school.

In Chapter 4, I presented the findings from my data analysis. In Chapter 5, I explained the interpretation of these findings. I also explained how this research might provide new information for financial managers that will equip them in counseling future students in their loan decisions. I concluded Chapter 5 by providing recommendations for future research related to the student loan decision process.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative case study was to explore and understand the student loan financial decision process using a conceptual framework that contrasts rational choice theory (Becker, 1962; Friedman, 1957) and behavioral economics (Tversky & Kahneman, 1974, 1981, 1986, 1992). Scholars claimed that financial managers have an incomplete understanding of the decision process used by students when they acquire their college loans (Cunningham & Kienzl, 2011; Diamond et al, 2012). The research goal was to provide financial managers with new information that could help them mentor students to make more complete and effective financial decisions. The authors of previous literature suggested that an accurate assessment of the financial decision process might provide managers with a tool for mentoring students in a manner that leads to fewer loan defaults. The loan decision-making process of undergraduate students was the central phenomenon under study. The loan decision process was also the *case* in this case study. I defined the student loan decision process as the sequence of four major decisions and the indications as to whether the student used a rational choice framework, a behavioral economics framework, or a hybrid framework when making the loan decision. I conducted interviews to collect the data. I designed the study with the goal of using the research results to fill the gap in the literature about the decision process students employed to make this critical financial management decision. Specifically, I hoped to create a model from the study results that financial managers can use to guide students through more complete and effective financial decisions that lead to fewer loan defaults.

I derived the results for this qualitative exploratory case study through the analysis of data obtained from interviews with 28 undergraduate students attending a four-year public university in a Rocky Mountain state. I created a flow chart (Figure 5) to explain the process the undergraduate students followed to make the financial management decision to incur debt to pay for their college education.

The process chart illustrated that participants made a decision to attend college, selected a school he or she thought was a good fit, and then tried to figure out how they would pay for their college education. The participants incurred as much student loan debt as required to pay their higher education bills. P35 said it best, "Whatever, just so I could pay off school. Then I'd figure out how to pay it back later."

I identified three prevailing *behavioral economic* themes in the decision process of the participants. First, the elements of attitude, subjective norm, and perceived control from the theory of planned behavior (Ajzen, 2012) appeared to be strong forces in the decision to accept a loan. Second, students described the process as complex. The participants described using the satisficing heuristic to deal with the complexity of their decision process (Hamilton, 2013; Simon 1956). Third, the students used the *default* heuristic (Azar, 2014) when making subsequent loan decisions in their sophomore, junior, and senior years of school.

In this chapter, I explained the implications of the findings described in Chapter 4. I also highlighted the limitations of this study. I used this chapter to make recommendations for future study. In the closing section of this paper, I talked about the implications this research may have for generating positive social change.

Interpretation of Findings

In this section, I described how the findings confirm, disconfirm, or extend knowledge in the financial management discipline. I compared the findings from this study with peer-reviewed literature introduced in Chapter 2. I found three prevalent behavioral economic themes in the student loan decision process. First, the participants described elements in the theory of planned behavior as strong forces in the decision to accept a loan. Second, students described the process as complex. The participants described using the satisficing heuristic to deal with the complexity of their decision process. Third, the students used the *default* heuristic when making subsequent loan decisions in their sophomore, junior, and senior years of school.

Significance of the Theory of Planned Behavior

The data showed a strong confirmation of the theory of planned behavior model (Chudry et al., 2011). In the case of student loan decisions; the *subjective norm* to attend college, the *attitude* that the social norm is appropriate behavior, and the *perceived control* that the behavior is attainable with easy access to student loans, appeared in the data to be the strongest influence for accepting a student loan (Ajzen, 2012). In my analysis, graduating college was a *subjective norm* for 25 participants. The participants developed an *attitude* that they would behave in accordance with this social norm and student loans provided the *perceived control* to overcome the financial barrier to earning a college degree. The attitude that earning a college education, no matter what the long run cost, was a strong force in the participant's drive toward acceptance of the student loan.

Diamond et al. (2012) discussed the willingness for a student to pay increased tuition after having made the decision to pursue higher education (DP1). Diamond et al. spoke specifically about DP2 scenarios where a student was willing to pay higher tuition for schools that were more expensive just because the schools were more expensive. Diamond et al. explained this non-rational behavior as a *Veblen good* scenario. Economists named *Veblen goods* for the economist Thorstein Veblen who identified an increase in consumer preference for some goods as the price increased (Leaver, 2015). I did not see a Veblen good scenario in this study because the tuition at the participating university was below the median cost of four-year universities in the state. I did however, observe a willingness for students to pay increased prices for higher education. In this study, students demonstrated a willingness to increase their costs incrementally to pay for each subsequent year of schooling. Ajzen's theory of planned behavior explained the commitment of the students to acquire more debt each year until they graduated college.

The convergence of satisficing behavior and the assumption that loans provide the control to attend college can lead students to make sub-optimum decisions. The data led me to believe that students were shortcutting the *search* portion of the consumer decision model (Blackwell et al., 2006). Half of the participants spoke about limiting the cost of school by attending an in-state school and living at home, but only three students seriously considered scholarships as an alternative funding source for college. Long before they started the FAFSA process, all 28 participants were aware that student loans were available. Participants described quickly accepting the federal student loan as a

satisfactory solution before they searched for alternative solutions that might have provided a better *expected value*.

Blackwell et al. (2006) discussed an interrelated phenomenon to the *limited search* situation that I observed. Blackwell et al. discovered that consumers with little initial knowledge about a product or service do less searching for amplifying information to support their decision than consumers who have a moderate beginning knowledge about the product or service. Blackwell et al. concluded that the low knowledge consumer does not even know what questions to ask to gain more knowledge. The Blackwell et al. statement implies that the students who need the most help framing the school loan decision and gathering information are the most likely to accept student loans as a sufficient solution. The students (consumers) with little initial knowledge are the least likely to understand loan mechanics and therefore they are not likely to optimize their loan repayment options.

Significance of Satisficing

I observed that the participants were pragmatic but not rational decision makers. The students did not consider all relevant data nor use a decision model to achieve consistent results to maximize their expected utility (Huettel, 2014). In a related observation, I determined the students used the satisficing heuristic instead of the rational choice methodology to make the decisions illustrated in Figure 5 more manageable. The observation about satisficing is consistent with the research of Huettel (2014), Neth et al. (2014), and Simon (1956). The college selection and student loan decisions were classic

scenarios for using the satisficing heuristic. However, I have not found any academic literature that discusses satisficing in the context of the student loan decision process.

Neth et al. (2014) explained that although satisficing can be effective, this decision technique could lead to mistakes. By definition, if a student is using the satisficing heuristic, he is not considering all of the options that might improve his expected utility. Baum and Schwartz (2013) speculated that people would use the satisficing heuristic when the decision process is complex. The participants in this study described the sequence of decisions in the student loan process as complex. The participants in this study also described their decision process with words indicating the use of the satisficing heuristic. I confirmed the Baum and Schwartz assertion that students navigating the complex student loan decision process employ satisficing behavior.

Significance of the Default Heuristic

Dynarski and Scott-Clayton (2006) wrote that people making decisions are influenced strongly by the *default* course of action. When a decision is challenging, people are likely to choose the path of least resistance. People will opt for the passive or default choice (Baum & Schwartz, 2013). Azar (2014) described this decision-making behavior as using the *default* heuristic. A problem with the default heuristic is that the decision makers have a tendency to choose the default action among several options without investing the time and effort to obtain additional information that allows for a more accurate decision. I observed confirmation of the participants in this study using the *default* heuristic when making subsequent loan decisions in their sophomore, junior, and senior years of school. The study participants described defaulting to use of federal

student loans each year instead of considering non-loan options (e.g., scholarships, cutting costs, and work-study programs).

Limitations of the Study

I had to limit the scope of this study to make the research manageable. However, there were consequences to the overall quality of the results because I limited the population and the research design. There were three significant limitations to the population of this study. I limited the population to students who were: (a) attending a college; (b) attending a public university that does not have a national reputation; and (c) participants who were volunteers for a study that could not provide anonymity. Using interviews for the data collection resulted in a problem during the data analysis. In the paragraphs below, I explained the significance of these limitations.

First, I only interviewed students who were attending college. What about the millions of students who avoided student loan debt by not attending college? For the students in this study, I observed the decision to attend college was pivotal to the decision to accept a student loan. I think it would be beneficial to put these findings into the bigger context of decisions made by all young people, the ones who attended college and the ones who did not attend college. How was the important decision to attend or not attend college made?

Second, I only interviewed students attending one public university that does not have a national reputation. Eighteen of the students (64.29%) expressed being price sensitive and valued the convenience of being close to home over attending a prestigious out-of-state school. These statements imply that other students might be less price

sensitive and prefer to attend *the family school* or a school with a national reputation. The study population was too small and too narrow to address the student's perceived value of the family school or the value of a prestigious school.

Third, I only interviewed volunteers. During the data analysis, I had a sense that I only talked with students who were comfortable with their student loan debt situation. I wondered if there were students at the participating university who had large quantities of debt and were not willing to participate in an interview because the loan topic was difficult for them to discuss.

Lastly, I was not able to ask the students about the financial details of their debt situation. I had good reasons for electing to use interviews as the data collection tool. However, interviews do not allow for anonymity. The IRB rightfully denied the request to ask participants about their specific debt decisions and levels of debt. This information was not required for the study and the IRB considered the information too personal. A researcher could ask these questions in an anonymous survey. I would have liked to compare the data to the responses about financial management, but overcoming the anonymity issue was too complicated and not worth the cost to this study.

Not knowing the level of debt of the participants made it difficult for me to weigh the credibility of their responses against the questions about financial management. The participant could tell me he used best practices for financial management and student loan decision-making, at the same time the participant might have five times the average student loan debt. I had no way to compare responses to the student's debt level. I could not know because the IRB had reservations about me asking detailed questions about

financial status during the interview. I understand and agree with the IRB concern. Anonymous surveys are better data collection instruments for asking detailed personal finance questions.

Recommendations

This exploratory study identified numerous opportunities for further research. I have two specific recommendations for further research. The recommendations relate to the limitations acknowledged in this study.

The first suggestion is for future researchers to perform this study with participants from a private school or a large public school with a national reputation. I am curious if the *herding* behavior may be more dominant at a larger school with a national reputation (e.g., UCLA or University of Alabama). I wonder if the big name schools draw multiple generations of family members or motivate high school seniors to follow their friends to the same college. The untested assumption is that students will weigh relationships or tradition to have greater importance in their *decision calculus* than financials costs or the academic utility of the degree from the selected university.

The second recommendation is for a scholar to study the decision to attend college (DP 1) in more depth. The study should use a population representing all young people, those who attended and did not attend college. I suggest the survey, or interview protocol, include questions that discern how strongly the potential need for a student loan influenced the decision to attend or not to attend college.

Implications

The results of this study provide financial managers with new information that might help them mentor students in decisions to avoid an unmanageable level of debt. The authors of previous literature suggested that an accurate assessment of the financial decision process might provide managers with a tool for mentoring students in a manner that leads to fewer loan defaults.

The majority of students in the nation payoff their student loans on time and benefit from their investment in the education (Abel & Deitz, 2014). Coincidentally, the majority of students in this study (18 of 28) appeared knowledgeable about the process and confident in their loan decision. These 18 students had a mentor to assist them. The confident students identified a parent or a counselor who committed hours of time explaining the process and guiding the students through each of the major steps (e.g., outlining the college selection, identifying scholarship opportunities, completing the FAFSA form, and counting the cost of each school).

However, seven million student borrowers are in default (Dynarski, 2014; Mitchell, 2015), and another 14 million students are estimated to be in delinquency (Cunningham & Kienzel, 2011). The staff at the U.S. Department of Education (2014b) estimated 35% of the borrowers struggle to repay their loans. For quick identification of the struggling students, I refer to them as the *one-third group*. Not only are the students in the *one-third group* concerned about their debt, managers at financial institutions are also concerned. The student loan debt phenomenon directly affects financial managers at

universities, wealth management firms, car dealerships, housing construction companies (Palcious, 2014), and credit unions (Elliott & Nam; 2013, Lammers, 2013).

I accomplished this study to help the students in *the one-third group* who are struggling with the loan process. One third of the participants in this study did not have the luck or luxury of having a mentor. Financial managers could fill this void and provide a valuable service to students while they are making this very important life decision. P15 was one of the confident students. P15 said, "It's certainly good to talk to someone who has either been through that process before or someone who's older and wiser than you."

I offer the results of this study as a tool for financial managers to use while guiding students in the loan process. Here is a list of suggestions for managers:

1. Use the Process Flow Chart (Figure 5) to provide a framework (i.e., structure amidst the ambiguity) and explain the student loan process in the bigger context of all college-related decisions.
2. Reduce the complexity of the process by dissecting the process into the logical steps and explain the significance of each step.
    a. Provide special emphasis on the decision to attend college (DP 1) and the scholarship process. Work with students to decouple the assumption they need to take a loan from the decision to attend college. It is not a forgone conclusion that students have to take a loan. Students may be able to reduce costs, earn scholarships, or work part-time to avoid needing a loan.
    b. Reduce the complexity of the scholarship process

3. Use the list of decision factors in Table 3 to help students clarify and prioritize their higher education objectives.
4. Equip parents and schoolteachers with a *road map* to prepare students for the school loan decision.
5. Help students understand the student loan life cycle and the student's responsibilities in each of the three phases of the loan life cycle. The manager could use the Elements of Student Loan diagram in Appendix B.

Anything a manager can do to encourage a student to look at information beyond the limited information found during the satisficing shortcut can improve the decision process (Neth et al., 2014). A manager can also help students by explaining the *default* heuristic (Azar, 2014) and the tendency of the study participants to default to using loans each year instead of considering non-loan options (e.g., scholarships, cutting costs, and work-study programs).

The contributions of this study could be of interest to practicing financial managers as well as scholars in the management field, parents of students planning to enter college, and students contemplating a loan. Financial managers and policy makers might use the study results to bring positive social change by mitigating the financial stress experienced by students during the student loan decision process. Managers could help students make better decisions by presenting information or options the students would not have considered by using the satisficing heuristic. Billions of tax dollars are wasted each year when students default on their debt, so to some extent the loan decisions affect all taxpayers in the United States (Durbin, 2014). Indirectly, everyone in society

benefits if managers can help students make better decisions that ultimately reduce the number of student loan defaults.

Conclusions

The purpose of this study was to explore the financial management decision process employed by college students when they consider using a loan to pay for their higher education. The college loan decision is a financial management decision that impacts many people for as long as the rest of their lives. Students who make poor loan decisions are adversely affected by stress, health risks, bad credit scores, and legal problems (Brown et al., 2014; Hogan, Bryant, & Overymyer-Day, 2013).

I analyzed the data and identified important information about the student loan decision process. I diagramed the decision process and identified decision variables (i.e., decision factors). The findings indicated that most students are not rational actors. However, many of the participants were pragmatic and frugal in their loan decisions. I also found three prevalent *behavioral economic* themes in the decision process of the participants. First, the participants described elements of the theory of planned behavior as strong forces in the decision to accept a loan. Second, the intention to attend college is related to a herding phenomenon within families. Third, students described the process as complex. The participants described using the satisficing heuristic to deal with the complexity of selecting a school and accepting the federal loan. The students described using the *default* heuristic to deal with the complexity of subsequent loan decisions in their sophomore, junior, and senior years of school.

A few of the participants acknowledged they “still don't know anything about loans” (P30), and they ask, “What do we do?” (P35). I accomplished this study with a goal of helping this segment of the student population. We might see positive social change if financial managers mentor the students who request help. The managers could use the diagrams and findings from this research to reduce complexity in the process for the students. I think managers could help students improve their student loan decisions if managers helped students dissect the complex process and demystify concepts such as unsubsidized loans. If ten students benefit from this study by avoiding the consequences of defaulting on their student loans, then all the time and effort that went into this research is worth the cost.

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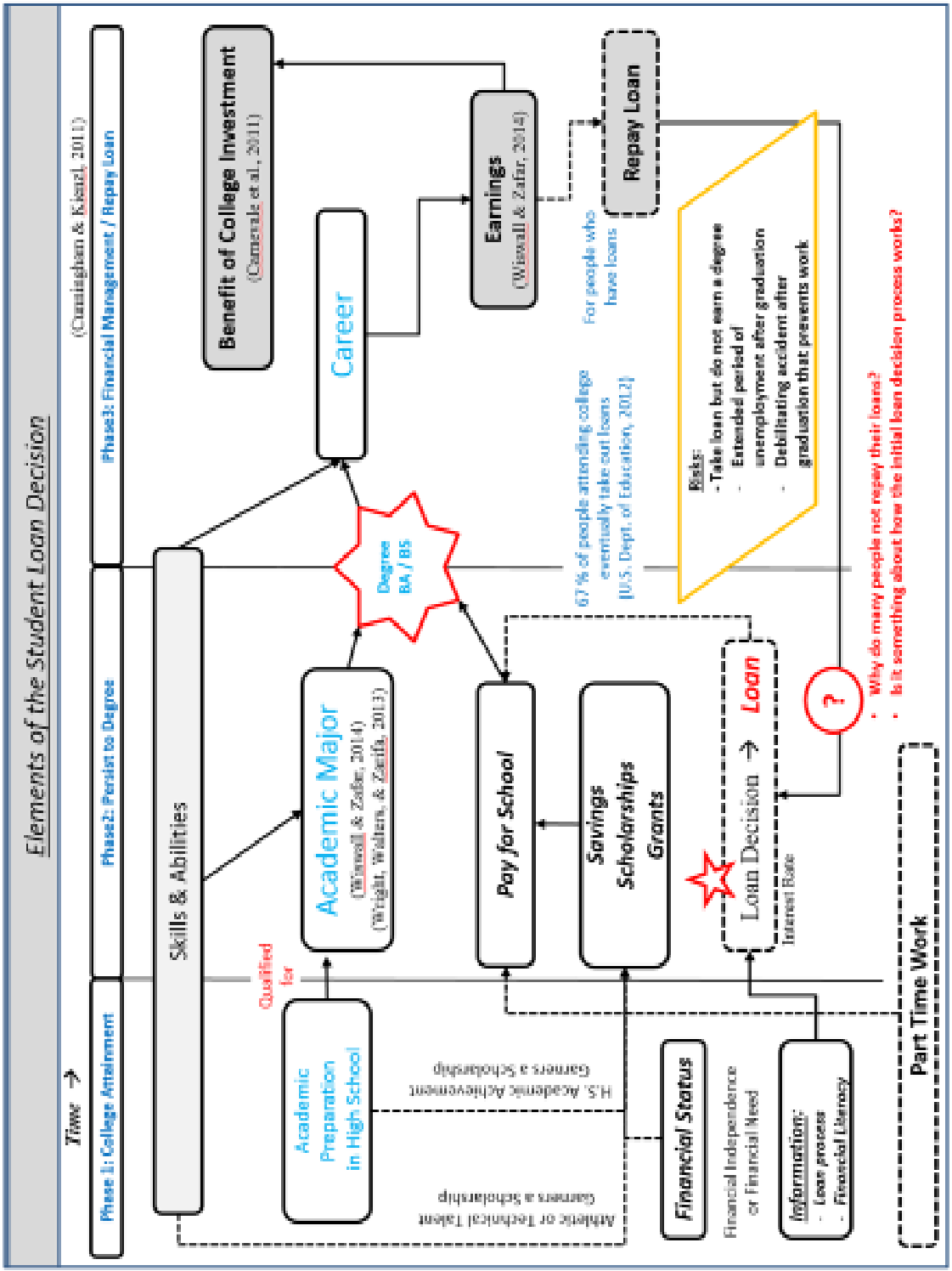
Appendix A: Table of Literature Search

Table 4. Literature Search

Literature Search

Keywords	Books	Conference & Working Papers	Journal Articles	Gov't Websites/data	Dissertations	Totals
behavioral economics	2	7	12			*21*
college attainment		4	6	1		*11*
college debt	1	3	22	3	1	*30*
consumer decisions	1		3		2	*6*
decision model	2		1			*3*
decision research	1	1	2			*4*
decision science		1	4			*5*
default heuristic	2	1	4			*7*
expected utility theory			3			*3*
economics	3			1		*4*
financial decisions	2		4			*6*
financial management	1	2	8	2	1	*14*
financial literacy	1	2	6	2		*11*
human capital theory	2		3			*5*
life-cycle hypothesis	1	2	2			*5*
loan decisions			1	1		*2*
loan process		2	2	3		*7*
permanent income hypothesis			2			*2*
prospect theory			3			*3*
rational choice theory		1	8			*9*
student debt	1	5	7	5		*18*
student loan default		3	8	3		*14*
Baum			4			*4*
Becker	2		3			*5*
Dynarski		4	2			*6*
Engle			3			*3*
Friedman	1		3			*4*
Kahneman	1		7			*8*
Modigliani	1		2			*3*
Perna		2	3			*5*
saticficing heuristic			3		1	*4*
Simon			4			*4*
Thaler	1		2			*3*
Tversky			5			*5*
case study	2		2		3	*7*
grounded theory			2		2	*4*
phenomenology	1	1	1		2	*5*
qualitative analysis	2		3	2		*7*
qualitative interviewing	1		1			*2*
qualitative research	4		2	1		*7*
Totals	*36*	*41*	*163*	*24*	*12*	*276*

Appendix B: Elements of the Student Loan Decision



Appendix C: Interview Protocol

Interview Protocol

Today's Date: → → → → → → **Location:**

Interviewer: → *Mike Wermuth* → → → **Participant #:** → → →

Time Remaining: 60 minutes

Initial meeting at interview location:

- → Introduce myself
- → Point out the rest room, fire exit, and location of library staff
- → Invite the participants to a seat and make them feel welcomed.

INTRODUCTION

Thank you for agreeing to participate in the research interview today. Before we begin I need to remind you of your rights and explain the administrative procedures.

First, I want you to know that my school, Walden University, and the University of Colorado (participant's school) approved this study.

Review the Consent Form and interview process

Do you have any questions about the consent form I sent you prior to this meeting?

I am trying to capture your thoughts and perspectives on the loan process. There are no "right" or "wrong" answers.

This interview is planned to last no longer than one hour. During this time, I have several questions that I would like to cover. As I said earlier, you have the right to stop the interview at any time…no questions asked. Even if you do not complete the interview you are entitled to the compensation gift card.

I want to accurately collect your thoughts. Do you have any objections to me recording the interview? The recording will be kept confidential and safeguarded.

PERMISSION

Do you have questions about the study and how I plan to proceed?

Will you please read and sign this Consent Form *(provide a copy of the form)*

Time Remaining: 50 minutes

Interview Protocol

Time Remaining: 50 minutes

QUESTIONS

1. **Can you tell me at what point in your life you decided to attend a college or university? Do you remember what factors or information influenced that decision?**

Response:

Probe:

- Where did the information come from?
- Did the information come from a movie, a book, something someone said, etc.?
- How did messages from peer groups, family conversations, team members, coaches, teachers, club members affect your college decision?
- "Influence": persuaded, dissuaded, motivated, encouraged, or discouraged you about attending college

(Supporting question 2 and 3)

Interview Protocol

2. **How would you describe your experience of planning for college?**

Response:

Probe:
- How did you decide which school to attend? Please explain.
- Did you decide how you would pay for school? Please explain.
- Which decision came first, "how to pay," or "the school you wanted to attend?"

(Supporting questions 2 & 3)

Time Remaining: 40 minutes

3. **Which school expenses did you accurately anticipate and which expenses, if any, were a surprise after you arrived at school?**

Probe:
- Can you tell me how you investigated school costs?
- Did you keep a mental record of costs, did you write them down as you became aware of them, or did you use some other accounting method?

(Supporting questions 4)

4. **Reflect back to your senior year in high school. As you were preparing for your first college semester, what were your thoughts about paying for school? What was your plan?**

Response:

Probe:
- Which options did you consider and investigate to pay for school (e.g., scholarships, grants, generous friends, loans)? Please explain.

Interview Protocol

(Supporting questions 1, 2, & 3)

Time Remaining: 30 minutes

5. **<u>What</u> were your thoughts and feelings when you decided you needed to borrow money to pay for school?**

Response:

(Supporting questions 1)

6. **How did you decide about the amount of loan and the type of loan you wanted for college?**

<u>Probe:</u>
- What information did you seek to prepare for the decision?
- How did you gather that information?
- Did you think about a repayment plan? What income you would have after college?
- Academic major?

(Supporting questions 1 & 4)

7. **How comfortable did you feel with the loan process? Please explain your thoughts and feelings about the process?**

<u>Probe:</u>
- Did you feel like you knew what was happening and what your responsibilities were?
- Did you feel like you knew when things would happen and what you needed to do?
- Did you know what your interest rate is, when interest starts compounding, and the amount of your first payment?

(Supporting question 1)

Interview Protocol

Time Remaining: 20 minutes

8. **Have you ever thought that you might not complete college? Do you know what happens to your student loan if you do not complete college?**

Response:

(Supporting question 4 / earn degree – repay loan)

9. **What relationship, if any, does your financial management during school have with your student loan?**

Probe:

- Do you keep a mental record of costs, do you write them down as you became aware of them, or do you use some other accounting method?
- Do you have a system of financial boundaries or controlling costs?
- Do you have a legal way of making money to offset school costs?

(Supporting questions 4)

10. **At the time you were planning for college, how did you feel about your preparation for the financial decisions, such as taking on a student loan?**

Response:

(Supporting questions 1 & 3)

11. **How would you describe your thoughts and feelings now that you have had the loan for awhile?**

Response:

(Reflection)

Interview·Protocol¶

Time·Remaining:·10·minutes¶
¶
12.·Is·there·anything·else·you·want·to·tell·me·about·your·loan·or·loan·process·at·this·time?¶
¶
Response:¶
¶
¶
(Open-Ended)¶
¶
Time·Remaining:·2·minutes¶

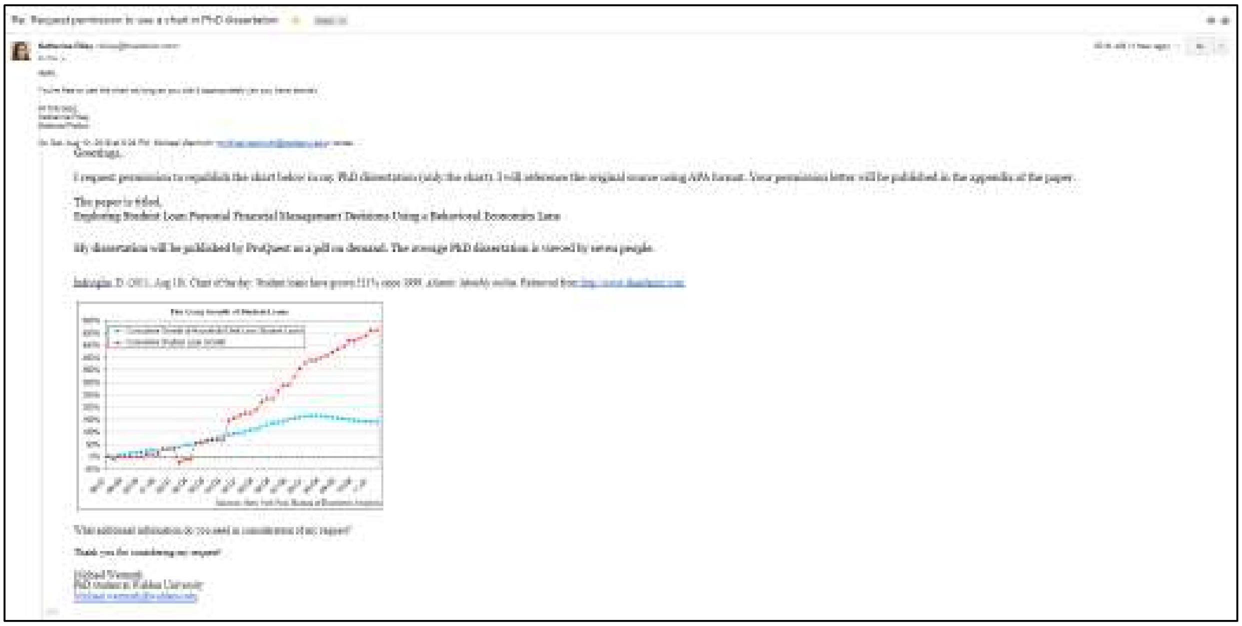
Thanks·again!·¶
Please·accept·this·gift·card·as·small·token·of·my·appreciation·for·your·time·and·effort.¶

Appendix D: Categories and Codes

Categories and Codes	Coded Segments of All Documents	Number of Documents
Categories		
Behavior Economics		
Decision Factor		
Decision Influence		
Decision Sequence		
Expenses at school		
Financial Management		
Information		
Loan		
Planning		
Rational Choice		
Relationships		
Codes (grouped by category)		
Behavior Economics\Complexity	21	10
Behavior Economics\Convenience	3	2
Behavior Economics\Decision Acceptance or Avoidance	7	5
Behavior Economics\Fear	8	8
Behavior Economics\Framing Effect	0	0
Behavior Economics\Herd Behavior	23	14
Behavior Economics\Just do it // Ready to go	11	10
Behavior Economics\Mental Accounting	2	1
Behavior Economics\Optimism Bias	12	7
Behavior Economics\Over-borrowing	0	0
Behavior Economics\Present Bias	1	1
Behavior Economics\Theory of Planned Behavior\Subjective Norm	29	21
Behavior Economics\Theory of Planned Behavior\Attitude (TPB)	25	19
Behavior Economics\Theory of Planned Behavior\Percieved Contr	3	3
Decision Factor\Academic program	16	14
Decision Factor\Alumni network	1	1
Decision Factor\Athletic program	10	5
Decision Factor\Balance or Fit	22	12
Decision Factor\Career Path	34	21
Decision Factor\Class size / Teacher student ratio	6	4
Decision Factor\Cost of attending school	30	19
Decision Factor\Family or Friend Attended	1	1
Decision Factor\Location - close to home	44	24
Decision Factor\Location - unique or special	13	9
Decision Factor\Party School	3	2
Decision Factor\School Prestige	10	8
Decision Factor\Spiritual support	2	2
Decision Influence\Decision Staging / Iterative Decision	5	5
Decision Influence\Confidence	16	10
Decision Influence\Encouragement	4	4
Decision Sequence\Academic major	5	4
Decision Sequence\ACT & SAT tests	19	14
Decision Sequence\Admissions office - acceptance	1	1
Decision Sequence\Career choice	18	13
Decision Sequence\FAFSA	61	28
Decision Sequence\Go to college	32	23
Decision Sequence\Which college	41	20
Decision Sequence\Paying for school\Applied for grants	15	13
Decision Sequence\Paying for school\Applied for scholarship	67	28
Decision Sequence\Paying for school\College Opportunity Fund	2	2
Decision Sequence\Paying for school\GI Bill	3	2
Decision Sequence\Paying for school\Job	54	26
Decision Sequence\Paying for school\Savings	30	20
Decision Sequence\Persist to graduation	14	11

Expenses at school\Books	10	8
Expenses at school\Changed majors	12	9
Expenses at school\Changed schools	13	9
Expenses at school\Gym	1	1
Expenses at school\Food (Board)	10	9
Expenses at school\Entertainment / Self Reward	2	2
Expenses at school\Lab Fees	1	1
Expenses at school\Lodging (Room)	35	19
Expenses at school\Misc. Expenses	6	5
Expenses at school\Parking	5	4
Expenses at school\Transportation	9	7
Expenses at school\Tuition	3	3
Financial Management	76	24
Information\Academic Advisor	9	8
Information\Admissions Advisor	5	3
Information\Availability heuristic (availability bias)	5	5
Information\Career Advisor	4	2
Information\Financial Aid Office	18	12
Information\High School Counselor	19	13
Information\Internet	28	19
Information\Internship	1	1
Information\Mailings from Colleges	2	2
Information\Participant did research	22	18
Information\Personal Information	2	2
Information\Recruiters	6	5
Information\Someone else did Research	4	4
Information\Visited a school	20	15
Loan\Ease of Recieving Loan	25	14
Loan\Government loan website	4	3
Loan\Loan counseling	5	5
Loan\Repayment	3	3
Loan\Repayment window or repayment options.	30	21
Loan\Subsequent Loan	26	12
Loan\Terms of Loan	55	24
Loan\Terms of Loan\Subsidized loan	37	22
Loan\Terms of Loan\Unsubsidized loan	32	21
Planning\Decision Time	18	12
Planning\Heuristic / Rule of Thumb	1	1
Planning\Planning time horizon	23	16
Planning\Planning skill preparation	69	28
Rational Choice\Discipline	14	8
Rational Choice\Rational Ignorance	2	2
Rational Choice\Rational Agent	36	18
Rational Choice\Trade-offs	3	2
Rational Choice\Utility	24	15
Relationships\Coach	6	4
Relationships\Experienced person / been through the struggle	1	1
Relationships\Father	51	22
Relationships\Friend	18	13
Relationships\Grand Parent	2	1
Relationships\Mother	33	18
Relationships\No Parent	0	0
Relationships\Room mate	0	0
Relationships\Siblings	16	15
Relationships\Professor / Teacher	10	6

Appendix E: Permission Statements



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