An investigation of the behavioral, normative, and control beliefs of college students who
do not intend to possess a credit card: A reasoned action approach

by

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B.S., Oklahoma State University, 1977
M.B.A., Oklahoma State University, 1983

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

The School of Family Studies and Human Services
College of Human Ecology

KANSAS STATE UNIVERSITY
Manhattan, Kansas

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Abstract

The purpose of this dissertation was to examine the factors associated with students' intentions to not possess and use a credit card. This dissertation focused on exploring a sample of undergraduate college students who do not possess a credit card. There is little known research on this group of students. The dissertation was directed by the following over-arching research question: The goal of this study was to explore college students' beliefs about not possessing a credit card using the Theory of Reasoned Action (TRA). The research questions for this dissertation were: (a) How is personality (i.e., individual background factor) of undergraduate college students associated with their behavioral, normative, and control beliefs to not possess a credit card, (b) How are education level, age, gender, income level, religiosity, marital status, and ethnicity (i.e., social background factors) of undergraduate college students associated with their behavioral, normative, and control beliefs to not possess a credit card, and (c) How is financial knowledge (i.e., information background factor) of undergraduate college students associated with their behavioral, normative, and control beliefs to not possess a credit card. This study collected primary data. A pilot study was conducted to set the stage for the data collection of the current study. The data analysis methodology for this study consisted of the following four methods: (a) Factor Analysis, (b) Correlation Analysis, (c) MANOVA, and (d) Discriminant Function Analysis. Factor analysis identified questions were used to develop scales to measure the dependent variables. Strong reliability estimates were obtained, ranging from .84 to .94. The MANOVA test identified seven hypotheses with statistically significant results < .05. Control beliefs were significantly associated with personality. The five personality types, extraversion,

agreeableness, conscientiousness, neuroticism, and openness, were all found to be

significantly associated with either behavioral beliefs, control beliefs, or injunctive

normative beliefs. Extraversion, agreeableness, conscientiousness, and neuroticism were

all found to be associated with control beliefs. While agreeableness was also associated

with injunctive normative beliefs, openness was found to be associated with behavioral

beliefs. Financial knowledge was found to be associated with control beliefs.

Discriminant function analysis was performed as a confirmatory test of the results from

the MANOVA test, and supported the results of the MANOVA for six of the hypotheses.

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Chapter 1 - Introduction

Introduction and Statement of the Problem

The U.S. Department of Education's National Center for Education Statistics (2015) reported that 20.2 million students will enroll in colleges and universities in the school year 2015-2016. The literature has shown that approximately 70 percent of college students have a credit card (Lyons, 2004). If this is true, then these statistics imply that 30 percent, or 6.06 million, of all college students do not possess a credit card. If there are approximately 6.06 million college students without a credit card, this raises the following question: why do 6.06 million college students not have a credit card and what is driving their behavior or intentions to not possess a credit card. While most research focuses on students who possess credit cards, this research seeks to understand how individual, social, and information factors influence the beliefs that lead college students not to possess a credit card.

Proper use of credit cards by college students can provide four advantages: (a) learn financial responsibility, (b) build a credit history, (c) build and maintain credit scores, and (d) learn to stay out of unnecessary credit card debt (Kapoor, Dlabay, & Hughes, 2014). College students who do not have a credit card may not believe proper use of credit cards can be beneficial. Learning financial responsibility, building a credit history, building and maintaining credit scores, and learning to stay out of unnecessary credit card debt can help college students make beneficial financial decisions. Conversely, college students who do not have a credit card may believe the disadvantages of having a credit card are greater than the advantages. Kapoor and colleagues (2014)

identified the following four disadvantages of credit cards: (a) overspending, (b) interest charges on unpaid balances, (c) reduced future amounts to spend resulting from payment obligations on credit card balances, and (d) inability to control spending.

Identifying specific individual, social, and information factors that impact beliefs to not possess a credit card are important to five groups: (a) college students, (b) credit card companies, (c) financial counselors, (d) educators and administrators of financial literacy programs, and (e) policy makers. College students who do not have credit cards may realize that specific individual, social, and information factors negatively and/or incorrectly influenced their beliefs about possessing a credit card. The results of this study may enable students to change their beliefs about credit cards and experience the previously mentioned advantages of possessing a credit card. Credit card companies may benefit from this study by gaining greater insight as to why 6.06 million college students do not have a credit card. Not all college students can have a credit card. The CARD Act of 2009 has restricted college students less than 21 years of age from obtaining a credit card unless they have verifiable income or a co-signor. However, this additional knowledge may assist credit card companies in modifying their marketing programs to include students who can benefit from having a credit card. Financial counselors may also benefit from the results of this study by gaining additional insight into the beliefs that lead college students to not possess a credit card. This additional information about beliefs can contribute to enhancing behavior modification programs addressing overspending tendencies and money management. Educators of financial literacy programs can benefit from knowing the specific individual, social, and information factors that impact college student beliefs that lead students to not possess a credit card.

Beliefs that may influence college students' decisions to not possess a credit card could include: (a) perceived social pressures from parents, friends, and relatives, (b) perceived norms of parents, friends, and relatives, or (c) the extent of control students may have over decisions to not possess a credit card. This new information may be helpful in revising current financial literacy curriculum to include information regarding how beliefs impact student decisions to possess a credit card. Policy makers may find the results helpful in crafting future legislation regulating credit card solicitations to college students.

Purpose and Justification of Study

The purpose of this dissertation is to explore the beliefs of an understudied population of college students who do not possess a credit card. More specifically, personality, demographic characteristics, and financial knowledge factors are used to understand such beliefs. One of the goals of this study is to use the Theory of Reasoned Action (TRA) as a framework to begin to understand college student beliefs that lead them to not possess a credit card. As already stated, the majority of studies have been designed to identify the determinants of credit card use by college students. Norvilitis (2015) reported that college students' attitudes about credit cards became more negative after the enactment of the Credit Card Accountability Responsibility and Disclosure Act of 2009. The results suggested additional studies of college student beliefs and attitudes about credit cards are needed. Specifically, studies that address why students do not possess a credit card are needed.

A need exists to focus research efforts on examining students' personality characteristics, demographic characteristics, and financial knowledge factors in order to

understand the beliefs that lead them to not possess a credit card. In addition, research can help inform professionals and researchers about how to alter beliefs of students who do possess a credit card are not savvy about the benefits of possessing one. This may result in identifying inaccurate beliefs that need to be changed. If this is the case, then it may be possible for financial literacy educators to incorporate new information about beliefs into their literacy programs. This research study can move the field forward by providing insight into an area of the literature in which little information is known.

Research Questions and Hypotheses

To guide this study, the theoretical framework of the Theory of Reasoned Action (TRA) and the associated literature were used to construct the following research questions and hypotheses:

Research Question 1: How is personality of undergraduate college students associated with their behavioral, injunctive normative, descriptive normative, and control beliefs to not possess a credit card?

H1. The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment

obligations on unpaid credit card balances, and inability to control spending).

H2. The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H3. The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H4. The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

Research Question 2: How are education level, gender, religiosity, and ethnicity of undergraduate college students who do not intend to obtain a credit card associated with their behavioral, injunctive normative, descriptive normative, and control beliefs?

H5. The education level, gender, religiosity, and ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

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H6. The education level, gender, religiosity, and ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H7. The education level, gender, religiosity, and ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H8. The education level, gender, religiosity, and ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

Research Question 3: How is financial knowledge of undergraduate college students who do not intend to obtain a credit card associated with their behavioral, injunctive normative, descriptive normative, and control beliefs to not possess a credit card?

H9. The financial knowledge of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs, control beliefs, injunctive normative beliefs, and descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

Fishbein and Ajzen (2010) noted that the most significant information regarding the function of background factors (i.e., individual, social, and information factors) are found by exploring the related behavioral, normative, and control beliefs. They further asserted that the most substantive information related to a specific behavior is found by

investigating the associated behavioral, normative, and control beliefs. This form of analysis is postulated to provide insight into how people consider a particular behavior, the consequences of the behavior, the expectations of others, and the resources, barriers, and matters of control. This study will focus on part of Fishbein and Ajzen's theory and attempt to examine students who do not possess credit cards in order to understand factors associated with their beliefs.

Introduction to Theoretical Framework

The Theory of Reasoned Action (TRA) will be used as the theoretical framework for this study. TRA was presented in 1980 by Ajzen and Fishbein, who posited that behavioral, normative, and control beliefs are associated with constructs of attitudes, subjective norms, and perceived behavioral control beliefs, which influence an individual's intention and ultimately behavior (Ajzen, 1991). TRA has three major assumptions: (a) intention is the precursor of actual behavior, (b) intention is determined by three factors (i.e., attitude toward the behavior, subjective norm, and perceived behavioral control), and (c) behavioral, normative, and control beliefs are influenced by various background factors (Ajzen & Fishbein, 2005).

The proposed study will focus on various background factors that influence behavioral, normative, and control beliefs. The independent variables to be tested in this study are personality (i.e., individual background factor), education level, age, gender, income level, religiosity, marital status, and ethnicity (i.e., social background factors), and financial knowledge (i.e., information background factor).

Three dependent variables (i.e., behavioral, normative, and control beliefs) serve as the focus of this study. First, behavioral beliefs are defined as "the subjective

probability that an object has a certain attribute" (Fishbein & Ajzen, 2010, p. 221). Second, normative beliefs are defined as "perceived social pressure to perform (or not to perform) a given behavior" (Fishbein & Ajzen, 2010, p. 130). Individuals develop beliefs about a specific behavior from social pressure, which can be categorized as either injunctive normative beliefs or descriptive normative beliefs. Third, control beliefs are characterized as beliefs, either internal or external, that determine the level of control a person believes he/she has over a particular outcome (Fishbein & Ajzen, 2010). Fishbein and Ajzen (2010) clarified that control beliefs are those beliefs that precede the perception that an individual has or does not have the ability to perform a specific behavior.

Definitions

There are numerous definitions related to the theoretical model used in this study. This section will provide an understanding of the various terms used in Fishbein and Ajzen's (2010) The Theory of Reasoned Action (TRA). The model uses the term *Background Factors*, defined as cultural, personal, and situational factors, or more commonly referred to as socioeconomic status factors. Fishbein and Ajzen (1980) segregated these factors into three categories: (a) *individual background factors*, which are personal characteristics consisting of such factors as personality, emotions, intelligence, and values; (b) *social background factors*, which are social and cultural factors consisting of such factors as age, ethnicity, education, and gender; and (c) *information background factors,* which are sources of information, such as knowledge and media. Financial knowledge will be used as the information background factor for this study. Financial knowledge consists of objective and subjective knowledge (Robb,

Babiaraz, & Woodyard, 2012). Robb et al. (2012) operationalized objective financial knowledge as the summated total of the correct answers to five questions assessing the basic financial concepts of compound interest, inflation, bond pricing, mortgages, and portfolio diversification. Financial knowledge for this study will be determined in the same manner using six questions used by Robb et al. (2012).

For this study, personality will be measured using the Big-Five Personality Domains (Gosling, Rentflow, & Swann, 2003). Respondents will be asked questions to determine the following personality characteristics: (a) Extraversion, (b) Agreeableness, (c) Conscientious, (d) Neuroticism, and (e) Openness. The respondent's scores for each of the ten questions will be summated to derive a score for each of the five personality characteristics listed.

Beliefs can be seen as subjective probabilities that "an object has a certain attribute" (Fishbein & Ajzen, 2010, p. 221). TRA contains three different types of beliefs: (a) *behavioral beliefs* are the consideration of consequences of a specific behavior; (b) *normative beliefs* are the approval or disapproval of a certain behavior by friends, associates, co-workers, or family members; and (c) *control beliefs* are those events that influence whether the performance of the behavior is easy or difficult (Fishbein & Ajzen, 1980). Normative beliefs can be categorized as either (a) *injunctive* or *(b) descriptive.* Injunctive normative beliefs are defined as those beliefs relative to a behavior "a particular referent individual or group thinks a person should or should not perform," and referent individuals or groups are defined as those who are influential or significant (e.g., parents, teachers, pastors, close friends, grandparents, siblings, or other family members) (Fishbein & Ajzen, 2010, p.133). Descriptive normative beliefs are those beliefs

established on the basis of perceptions of what other people are doing (Fishbein & Ajzen, 2010).

Limitations and Assumptions

This study is an exploratory study in an area of the literature where little known research has been conducted. The research design of this study contains two major limitations discussed below: (a) self-reporting of data and (b) a non-random convenience sample. First, this study will rely on the self-reporting of college students. This could result in the reporting of inaccurate data reported by students, for example if students overstate their income or understate the amount of debt owed. Appropriate measures will be taken to identify outliers in the data and adjust for any obvious skewness in the reported data. Missing data will be noted as such, rather than replacing missing data with the calculated mean.

Second, the sample for this study consists of a non-random convenience sample collected from six universities selected by the researcher and may not be generalizable to other populations. It is anticipated the results will generate additional interest to replicate this study to a broader population, which will yield more generalizable results.

Summary

Using the Theory of Reasoned Action (TRA), this research seeks to explore how personality, demographic factors, and financial knowledge factors influence college student beliefs that lead them not to possess a credit card. Personality (i.e., individual background factor), education level, age, gender, income level, religion, marital status, and ethnicity (i.e., social background factors), and financial knowledge (i.e., information background factor) are factors that will be tested to identify associations

with behavioral beliefs, normative beliefs, and control beliefs that lead students to not possess a credit card. Although there has been extensive research on college students who have a credit card, little is known about college students who do not possess a credit card. Fishbein and Ajzen (2010) asserted that the most substantive information related to a specific behavior is found by investigating the associated behavioral, normative, and control beliefs. By beginning to understand how beliefs about credit cards are shaped, the current study can help to shed some light on how people consider credit card behavior, the consequences of holding a credit card, the expectations of others in one's life about holding a credit card, and the resources, barriers, and matters of control.

Chapter 2 - Literature Review

Historical Context

Kahneman and Trvesky have acknowledged that sometimes investors act rationally, but other times they act irrationally (as cited by Curtis, 2004). According to the Prospect Theory developed in the late 1970s by Kahneman and Trvesky, individuals are most likely to take risks when losses are expected, and they are willing to take gains when absolute rewards are anticipated (Xiao, 2008). Prospect Theory introduced the concept of behavioral finance as the idea that human behavior, both rational and irrational, can impact the financial behavior of individuals (Xiao, 2008). Alternatively stated by Fishbein and Ajzen (2010, p. 350), "According to Prospect Theory, people are willing to take a chance if it could help them avoid a bad outcome, but they are unwilling to take a chance if it involves risking a good outcome." By establishing the concept of behavioral finance and the idea that individuals act both rationally and irrationally, Kahneman and Trvesky created the opportunity for the development of The Theory of Reasoned Action (TRA) by Fishbein and Ajzen.

Icek Ajzen, one of the co-authors of TRA, is also the author of the Theory of Planned Behavior (TPB).   The current literature consists of research that uses both of these theories. TRA and TPB are similar but distinctly different. Although TRA is being used for the current study, it is important to clarify the differences between these two theories.

Theoretical Framework

The Theory of Reasoned Action (TRA), shown in Figure 2.1 (Fishbein & Ajzen, 2010), will be used as the theoretical framework for this study. The rationale for choosing

TRA consists of the following reasons: (a) TRA is parsimonious and elegant in structure, contains a small number of variables, and is relatively clear and concise in terms of the relationship of the variables; (b) TRA is linear in nature which allows for ease in conceptualization of the variables; (c) the most substantive information regarding the role of demographic variables is obtained by examining behavioral beliefs, normative beliefs, and control beliefs; (d) TRA is flexible and accommodates the addition of other variables to further explain intention and behavior; and (e) TRA makes no assumptions as to whether individuals are rational or irrational when explaining behavior (Fishbein & Ajzen, 2010).

TRA was first presented in 1980 by Ajzen and Fishbein. TRA posits three different beliefs: behavioral, normative, and control. These beliefs are associated with the constructs of attitudes, subjective norms, and perceived behavioral controls. These constructs influence an individual's intention, which in turn impacts behavior (Ajzen, 1991). TRA postulates the following three assumptions: (a) intention is the precursor of actual behavior; (b) intention is determined by three factors: attitude toward the behavior, subjective norm, and perceived behavioral control; and (c) behavioral, normative, and control beliefs can be measured using various background factors (Ajzen & Fishbein, 2005). Fishbein and Ajzen (2010) explained that, unlike other theories, TRA assumes the individual is neither rational nor irrational in the process of forming an intention to perform a behavior.
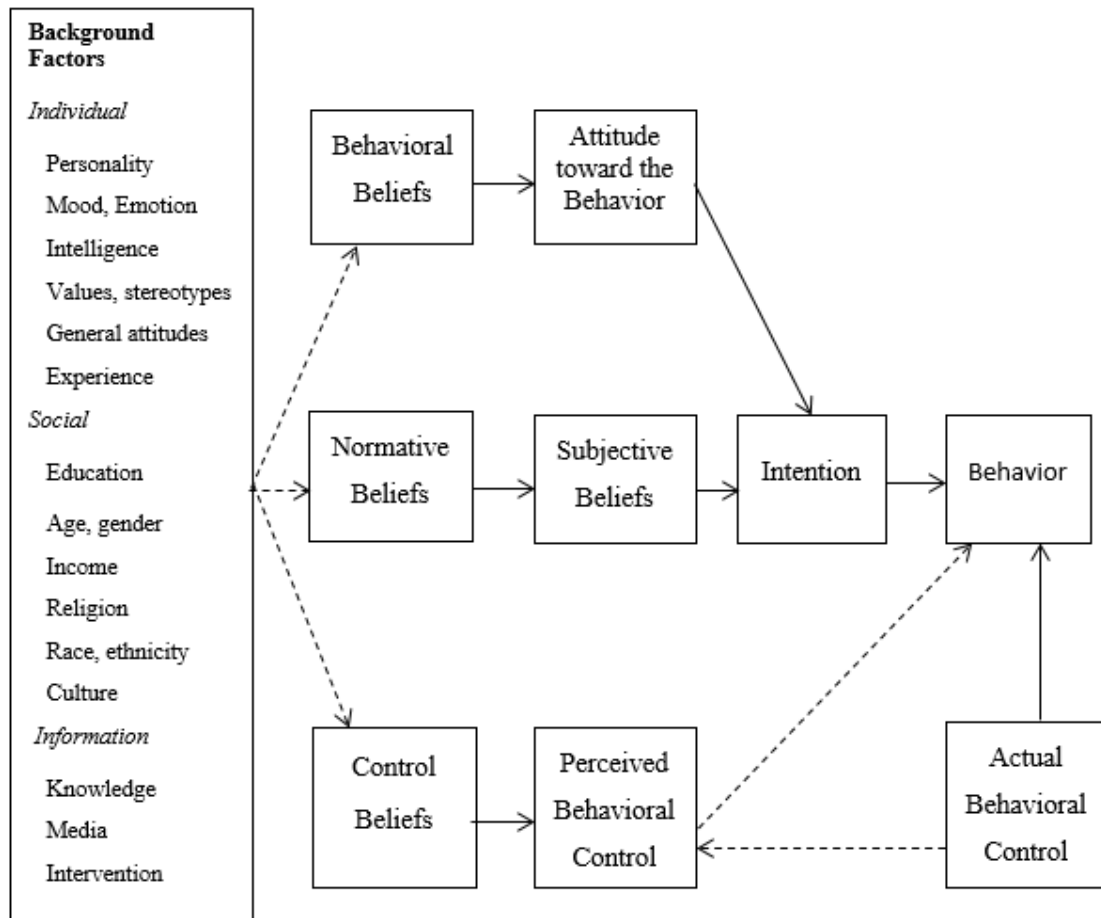
Figure 2.1 The Theory of Reasoned Action

From M. Fishbein and I. Ajzen (2010). "Schematic presentation of the reasoned action model", *Predicting and Changing Behavior, the Reasoned Action Approach*. p. 22. New York, NY: Psychology Press.

The literature has indicated three variables influence the choice to engage in a specific behavior (Ajzen & Fishbein, 2005). The three variables are: (a) the positive or negative results of a specific behavior, (b) the approval or disapproval of the behavior by respected individuals, and (c) factors that facilitate or impede performance of the behavior. Ajzen and Fishbein (2005) noted that when advantages exceed related disadvantages of a specific behavior, individuals will form a favorable attitude toward the behavior. Alternatively, if the associated disadvantages exceed advantages, a negative

attitude related to the behavior will be formed (Ajzen & Fishbein). For example, if an

individual concludes that the advantages of texting while driving exceeds the

disadvantages, then the intentions to send text messages may result in the individual

actually sending text messages while driving. Attitude toward the behavior is defined as

the level that an individual has either positive or negative feelings toward a particular

behavior (Ajzen, 1991).

   Normative beliefs are defined as the approval or disapproval of a certain behavior

by friends, associates, co-workers, or family members (Ajzen & Fishbein, 1980).

According to Ajzen and Fishbein, the perceived approval or disapproval will influence

whether the behavior is acted upon. If an individual's spouse disapproves of smoking and

the individual respects their spouse, then the disapproval may influence the intention to

smoke. Normative beliefs consist of injunctive normative beliefs and descriptive

normative beliefs. Injunctive normative beliefs are defined as those beliefs relative to a

behavior "a particular referent individual or group thinks a person should or should not

perform." Referent individuals or groups could be parents, teachers, pastors, close

friends, or other family members such as brothers, sisters, or grandparents (Fishbein &

Ajzen, 2010, p.131). Descriptive normative beliefs are described as those beliefs

established on the basis of perceptions of what other people are doing (Fishbein & Ajzen,

2010). Perceived (subjective) norms are defined as the individual's perceived social

pressure to either carry out or not carry out a specific behavior (Ajzen, 1991).

   Control beliefs are defined as those beliefs that influence whether the

performance of the behavior is easy or difficult. TRA states that these events will lead to

the development of a perception related to an individual's ability to perform the behavior

(Ajzen, 1991). Ajzen (1991) refers to this perception as perceived behavioral control. Individuals who perceive they possess skills and resources necessary to perform a certain behavior will have a high level of perceived behavioral control, and those who perceive they do not have the necessary skills and resources to perform a certain behavior will have a low level of perceived behavioral control (Ajzen, 1991). The level of perceived behavioral control influences the individual's choice to participate in a specific behavior (Ajzen, 1991). For example, if an individual is standing on a mountain top contemplating whether to snowboard to the bottom of the mountain for the first time, the level of perceived behavioral control may impact the decision to snowboard to the bottom of the mountain. If the individual concludes he lacks sufficient skill to safely arrive to the bottom of the mountain, the intention and the subsequent behavior may be impacted.

Ajzen and Fishbein (2005) noted that a variety of cultural, personal, and situational factors impact behavioral, normative, and control beliefs. These background factors can be classified as individual, social, or information background factors and used as proxies to operationalize behavioral beliefs, normative beliefs, and control beliefs. Personality, mood, intelligence, attitudes, experience, education, and age are considered to be individual background factors (Ajzen & Fishbein, 2005). Ajzen and Fishbein (2005) suggested that gender, income, education, age, religiosity, and ethnicity are socioeconomic background factors considered to be social background factors. Knowledge, media, and intervention are classified as information background factors (Ajzen & Fishbein, 2005). Background factors could potentially affect any or all of the three different types of beliefs and are not specifically connected to one type of belief.
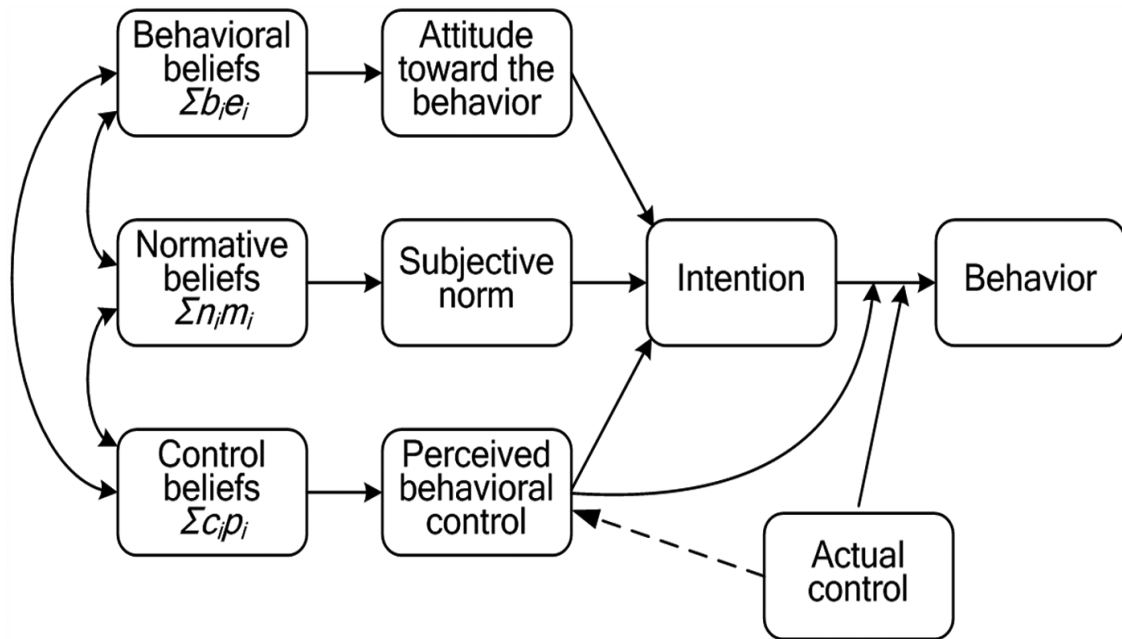
Figure 2.2 The Theory of Planned Behavior

Adapted from: Ajzen, I. (2012), "Martin Fishbein's Legacy: The reasoned action approach," *The Annals of the American Academy of Political and Social Science, 640* (1), p. 19.

The constructs of both TRA and TPB are similar, yet there are two distinct differences. The first difference is the relationship between the three types of beliefs. TPB states there is an interrelationship between the three beliefs, as shown in Figure 2.2 (Ajzen, 2012). TRA does not hypothesize this interrelationship, as shown in Figure 2.1. The second significant difference is the impact of background factors. TRA says certain background factors can influence any one of the three beliefs, all of the three beliefs, or none of the three beliefs (Fishbein & Ajzen, 2010). TRA also contains two measures of normative beliefs, injunctive normative beliefs, and descriptive normative beliefs (Fishbein & Ajzen, 2010). TPB contains only injunctive normative beliefs as a measure of normative beliefs (Ajzen, 2015). TRA was selected as the theoretical framework for this study for the following reasons: (a) TRA includes the three background factors of

individual factors, social factors, and information factors that can influence behavioral beliefs, normative beliefs, and control beliefs; (b) TRA presents a distinct relationship between behavioral beliefs and attitude toward the behavior, between normative beliefs and perceived norms; and (c) between perceived behavioral control and control beliefs and perceived behavioral control. TRA is an evolution of TPB and is the most current behavioral model presented by Ajzen and Fishbein to predict behavior.

Criticisms of TRA and TPB as Theoretical Models

The Theory of Planned Behavior (TPB) has been used in numerous social and health research settings, including the area of personal finance and financial planning. The body of literature has recently experienced a debate among researchers regarding whether TRA and TPB should continue to be considered useful models in the research of behavior. Sniehotta, Presseau, and Araújo-Soares (2014) noted criticisms suggesting TPB should be retired as a viable theoretical model. The authors raised these criticisms: (a) TPB is deficient of a dynamic nature, (b) the theory is misleading as it does not contain other constructs that more accurately account for the variance in behavior, (c) researchers now use extended forms of TPB, leading Sniehotta et al. to conclude that researchers no longer have confidence in the ability of TPB to explain behavior, (d) TPB focuses on rational behavior, and (e) TPB has lost usefulness to develop behavioral change interventions.

The research community, including Icek Ajzen and other noted health care researchers, responded to these criticisms. Ajzen (2015) responded to the first criticism, noting that TPB is a dynamic model given the feedback loops of the three different beliefs: behavioral beliefs, normative beliefs, and control beliefs. The discussion of the

model of TPB shown in Figure 2.2 illustrates the directional feedback loops. Fishbein and Ajzen (2011) stated, "When a behavior is carried out, it can result in unanticipated positive or negative consequences, it can elicit favorable or unfavorable reactions from others, and it can reveal unanticipated difficulties or facilitating factors. These feedback loops are likely to change the person's behavioral, normative, and control beliefs and thus affect future intentions and actions" (p. 218).

The second criticism of TPB suggests it is misleading due to lack of behavior predictors within TPB by prohibiting the inclusion of other descriptive variables. Ajzen (2015) responded to this by welcoming the inclusion of other behavior predictor variables in TPB such as those mentioned by Sniehotta et al. (2014).

Ajzen (2015) responded to the third criticism, which suggested confidence in TPB has been diminished, noting the literature confirms that TPB permits good predictions of intentions from the constructs attitudes, subjective norms, and perceived behavioral control. Ajzen further asserted the problem may be the relationship between intentions and the subsequent behavior, suggesting that when intentions change and barriers exist, individuals may not proceed with intentions. Rhodes (2015) concluded that further testing of TPB is not appropriate. Rhodes believes scholars of extended models should validate their models for use in research. Hagger (2015) believed the function of TPB is now to inspire research as an antecedent instead of a theoretical framework for research. Trafimov (2015) advocated disposing of correlational paradigms such as TPB in favor of more causal models.

Ajzen (2015) rebuffed Sniehotta et al.'s (2014) fourth criticism of TPB being restricted to rational behavior by pointing out that TPB considers both rational and

irrational behavior. In regards to the fifth criticism, which stated TPB is no longer useful in developing behavioral change interventions, Ajzen (2015) clarified that TPB is not a behavioral change theory.   Rather, TPB is a theory that explains and predicts intentions and behavior. Ajzen further noted that TPB is a framework that is helpful when designing interventions. Armitrage (2015) concurred with Sniehotta et al. (2014) about the lack of studies that assess TPB experimentally, but argued this criticism is insufficient to retire TBP. Conner (2015) suggested the benefits of TPB are: (a) the ability to explain behavior using four basic variables, and (b) the flexibility to expand the theory to include other constructs.

Ajzen (2015) summarized his commentary of Sniehotta et al. (2014), which calls for the retirement of the TPB, by emphatically stating "Sniehotta et al. have failed to make a case for retiring TPB. They display a profound misunderstanding of the theory itself, they fail to appreciate the work needed to properly apply the theory in efforts to change behavior, and they misinterpret negative findings of poorly conducted studies as evidence against the theory" (Ajzen, 2015, p. 136). The justification for selecting TRA for the proposed study and the discussion of the validation of the usefulness of TRA from recent criticisms of TRA has been presented. The following section will explain the components of TRA relative to the proposed study.

Empirical Framework

The three concepts to be studied are (a) behavioral beliefs, (b) normative beliefs, including both injunctive and descriptive normative beliefs, and (c) control beliefs. These concepts were previously discussed and presented in Figure 2.1. The empirical model used in this study for attitude toward behavior was presented by Ajzen (1991) and links

the behavior to an attitude using the power of the belief and the evaluation of the attitude, either good or bad. The empirical model for attitude toward behavior is $A \, \alpha \sum_{i=1}^{n} b_i \, e_i$ where *b* represents the belief and *e* represents the individual evaluation of the attitude in a multiplicative relationship. The attitude of a person *A* is proportional (α) to the sum of $b_i e_i$ (Ajzen, 1991). This study will use the attribute *b* to measure beliefs. Attitude is defined as "a latent disposition or tendency to respond with some degree of favorableness or unfavorableness to a psychological object" (Ajzen & Fishbein, 2010, p. 76). For example, consider the advantages and disadvantages of texting while driving. Some would say texting while driving saves time, while others might say texting while driving may cause accidents. Within the framework of TRA, Fishbein and Ajzen noted that these two outcomes, one favorable and one unfavorable, are the underlying beliefs of attitudes regarding texting while driving (Fishbein & Ajzen, 2010).

The empirical model for subjective norms presented by Ajzen (1991) links the strength of normative belief with the motivation to comply with the norm using the following model SN $\alpha \sum_{i=1}^{n} n_i \, m_i$ where *n* represents the strength of the normative belief and *m* denotes the individual's motivation to comply with the norm. The subjective norm *SN* is proportional (α) to the sum of $n_i m_i$ (Ajzen, 1991). Subjective norms consist of injunctive normative beliefs and descriptive normative beliefs (Fishbein & Ajzen, 2010). For this study, the empirical model for injunctive normative beliefs will be INB $\alpha \sum_{i=1}^{n} n_i \, m_i$. This study will use the attribute *n* to measure injunctive normative beliefs. Fishbein and Ajzen (2010) defined injunctive normative beliefs as those beliefs "a referent individual or group thinks a person should or should not perform" (Fishbein & Ajzen, 2010). An example of an injunctive normative belief would be *my parents think*

drivers of automobiles should not text while driving. The empirical model for descriptive

normative beliefs will be DNB $\alpha\sum_{i=1}^{n} t_i \ r_i$ where *t* represents the strength of the

descriptive normative belief and *r* denotes the identification with a particular referent

(Fishbein & Ajzen, 2010). This study will use *t* to measure descriptive normative beliefs.

Descriptive normative beliefs are defined as "normative beliefs based on perceptions of

whether others are or are not performing a particular behavior" (Fishbein & Ajzen, 2010).

An example of a descriptive normative belief would be *my parents do not text when*

driving an automobile.

The empirical model for perceived behavior control presented by Ajzen (1991)

links control beliefs and the perceived power of control factors under consideration using

the following model PBC $\alpha\sum_{i=1}^{n} c_i \ p_i$ where *c* was used to represent control beliefs and *p*

represents the perceived power of the control factor. Perceived behavior control *PCB* is

proportional (α) to the sum of $c_i \ p_i$(Ajzen, 1991). This study will use *c* to measure control

beliefs. Perceived behavioral control is defined as "the extent to which people believe

that they are capable of performing a given behavior, that they have control over its

performance" (Fishbein & Ajzen, 2010). An example of a perceived behavioral control is

I can control whether I text while driving.

Relevant research

The Theory of Reasoned Action (TRA) and the Theory of Planned Behavior

(TPB) have been used in a wide range of social sciences studies including prediction of

intentions of college students who participate in binge drinking (Johnston & White, 2003)

and behavior of patients diagnosed with cancer (Andrykowsky, Beacham, Schmidt, &

Harper, 2005). TRA and TPB have also been used in the area of financial planning and

personal finance. The literature review of research related to financial planning and personal finance will consist of two sections. The first section will focus on studies that have applied TRA and TPB to studies of personal finance and consumer behavior. The second section will focus on relevant literature related to the use of credit cards by college students.

Studies applying TRA/TPB to Personal Finance and Consumer Behavior

This section will discuss the application of TRA/TPB in relevant studies in the personal finance and consumer behavior disciplines. The studies included in this section used TRA and TPB as a theoretical framework. The studies discussed below focused on similar variables to those tested in the present study. These variables include student borrowing attitudes, college student intentions to use credit cards, predicting consumer behavior, student attitudes, norms, and self-efficacy related to overspending, and the relationship of financial knowledge to financial behavior.

Attitudes.

Chudry, Foxall, and Pallister (2010) studied students' borrowing attitudes, using TPB as a theoretical framework. They designated the following three individual factors and one information factor as proxies to predict students' intentions to borrow money: (a) money-management beliefs, (b) parents as important others, (c) actual knowledge of finance, and (d) past borrowing behavior. In their study, money management beliefs operationalized attitude toward borrowing money, parents' views and beliefs were used to operationalize values, knowledge of finance was used to operationalize the information factor knowledge, and past borrowings was used to operationalize experience (Chudry et al., 2010). These researchers found students believed they were good money managers,

but were deficient in controlling borrowing and debt decisions. Linking involvement and decision-making style resulted in a strong mediating effect to predict borrowing intentions (Chudry et al., 2010).

A study by Norvilitis and Da Silva (2013) replicated the previously discussed study by Chudry et al. (2010). Norvilitis and Da Silva (2013) studied 1,257 college students, 814 students from Brazil and 443 students from the United States. Norvilitis and Da Silva used the Theory of Planned Behavior (TPB) to predict student debt to income ratio and student loan debt. They conceptualized attitudes as student attitudes toward debt, credit card use, and financial self-confidence, subjective norms were conceptualized as social comparison generally and financial social comparison, and perceived behavioral control was conceptualized using self-reported ability to delay gratification. Two additional variables were added by Norvilitis and Da Silva, expanding TPB model to include a social and educational predictor, and parental financial education. Norvilitis and Da Salvia found varying results between those of the students from Brazil and those of the U.S. students. For the Brazilian students, none of TPB variables (i.e., attitudes, subjective norms, or perceived behavioral control) were related to type of debt. However, lower levels of financial self-confidence and positive attitudes toward credit cards had greater levels of significance in predicting the debt to income ratio. In contrast to the results of the Brazilian students, Norvilitis and Da Silva concluded that in the U.S. (a) delay of gratification was a predictor of both student loan debt and the credit card debt to income ratio, (b) attitudes toward debt were related to the debt to income ratio, and (c) student attitudes toward debt, credit card use, and financial self-confidence were not related to student loans, and social comparison was not related to either type of debt.

Intentions.

In another study guided by The Theory of Planned Behavior, Xiao and Wu (2008) examined factors related to consumer behavior among consumers participating in a debt management plan. Xiao and Wu's study of 210 participants in a debt management plan concluded that consumer intentions to complete a debt management plan increased when they perceived completion of the plan favorably and expected to easily complete the debt management plan (Xiao & Wu, 2008). Xiao and Wu (2008) further concluded that consumer intentions did impact their behavior to complete the debt management plan. These findings confirm the relationship of intentions and behavior as explained by TPB.

Subjective norms.

A recent study conducted by Rutherford and Devaney (2009) utilized TPB to understand the behavior of convenience users of credit cards, defined as individuals who paid off their credit card balances each month when receiving their monthly statement. A study of 3,476 households from the Survey of Consumer Finances concluded that convenience users of credit cards were more likely to conclude that credit was harmful, had longer financial planning time lines, did more comparison shopping for credit, were older, had more formal education, and had higher levels of income compared to those less likely to be convenience users of credit cards (Rutherford & Devaney, 2009). Convenience users were defined as individuals who paid off their credit cards balances each month when receiving their monthly statement (Rutherford & Devaney, 2009). Individuals who were less likely to be convenience users of credit cards had low risk tolerance, typically were late in paying their bill, believed it was acceptable to pay for vacations using credit, and obtained credit advice from other individuals and the media

rather than conducting their own search for information (Rutherford & Devaney, 2009). This study contributed to the literature by identifying characteristics of consumers who use credit cards for convenience, compared to those who do not use credit cards for convenience. However, the study failed to apply TPB as specified by Ajzen and Fishbein (2010). In the Rutherford and Devaney study (2009), age was used to operationalize the variable subjective norms (Rutherford & Devaney, 2009). Ajzen and Fishbein stated in the theoretical model that age is a background factor as in the TRA model shown previously in Figure 1 (Ajzen & Fishbein, 2005). Ajzen and Fishbein define subjective norms as those perceived social pressures that impact whether someone participates or does not participate in a specific behavior (Fishbein & Ajzen, 2010; Ajzen & Fishbein, 2005; Ajzen, 1991; Ajzen, 1985). Rutherford and Devaney (2009) posited that various age groups will have different values and their associated behavior will be different, and that previous research indicated younger individuals are more comfortable borrowing money than older individuals. The justification for operationalizing subjective norms using age is questionable when the literature is clear that age is a background factor that may influence behavioral beliefs, normative beliefs, or control beliefs (Ajzen & Fishbein, 2005).

Attitudes, subjective norms, and perceived behavioral control.

A study by Kennedy (2013) using the Theory of Planned Behavior (TPB), determined that attitudes toward credit, subjective norms, and perceived behavioral control predicted the intentions of college students to use credit cards. Kennedy constructed scales for the three dependent variables attitudes toward credit, subjective norms, and perceived behavioral control in conformity with Ajzen's (2002) guidelines.

Kennedy's study consisted of 143 participants and achieved an $R^2 = .32$ on the model to predict intentions to use credit cards. Kennedy extended TPB to include financial literacy. Ajzen (2015) noted that extensions of TPB are encouraged to enhance the explanatory strength of the TPB model. The study by Kennedy (2013) found that financial literacy did not predict credit card use by college students.

TPB was also used as the theoretical framework by Bobek, Hatfield, and Wentzel (2007) to examine why taxpayers consciously over-withhold income taxes from their paychecks. In their study of 140 respondents, Bobek et al. (2007) used structural equation modeling to conclude that taxpayer attitudes (i.e., desire to avoid uncertainty and the possibility of underpayment of taxes) and subjective norms (i.e., the perception of friends' advice) impacted respondents' decision to over-withhold their income taxes. Bobek and colleagues (2007) concluded participants in the study may have preferred the comfort of less anxiety about owing taxes and the benefit of receiving a refund check, versus the financial cost of lost investment income from over-withholding for taxes (Bobek et al., 2007).

Normative beliefs and behavioral beliefs.

Another study by Yousafzai, Foxall, and Pallister (2010) researched the ability of the Theory of Planned Behavior (TPB), the Theory of Reasoned Action (TRA), and the Technology Acceptance Model (TAM) to predict consumer behavior in the environment of internet banking. The study by Yousafzai et al. (2010) consisted of 441 completed responses to a survey and, using structural equation modeling, concluded that TAM was a better predictor of consumer internet behavior than TRA or TPB. In their study, Yousafzai et al. utilized an earlier model of TRA than the model presented in Figure 2.2

of this study. Yousafzai et al. chose to utilize a model of TRA focusing on normative

beliefs and behavioral beliefs, and did not include the background factors, perceived

behavioral control, behavioral beliefs, normative beliefs, control beliefs, or the construct

actual control. The timing of the Yousafzai et al. study and the publication of the model

shown in Figure 2.2 may explain the use of a different model used.

Attitudes, perceived behavioral control, and norms.

In 2013, Sotiropoulos and d'Astous developed a conceptual model from the

Theory of Planned Behavior (TPB) and the Theory of Reasoned Action (TRA) to

establish whether attitude, self-efficacy (i.e., perceived behavioral control), and social

norms of 225 college business students were related to overspending on credit cards. In

their study, Sotiropoulos and d'Astous (2013) concluded that descriptive normative

beliefs related to credit card overspending have a statistically significant relationship to

an individual's tendency to overspend on credit cards. More specifically, participants'

tendency to overspend on credit cards was positively related to perceptions of what their

friends value and how they conduct themselves when it comes to credit card use. When

friends are perceived as thinking and acting irresponsibly with credit cards, there is an

increased inclination to overspend on credit cards. Interestingly, attitudes toward credit

card overspending were not statistically significant to an individual's tendency to

overspend on credit cards. Finally, self-efficacy toward credit card overspending has a

statistically significant relationship to an individual's tendency to overspend on credit

cards (Sotiropoulos & d'Astous, 2013).

In a study conducted by Kidwell and Turissi (2004), TPB was used to examine

money management tendencies of 189 college students. The study examined money

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management inclinations, intentions, and attitudes. The study determined that perceived behavioral control moderated behavioral intentions, resulting in positive attitudes toward use of a budget (Kidwell & Turrissi, 2004). Kidwell and Turrissi found that students with higher perceived control over maintaining a budget also had higher subjective norms regarding managing a budget, thus increasing their intention of maintaining a budget.

Financial knowledge.

Theory of Planned Behavior (TPB) and Theory of Reasoned Action (TRA) have also been used in studies of financial knowledge. Financial knowledge is defined as the summated total of the correct answers to five questions assessing the basic financial concepts of compound interest, inflation, bond pricing, mortgages, and portfolio diversification (Robb, Babiaraz, & Woodyard, 2012). Xiao, Tang, Serido, and Shim (2011) performed a study using TPB to examine psychological practices of young adults' risky credit card behaviors and the impact of their parents and financial knowledge on their financial behavior. This study modified TPB as the theoretical model in two respects. First, perceived behavioral control was divided into internal and external sources of control. Second, subjective norms were divided into injunctive and descriptive norms (Xiao et al., 2011). External sources used by Xiao and colleagues were parental socioeconomic status and financial knowledge, while internal sources of control included parental and friends' norms (Xiao et al., 2011).

Fishbein and Ajzen (2010) noted external sources of control consist of individuals and events that may hinder the implementation of a particular behavior. Fishbein and Ajzen (2010) argued that the literature does not support the necessity to segregate perceived behavioral control into internal and external sources. However, a measure of

both injunctive and descriptive norms should be included when measuring subjective norms (Fishbein & Ajzen, 2010).

Attitudes, subjective norms, and perceived behavioral control.

Zimmerman, Canale, Britt, and Seay (2015) used the Theory of Planned Behavior as the theoretical framework in a study of the factors related to the Earned Income Tax Credit (EITC). Zimmerman et al. (2015) evaluated whether attitudes, subjective norms, religiosity, education, and perceived behavioral control were significant in changing individuals' ability to qualify for the EITC. Zimmerman et al. found no relationship between religiosity, education, and the ability to qualify for the EITC. The relationships between attitudes and subjective norms and the ability to qualify for the EITC were determined to be insignificant, while the relationship between perceived behavioral control and the ability to qualify for the EITC was determined to be marginal.

Injunctive normative and descriptive normative beliefs.

Sotiropolos and d'Astous (2013) utilized the Theory of Planned Behavior (TPB) and the Theory of Reasoned Action (TRA) as guidance to conceptualize a model consisting of three variables: credit-related norms, experiential norms, and strength of ties related to overspending on credit cards. The model used by Sotiropolos and d'Astous relied on the construct normative beliefs, consisting of injunctive normative beliefs and descriptive normative beliefs (Fishbein & Ajzen, 2010). Sotiropolos and d'Astrous ascertained from their study of 225 college students that there is an interaction between descriptive normative beliefs and prescriptive (injunctive) normative beliefs related to overspending on credit cards by college students.

Studies Related to College Students and Credit Card Use

This section focuses on a review of the relevant literature related to college students and the use of credit cards. The literature reviewed will be presented in three areas: (a) financially at risk college students, (b) attitudes of college students toward credit cards, and (c) attitudes, financial knowledge, and perceived behavioral control.

The CARD Act of 2009 legislated guidelines for which credit cards could be issued to college students. The Act specified that students under the age of 21 must have verifiable income, or must have a co-signor to obtain a credit card (Lyons, 2008). The legislation has resulted in a shift of the focus of much research toward financially at-risk college students, college student attitudes toward credit cards, and the perceived control students have toward credit cards.

Financially at-risk college students.

The recent economic events of 2008, including the financial collapse of financial institutions, rising unemployment, and increasing costs of college education, have resulted in increased financial challenges for college students. One of these challenges has been that financial aid programs have not increased their aid to college students, causing an increase in the use of credit cards by college students to finance their education (Lyons, 2008).

Lyons (2008) reported from data collected in 2003 that most college students who used credit cards were not financially at-risk. The results of the study showed 15.7% of the sampled students held credit card balances of $1,000 or more, 7.5% held balances of $3,000 or more, 15.3% had used the limit on their cards, 6.2% were late two months or more on credit card payments and 50% paid the balance in full each month. Previous

studies have reported that generally, college students were not at-risk financially due to the use of credit cards. In Lyons' studies (2004, 2006, 2008), the definition of financially at-risk college students consisted of four characteristics: (a) $1,000 or more in credit card debt, (b) delinquent on credit card payments of two months or more, (c) the credit card limit was reached, and (d) credit card balances were paid in full some of the time or never (Lyons, 2004, 2006, 2008). Lyons concluded that students who were at-risk financially were likely to be those students who were financially independent from their parents or who owed more on student loans, car loans, mortgages, and personal loans.

In a longitudinal study conducted by Hayhoe (2002), an examination of 120 college students from six universities was conducted to determine credit card use. Hayhoe collected data in 1997 and then again in 1999. She concluded that most of the students had reduced the number of credit cards they held, but at the same time had increased the number of cards that carried an outstanding balance.

In a study conducted by Nellie Mae (2005) of undergraduate students who used credit cards for the purchase of items not directly related to education costs, 71% used credit cards to purchase food, 68% used credit cards to purchase clothing, and 49% used credit cards to purchase cosmetic and toiletries. The same study revealed that 74% of the students used credit cards to purchase school supplies, 71% used credit cards to purchase textbooks, and 29% used credit cards for payment of fees (Nellie Mae, 2005). In a similar study on graduate students in 2006, Nellie Mae found that 83% of the graduate students used credit cards to pay for textbooks, approximately 73% used credit cards to purchase school supplies, and approximately 38% paid fees using their credit cards (Nellie Mae, 2006).

A study of problematic financial behavior among 393 college students was conducted by Worthy, Jonkman, and Blinn-Pike (2010). Worthy et al. (2010) conceptualized problematic financial behavior to include the following: (a) thinking about dropping out of school and working, (b) trouble paying bills, (c) borrowing from friends or family to pay bills, (d) spending student loans or scholarships on non-school items and/or activities, (e) maxing out credit cards, (f) writing at least one check knowing it was bad, (g) pretending to have more money than he or she actually had, (h) getting a job because of financial need, and (i) having an overdrawn checking account. Worthy et al. concluded that students of families of adequate finances (i.e., families that did not receive public assistance) had less problematic financial behavior. Students who were female, older, or emerging adults, and those who had high sensation-seeking personalities (e.g., gambled or participated frequently in risky behavior) were more likely to experience problematic financial behavior.

An exploratory study by Gutter and Garrison (2008) examined the possible link between perceived norms and risky credit behavior. In the study, 249 college students in a personal finance class at a Midwestern university were asked to identify whether their parents, close friends, or typical students carried a regular credit balance, reached the limit on their credit card, or made late payments (Gutter & Garrison, 2008). Gutter and Garrison also asked the students whether they participated in these same behaviors. Gutter and Garrison used a 5 point Likert scale for their survey and found statistically significant correlations at the .01 and .05 levels for their individual behavior and the perceived behavior of the three referent groups. They concluded that the results suggest a possible relationship exists between perceived norms and risky credit behavior.

Attitudes.

A study conducted by Joo, Grable, and Bagwell (2003) examined the factors related to students' attitudes regarding credit cards. Students who were white, in the early years of their academic studies, and had parents that had credit cards and few credit problems had statistically significant positive attitudes toward the use of credit cards. Furthermore, results indicated students' gender, academic major, and current living arrangements were not related to credit attitudes (Joo et al., 2003).

Norvilitis (2015) conducted a study of 855 college students to determine if attitudes toward credit cards have changed since the Credit Card Accountability Responsibility and Disclosure (CARD) Act of 2009. Norvilitis collected data in five different semesters, beginning in the spring of 2000 and ending in the fall of 2011. To measure student attitude toward credit card debt, Norvilitis administered a 14 item scale measured on a 5 point Likert scale, reporting a Cronbach's alpha of .79. The results of Norvilitis' study concluded that college student attitudes toward credit cards were increasingly negative during the time frame of the study, suggesting that the CARD Act of 2009 may have contributed to a shift in college students' attitudes about credit cards.

Chein and DeVaney (2001) found that attitude, marital status, professional status, home ownership, education, household size, and income levels were related to use of credit. The conclusions of this study lend support for the proposed study. The proposed study will examine the relationship between attitudes about whether to possess a credit card and background factors previously specified in Chapter 1.

Attitudes, financial knowledge, and perceived behavioral control.

Heckman and Grable (2011) examined the relationship between parental attitudes concerning debt, personal finance knowledge, and self-efficacy (perceived behavioral control) of college students. They concluded that students who had perceptions that their parents held negative attitudes toward debt had greater levels of personal finance knowledge and higher levels of self-efficacy. In another study by Norvilitis, Osberg, Roehling, Young, and Kamas (2006), financial knowledge was found to be related to debt level, which impacts other areas of personal finance, such as retirement savings.

Hancock, Jorgensen, and Swanson (2013) researched the impact of parental interactions, years of work experience, financial knowledge, credit card attitudes, and personal characteristics on college students' credit card behaviors, defining credit card behavior as number of cards and amount of debt. The study by Hancock et al. (2013), consisting of 413 college students from seven universities, concluded that gender and class rank were the top predictors of the number of credit cards held by college students, followed by parents who argued about finances. Hancock et al. also concluded that having parents who argue about finances is one of the main influences on whether a student has over $500 in credit card debt. Hancock and colleagues concluded that positive parental role models are important in college students' lives (Hancock et al., 2013).

Summary

The Theory of Reasoned Action (TRA), shown in Figure 2.1, will be used as the theoretical framework for this study. The rationale for choosing TRA consists of the following five reasons: (a) TRA is parsimonious and elegant in structure, (i.e., TRA contains a small number of variables and is relatively clear and concise in terms of the

relationship of the variables); (b) TRA is linear in nature which allows for ease in conceptualization of the variables; (c) the most substantive information regarding the role of demographic variables is obtained by examining behavioral beliefs, normative beliefs, and control beliefs; (d) TRA is flexible and accommodates the addition of other variables to further explain intention and behavior; and (e) TRA makes no assumptions as to whether individuals are rational or irrational when explaining behavior (Fishbein & Ajzen, 2010).

TRA posits three different beliefs—behavioral, normative, and control—and their associated constructs of attitudes, subjective norms, and perceived behavioral controls influence an individual's intention, which in turn impacts behavior (Ajzen, 1991). TRA postulates the following three assumptions: (a) intention is the precursor of actual behavior, (b) intention is determined by three factors—attitude toward the behavior, subjective norm, and perceived behavioral control, and (c) behavioral, normative, and control beliefs can be measured using various background factors (Ajzen & Fishbein, 2005). The current study focuses on how the background factors personality, education level, gender, ethnicity, religiosity, and financial knowledge predict behavioral, normative, and control beliefs.

The overarching goal of the proposed study is to examine the factors associated with college students' intention to not possess a credit card. The five previously discussed reasons for selecting TRA support the choice of TRA as the logical theoretical guide for developing the research questions and hypotheses previously presented.

Chapter 3 - Methodology

Introduction

A credit card is a helpful tool to learn financial responsibility, build a credit history, stay out of unnecessary debt, and build and maintain credit scores. The goal of this study is to determine if the Theory of Reasoned Action (TRA) can be used to predict college student beliefs that lead them to not possess a credit card. This study will examine whether personality, education level, gender, religiosity, ethnicity, and financial knowledge are associated with behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs. This chapter will discuss the research questions, hypotheses, and research design for this study. To guide this study, the theoretical framework of TRA and the associated literature were used to construct the following research questions and hypotheses presented in Chapter 1:

Research Question 1: How is personality of undergraduate college students associated with their behavioral, injunctive normative, descriptive normative, and control beliefs to not possess a credit card?

H1. The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of undergraduate college students who do not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment

obligations on unpaid credit card balances, and inability to control spending).

H2. The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H3. The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H4. The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

Research Question 2: How are education level, age, gender, income level, religion, marital status, and ethnicity of undergraduate college students who do not intend to obtain a credit card associated with their behavioral, injunctive normative, descriptive normative, and control beliefs?

H5. The education level, gender, religiosity, and ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

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H6. The education level, gender, religiosity, and ethnicity of

undergraduate college students who did not intend to obtain a credit card

within the next six months is not significantly associated with their

injunctive normative beliefs (i.e., learning financial responsibility,

building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit

card, incurring interest charges on unpaid credit card balances, having

reduced future amount to spend due to payment obligations on unpaid

credit card balances, and inability to control spending).

H7. The education level, gender, religiosity, and ethnicity of

undergraduate college students who did not intend to obtain a credit card

within the next six months is not significantly associated with their control

beliefs (i.e., learning financial responsibility, building a credit history,

building and maintaining a credit score, staying out of unnecessary credit

card debt, overspending when using a credit card, incurring interest

charges on unpaid credit card balances, having reduced future amount to

spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

H8. The education level, gender, religiosity, and ethnicity of

undergraduate college students who did not intend to obtain a credit card

within the next six months is not significantly associated with their

descriptive normative beliefs (i.e., learning financial responsibility,

building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

Research Question 3: How is financial knowledge of undergraduate college students who do not intend to obtain a credit card associated with their behavioral, injunctive normative, descriptive normative, and control beliefs to not possess a credit card?

H9. The financial knowledge of undergraduate college students who do not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs, control beliefs, injunctive normative beliefs, and descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

Pilot Study

A pilot study was conducted to identify areas of improvement needed in the design of the survey, and to test the capability of the survey to collect the desired data. The pilot survey was developed using the theoretical guidance of The Theory of Reasoned Action (TRA) and questions used by Fishbein and Ajzen, the authors of TRA

(Fishbein & Ajzen, 2010). The extensive research of Fishbein and Ajzen resulted in the development of survey questions, which were subsequently used in their research projects. A convenience sample of 303 college students attending a Midwestern university and a university located in the Caribbean were used in the pilot study. Approval of the pilot study was obtained from the Institutional Review Board at Kansas State University prior to distributing the pilot survey. A total of 262 usable responses were obtained. Selected professors at each university were provided an electronic link to the survey and asked to provide their students with the link to participate in the study. Qualtrics was used to collect the data. SPSS was used to analyze the results.

The analysis of the pilot data consisted of a factor analysis, a correlation analysis, and a series of multiple regressions of the independent variables personality, education, age, gender, monthly income, religiosity, ethnicity, marital status, and financial knowledge; and the dependent variables behavioral beliefs, injunctive normative beliefs, and control beliefs. A principal component analysis (PCA) was conducted on the 12 items with an orthogonal rotation (varimax). The correlation analysis was conducted to identify statistically significant associations between variables using Pearson's Product Moment. The results showed the survey had both convergent and discriminant validity, thus establishing construct validity.

Current Study

Sample

For the current study, a convenience sample from six universities in different regions of the U.S. was used. Selected professors at each university were asked to provide an email to their students asking them to participate by taking a short survey. A

unique electronic link designated for each of the six universities was sent by email to professors at the universities. The email from the researcher was distributed to students for direct access to the survey. The inclusion of six universities in the sample rather than one accomplished two goals. The first was a reduction of bias. This researcher has a lengthy relationship with one of the universities, and so it was important to include other universities in the sample. In addition, the population for that particular university was restricted to an academic college in which the researcher had less familiarity. The second goal was to include more than one university in the study to enhance the quality of the study and the depth of the data, rather than restricting the results to a single university.

The sample for this study was undergraduate college students from six universities in different geographic regions of the United States. The sample for this study can be characterized as undergraduate students, male and female, generally with an average age in the early twenties, and predominately white. There were 446 responses, with 224 useable responses for the study.

Drawing

Based on the result of a pilot study question that asked students about whether they would prefer a chance to win 1 of 5 prepaid $100 gift cards or an iPad, the majority of the students agreed they would rather win a smaller gift with an increased chance of winning. In the current study, students who completed the survey had the option to participate in a random drawing for one of twenty $25.00 prepaid VISA gift cards. Students were asked to provide a contact email address to enable the researcher to contact winners of the drawing.

Survey

For this study, primary data was collected. An electronic survey (Appendix A) was created using Qualtrics, The Theory of Reasoned Action (TRA) was used to theoretically guide the development of the survey instrument using questions created by Fishbein and Ajzen (2010). The extensive research of Fishbein and Ajzen resulted in the development of questions for surveys, which were subsequently used in their research projects. The survey for this study contained six parts, including: (a) Financial Knowledge Questions, (b) Personality Questions, (c) Behavioral Belief Questions, (d) Normative Belief Questions, (e) Control Belief Questions, and (f) Demographic Questions.

This survey was modified from a pilot study previously administered to college students attending a Midwestern university and a university located in the Caribbean. The pilot study served as a test for the reliability and validity of the measurements developed using TRA. As a result of conducting the pilot study, modifications were made to the questionnaire used in this study. Prior to collecting any data for both the pilot and the current study, the survey was approved by the Institutional Research Board at Kansas State University.

Measurements

This section will include a discussion and operationalization of the independent and dependent variables of this study.

Independent Variables

The independent control variables tested in this study were personality (i.e., individual background factor), education level, age, gender, income level, religiosity,

marital status, and ethnicity (i.e., social background factors), and financial knowledge

(i.e., information background factor). The operationalization of each of the variables is

presented below.

Personality.

The independent variable personality was examined to test the associations with

behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control

beliefs. For this study, personality was measured using the Big-Five Personality Domains

(Gosling, Rentflow, & Swann, 2003). Respondents were asked questions to determine the

following personality characteristics: (a) extraversion, (b) agreeableness, (c)

conscientiousness, (d) neuroticism, and (e) openness. The Big-Five Personality Domains

were measured using a seven-point Likert scale for the ten questions, ranging from 1

(strongly disagree) to 7 (strongly agree). These personality attributes were assessed in the

survey shown in Appendix A. The respondent's scores for each of the ten questions were

summated to derive a score for each of the five personality characteristics listed above.

Reverse coding was applied to questions addressing the personality traits reserved,

critical, conventional, anxiousness, and disorganization.

Demographic information.

Four independent variables, education level, gender, religiosity, and ethnicity (i.e.,

social background factors), were utilized in this study. Education level was coded on a

scale of 1 to 6, with 1 being freshman and 4 being *senior*. *Graduate students* were coded

as 0. Students responding as *other*, meaning students, who were taking classes but were

not formally enrolled in a program of study, were coded as 5. Ethnicity was dummy

coded with white as 0, and other as 1. Females were coded as 2, and males were coded as

1. Religiosity was coded on a scale of 1-5, with 1 representing *none*, and 5 being *very much*. The demographic information was collected using questions in the survey shown in Appendix A.

Financial knowledge.

Financial knowledge (i.e., information background factor) was measured using a six-question scale developed by Robb and Sharpe (2009). Each question contained a correct answer with a summated score for the total number of correct answers. This variable was treated as a continuous variable. The six questions measured basic financial knowledge and summated scores ranged from 0 to 6. Questions in the survey are shown in Appendix A. The survey developed by Robb and Sharpe (2009) contains two questions used in the 2006 Jump$tart questionnaire, and two modified questions from the 1998 study by Chen and Volpe. In the 2009 study, Robb and Sharpe utilized this scale to determine the impact of personal financial knowledge on the credit card behavior of college students. The study consisted of a sample of 6,520 college students (Robb & Sharpe, 2009). The similar sample and nature of the study by Robb and Sharpe in 2009 and the sample of the current study supports the use in the current study of the same scale used by Robb and Sharpe. Robb and Sharpe (2009) stated that a good measure of validity was achieved, but no score was reported. The subsequent use of the questions in recent research studies confirms acceptable levels of reliability and validity of these questions for the measurement instrument in the present study. Table 3.1 presents the operationalization of all independent variables used in this study.

Table 3.1 Independent Variable Operationalization Matrix

Variable	Number of items in Survey	Variable Coding
Personality	10	Seven-point Likert scale; 1= Strongly Disagree. 7= Strongly Agree.
Education	1	Scale of 1 to 6; Freshman coded as 1 and senior coded as 4. Graduate students coded as 0. Students responding as other coded as 5.
Gender	1	Females coded as 1. Males coded as 0.
Religiosity	1	Coded on a scale of 1-5, with 1 being none, and 5 being very much.
Ethnicity	1	Dummy coded with all races other than white as 0, and white as 1.
Financial Knowledge	6	Summated score for all questions range from 0 to 6.

Dependent Variables

The dependent variables for this study were behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs. The operationalization of each of the variables is presented below.

Behavioral beliefs.

The first dependent variable for this study was behavioral beliefs. Behavioral beliefs are defined by Fishbein and Ajzen (2010, p. 221) as "the subjective probability that an object has a certain attribute." To further clarify, someone may believe repeated contributions to a retirement account increases the likelihood of a more comfortable lifestyle in retirement. In this example, a more comfortable lifestyle in retirement is the attribute. The repeated contributions to a retirement account are the object. Fishbein and Ajzen (2009) further stated the subjective probability should be measured using seven-

point scales ranging from strongly agree to strongly disagree, very bad to very good, or very likely to very unlikely.

For this study, the following eight outcomes of possessing a credit card were selected from the current personal finance literature: (a) staying out of unnecessary credit card debt, (b) building a credit history, (c) improving one's credit score, (d) learning financial responsibility, (e) overspending when using a credit card, (f) incurring interest charges on unpaid credit card balances, (g) having reduced future amounts to spend due to payment obligations on unpaid credit card balances, and (h) inability to control spending (Kapoor, Dlabay, & Hughes, 2014). The literature has established these eight common characteristics for possessing a credit card. The eight items shown in Appendix A were used to measure beliefs about possessing a credit card. Table 3.2 presents the operationalization of all dependent variables used in this study.

Table 3.2 Dependent Variable Operationalization Matrix

Construct	Empirical Model	Attribute measured	Number of items in Survey	Variable Coding
Behavioral* Beliefs-Outcome Evaluation	$A \alpha \sum_{i=1}^{n} b_i\, e_i$	e_i	8	Seven-point Likert Scale; 1= Very Bad, 7 = Very Good
Behavioral Beliefs-Strength	$A \alpha \sum_{i=1}^{n} b_i\, e_i$	b_i	8	Seven-point Likert Scale; 1= Very Unlikely, 7= Very Likely
Injunctive Normative Beliefs-Strength	$INB\ \alpha \sum_{i=1}^{n} n_i\, m_i$	n_i	8	Seven-point Likert Scale; 1= Strongly Disagree, 7= Strongly Agree
Injunctive* Normative Beliefs-Motivation to Comply	$INB\ \alpha \sum_{i=1}^{n} n_i\, m_i$	m_i	8	Seven-point Likert Scale; 1= Strongly Disagree, 7= Strongly Agree
Descriptive Normative Beliefs-Strength	$DNB\ \alpha \sum_{i=1}^{n} t_i\, r_i$	t_i	8	Seven-point Likert Scale; 1= Very Unlikely, 7= Very Likely
Descriptive* Normative Beliefs-Identification with Referent	$DNB\ \alpha \sum_{i=1}^{n} t_i\, r_i$	r_i	8	Seven-point Likert Scale; 1= Very Unlikely, 7= Very Likely
Control* Beliefs-Power of Control	$PBC\ \alpha \sum_{i=1}^{n} c_i\, p_i$	p_i	8	Seven-point Likert Scale; 1= Strongly Disagree, 7= Strongly Agree
Control Beliefs-Strength	$PBC\ \alpha \sum_{i=1}^{n} c_i\, p_i$	c_i	8	Seven-point Likert Scale; 1= Very Unlikely, 7= Very Likely

*Construct is not tested in the scope of this research.

The eight items measuring the strength of the eight selected beliefs about possessing a credit card were measured on a seven-point scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Fishbein and Ajzen (2010) noted that a summated value

of these eight items determine the strength of the beliefs. The empirical model for determining attitudes was presented in Chapter 2.

Normative beliefs.

The second dependent variable for this study was normative beliefs. Fishbein and Ajzen (2010, p. 130), defined norms as "perceived social pressure to perform (or not to perform) a given behavior." Fishbein and Ajzen further explained that individuals develop beliefs about a specific behavior from social pressure. These beliefs can be categorized as either injunctive normative beliefs or descriptive normative beliefs. The questions measuring injunctive and descriptive normative beliefs were measured on a seven-point scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Normative beliefs were categorized as either injunctive normative beliefs or descriptive normative beliefs. A discussion of each of these types of normative beliefs and the operationalization of these concepts are presented below.

Injunctive normative beliefs.

Fishbein and Ajzen (2010 p. 130) defined injunctive normative beliefs as those beliefs relative to a behavior "a particular referent individual or group thinks a person should or should not perform." Referent individuals or groups could be parents, teachers, pastors, close friends, or other family members such as brothers, sisters, or grandparents (Fishbein & Ajzen, 2010). Using the guidelines for constructing questions for injunctive normative beliefs of Fishbein and Ajzen (2010), eight referent individuals or groups were selected for this study as follows: (a) parents, (b) close friends, (c) spouse/partner, (d) people like me (i.e., participants in this study), (e) boyfriend/girlfriend, (f) brothers/sisters, (g) grandfather/grandmother, and (h) other family members that are

important to me (i.e., participants in this study). Questions measuring injunctive normative beliefs are shown in Appendix A. The eight items listed above were measured on a seven-point scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Items were summated and total scores could range from 8 to 56. The scale was used to determine the strength of the injunctive normative beliefs (Fishbein & Ajzen, 2010) with higher scores indicating higher injunctive normative beliefs. Ajzen & Fishbein (1980) noted that a behavior must consist of four elements: action, target, context, and time. That is, any intention related to a behavior is compatible if both are measured at the same level of generality or specificity. This occurs if both the intention and the behavior include the same action, target, context, and time elements (Ajzen & Fishbein, 1980). The Principle of Compatibility has been applied to the eight items listed above as follows: (a) the target is *what the referent (e.g., parents) think I should do)*; (b) the action is *do not obtain a credit card*, (c) the context is *from a financial institution*, and (d) time is *within the next 6 months*.

Descriptive normative beliefs.

Descriptive normative beliefs are defined by Fishbein and Ajzen (2010) as those norms established on the basis of perceptions of what other people are doing. The same referents in measuring injunctive normative beliefs listed in the previous section (also see Appendix A) were used to measure descriptive normative beliefs. The eight items were measured on a seven-point scale, ranging from 1 (definitely false), to 7 (definitely true). The Principal of Compatibility was applied to the items as follows: (1) the target is *what the referent (i.e., parents) think I should do*, (2) the action is *not obtaining a credit card,* and (3) the context is *from a financial institution*. The fourth element of the Principal of

Compatibility is time and was omitted for this variable. Fishbein and Ajzen (2010) noted that the researcher must use judgement when including the four elements in the design of questions to measure the variables of TRA. In the present case, the researcher has exercised judgement to delete the element of time for this variable to reduce the possibility of confusion for respondents.

Control beliefs.

Control beliefs are characterized as beliefs, either internal or external, that determine the level of control a person believes they have over a particular outcome (Fishbein & Ajzen, 2010). Control beliefs are those beliefs that precede the perception that an individual has or does not have the ability to perform a specific behavior. The items shown in Appendix A were developed according to Fishbein and Ajzen (2010) to measure control beliefs. The eight items were measured on a seven-point scale, ranging from 1 (very unlikely) to 7 (very likely). The Principal of Compatibility has been applied to the items as follows: (1) the *target* is staying out of unnecessary revolving credit card debt, improving credit score, learning financial responsibility, building credit history, overspending, reducing interest charges from unpaid credit card balances, reducing future amount to spend due to obligations on unpaid credit cards, and the inability to control spending, (2) *time* is within the next 6 months.

Validity

An essential concern for any research is the quality of the research (Trochim, 2005). For any research to be useful and to add to the body of the current literature, it must be quality research. Validity is the term we use to examine the quality of research (Trochim, 2005; Campbell, 1988; Shadish et al., 2002). Trochim defined validity as "the

best available approximation of the truth of a given proposition, inference, or conclusion" (Trochim, 2005, p. 16). Validity can be segmented into four critical types of validity: internal validity, external validity, conclusion validity, and construct validity (Trochim, 2005).

Conclusion validity.

Conclusion validity is defined as "the degree to which conclusions you reach about relationships in your data are reasonable" (Trochim, 2005, p. 18). For the current study, conclusion validity was enhanced using two techniques suggested by Trochim (2005). The first approach was to increase the sample size from the 303 respondents obtained in the pilot study to 446 responses in the present study. The second approach was to increase the effect size by increasing the reliability. This was accomplished by increasing the number of items in the survey from four items per dependent variable in the pilot study to eight items per dependent variable in the current survey.

Construct validity.

The fourth type of validity that is important to quality research is construct validity, defined as "the degree to which inferences can legitimately be made from the operationalizations in your study to the theoretical constructs on which those operationalizations are based" (Trochim, 2005, p. 18). Construct validity consists of convergent validity and discriminant validity (Trochim, 2005; Campbell and Fiske, 1959). Convergent validity is defined as "the degree to which the operationalization is similar to other operationalizations to which it should be theoretically similar" (Trochim, 2005, p. 52). Trochim (2005) further defined discriminant validity as the degree to which concepts that should not be related theoretically are, in fact, not interrelated in reality.

Trochim stated, "if you can demonstrate that you have evidence for both convergent and discriminant validity, you have by definition demonstrated that you have evidence for construct validity" (p. 52).

Trochim (2005) suggested a correlation analysis be conducted on the items of each question used to measure the constructs. This statistical test will determine whether the attributes of each question are measuring the associated construct and whether they are related to other constructs in the study (Trochim, 2005). Four correlation analyses were performed on the data. The first correlation analysis was of the questions measuring the strength of the behavioral beliefs to the four dependent variables (i.e., behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs). The results of this test are shown in Appendix C. The results show solid correlations between behavioral beliefs and the items used at the 0.01 level.

The second correlation analysis was of the questions measuring the strength of the control beliefs to the four dependent variables (i.e., behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs). The results of this test are shown in Appendix D. Significant correlations between control beliefs and the items used were found at the 0.01 level.

The third correlation analysis is of the questions measuring the strength of the injunctive normative beliefs to the four dependent variables (i.e., behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs). The results of this test are shown in Appendix E. The results of this test also show significant correlations between injunctive normative beliefs and the items used at the 0.01 level.

The last correlation analysis is of the questions measuring the strength of the

descriptive normative beliefs to the four dependent variables (i.e., behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs). The results of this test are shown in Appendix D. The results of this test also show significant correlations between descriptive normative beliefs and the items used at the 0.01 level.

Reliability

Quality research includes the concept of validity, but also includes the concept of reliability (Trochim, 2005). Reliability is defined as "the degree to which a measure is consistent or dependable; the degree to which it would give you the same result over and over again, assuming the underlying phenomenon is not changing" (Trochim, 2005, p. 60). For this study, the internal consistency reliability approach was used to estimate reliability. According to Trochim (2005), this approach is appropriate when administering a measurement instrument to one sample at a single point in time. For this study, reliability was estimated using Cronbach's Alpha. The reliability estimates for behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs, are presented in Table 3.3. High reliability measures were obtained for the four dependent variables.

Table 3.3 Reliability Measures

	Cronbach's Alpha	N of Items
Behavioral Beliefs	.84	4
Injunctive Normative Beliefs	.94	8
Descriptive Normative Beliefs	.87	6
Control Beliefs	.86	6

Analyses

The data analysis methodology for the current study consisted of the following four methods: (a) factor analysis, (b) correlation analysis, (c) multivariate analysis of variance (MANOVA), and (d) discriminant analysis. SPSS was used to analyze the data. Factor analysis, using principal component analysis, was used to develop the appropriate measures of the four dependent variables behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs. Factor analysis was also used to measure construct validity. Correlation analysis was used to determine the reliability of each of the variables in the study. MANOVA was used to determine the associations of the independent variables with each of the four dependent variables (i.e., behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs). Discriminant function analysis was performed as a post hoc test to confirm the results of the MANOVA.

Factor Analysis

Principal component analysis (PCA) was performed on the scales for the dependent variables behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs. The factor analyses utilized data reduction to ascertain what combination of the eight beliefs—(a) staying out of unnecessary credit card debt, (b) building a credit history, (c) improving one's credit score, (d) learning financial responsibility, (e) overspending when using a credit card, (f) incurring interest charges on unpaid credit card balances, (g) having reduced future amounts to spend due to payment obligations on unpaid credit card balances, and (h) inability to control spending—best relates to the latent dependent variables Behavioral Beliefs-strength,

designated as attribute b_i, Injunctive Normative Beliefs-strength, designated as n_i,

Descriptive Normative Beliefs-strength, designated as t_i, and Control Beliefs-strength,

designated as p_i in Table 3.2, with the individual background factor (i.e., personality),

social background factors (i.e., education level, gender, religion, and ethnicity), and

information background factor (i.e., financial knowledge). Pett, Lackey, and Sullivan

(2003) suggested, "Start with a PCA solution, solve the problems associated with, and

come up with a preliminary solution. Then, compare the results with a Principal Axis

Factoring (PFA), and pick the one that is the best fit and that makes the most intuitive

sense" (Pett et al., 2003, p. 114). Commonalities among the items for the eight variables

were identified. The rationale for using factor analysis was to (a) reduce the number of

factors to measure a variable, (b) ascertain how the factors conform on different

variables, and (c) determine if the factors can explain a pattern of the data (Spicer, 2005).

A Scree Plot was developed to identify which factors were used to measure the latent

variables and was later used in the MANOVA.

Correlation Analysis

This study used correlation analyses to determine the reliability of the scales. The

achieved reliability levels were previously discussed in the reliability section of this

chapter. The achieved reliability levels were found to be strong.

MANOVA

MANOVA was selected to analyze the associations of the multiple independent

and dependent variables of this study. Field (2010) noted that MANOVA permits an

analysis of the interaction between the variables, and provides the ability to detect group

differences on the four dependent variables. Field further explains that MANOVA is

preferred rather than conducting numerous ANOVAs. Using several ANOVAs would not reveal the interaction analysis provided by MANOVA (Field, 2010).

Discriminant Function Analysis

The use of discriminant function analysis as a confirmatory procedure to a MANOVA is a common practice to understand the relationships of multiple dependent variables (Field, 2010).

Discriminant function analysis provides a deeper insight into the dependent variables and how they impact the data. For this study, discriminant analysis was performed to confirm the MANOVA results and to provide the deeper understanding of the interaction between the dependent variables and the independent variables.

Chapter 4 - Findings and Results

Sample Characteristics

The goal of this study was to explore college students' beliefs about not possessing a credit card. Data were obtained from undergraduate students at six universities, located in various states in the U.S. Qualtrics was used to electronically collect the data, and SPSS version 18 was used to analyze the data. For the present study, total of 446 responses were received. A total of 224 respondents indicated they did not intend to obtain a credit card in the next six months.

The average education level of respondents was 2.19 ($SD = 1.33$), indicating that the average education level of the sample was sophomore. Most respondents reported their ethnicity as White European/American (74.11%, $N = 166$), while 8.48% reported themselves as African American ($N = 19$), 7.14% reported themselves as Hispanic/Latino ($N = 16$), and 6.70% reported themselves as Asian ($N = 15$). The majority of the respondents in the dissertation survey were female, (68.30%, $N = 153$), and males were 31.70% ($N = 71$). The mean for religiosity was 2.00, *little* impact on daily life ($SD = 1.33$). Most respondents to the dissertation survey reported that religious beliefs influence their daily life (religiosity), *quite a bit* were 26.79% of the dissertation survey sample ($N = 60$), and those reporting that religious beliefs influence their daily life *some* were 21.88% ($N = 49$). The remaining 115 respondents reporting religiosity were as follows: *none* 18.75% ($N = 42$), *little* 18.30% ($N = 41$), and *very much* 14.28% ($N = 32$). A comparison of the statistics and coding for the demographic variables in the pilot study and the dissertation study are presented in Table 4.1.

Table 4.1 Dissertation Survey Demographics

Variable	Dissertation Survey Classification	N	%
Education Level	Freshmen = 1	83	37.05
	Sophomore = 2	56	25.00
	Junior = 3	44	19.64
	Senior = 4	41	18.31
	Total	224	100.00
	Mean	2.19	
	SD	1.33	
Ethnicity	Hispanic/Latino = 0	16	7.14
	African American = 0	19	8.48
	Asian = 0	15	6.70
	White/European American = 1	166	74.11
	Pacific Islander = 0	0	0.00
	Native American = 0	0	0.00
	Other = 0	8	3.57
	Total	224	100.00
	Mean	.74	
	SD	.44	
Gender	Male = 1	71	31.70
	Female = 2	153	68.30
	Total	224	100.00
	Mean	1.68	
	SD	.47	
Religiosity	None = 1	42	18.75
	Little = 2	41	18.30
	Some = 3	49	21.88
	Quite a Bit = 4	60	26.79
	Very Much = 5	32	14.28
	Total	224	100.00
	Mean	2.00	
	SD	1.33	

Financial Knowledge Score

Financial knowledge was determined using six questions to measure the level of knowledge. The six questions asked about basic personal financial knowledge topics, including finance charges, inflation, credit history, interest rates, and investments. Respondents were asked to determine the correct response to each question, with the correct response coded as 1, and the incorrect response coded as 0. A summated score was calculated, with scores ranging from 0 to 6. The average score was 2.34 ($SD = 1.64$). Only 2.7% of the sample answered all six questions correctly, while 17% ($n = 38$) answered none of the questions correctly. For those who answered some of the questions correctly, 8.5% answered five questions correctly while 17.7% answered four questions correctly. The majority of respondents (57.2%) answered 1 to 3 questions correctly. A test of reliability using Cronbach's coefficient alpha for the scale indicated good reliability (.63). Table 4.2 details the descriptive statistics for the Financial Knowledge Questionnaire, which contains the mean response and the standard deviation for each of the six questions.

Table 4.2 Financial Knowledge Scale and Characteristics

Item / Coding	Mean Response	SD
Which of the following credit card users is likely to pay the greatest dollar amount in finance charges per year, if they all charge the same amount per year on their cards? Coding: 0 = Someone who always pays off their credit card in full shortly after it is received 1 = Someone who only pays the minimum amount each month 0 = Someone who pays at least the minimum amount each month, and more when they have more money 0 = Someone who generally pays their card off in full, but occasionally will pay the minimum when they are short on cash 0 = Don't Know.	.61	.49

Which of the following types of investment would best protect the purchasing power of a family's savings in the event of a sudden increase in inflation? Coding: 0 = A twenty-five year corporate bond 1 = A house financed with a fixed rate mortgage 0 = A 10-year bond issued by a corporation 0 = A certificate of deposit at a bank 0 = Don't Know	.24	.43
Which of the following statements best describes your right to check your credit history for accuracy? Coding: 0 = All credit reports are the property of the U.S. Government and access is only available to the FBI and Lenders 0 = You can only check your credit report for free if you are turned down for credit based on a credit report 1 = Your credit report can be checked once a year for free 0 = You cannot see your credit report 0 = Don't know	.50	.50
Which of the following loans is likely to carry the highest interest rate? Coding: 0 = A car loan 0 = A home equity loan 1 = A credit card loan 0 = A student loan 0 = Don't Know	.38	.49
Which of the following is TRUE about the annual percentage rate (APR)? Coding: 0 = APR is expressed as a percentage on a semi-annual basis 0 = APR does not take into account all loan fees 0 = APR is not an accurate measure of the interest paid over the life of the loan 1 = APR should be used to compare loans 0 = Don't know	.17	.37
A high-risk and high-return investment strategy would be most suitable for Coding: 0 = An elderly couple 0 = A middle-aged couple needing funds for their children's education in two years 1 = A young couple without children 0 = All of the above because they all need high returns 0 = Don't Know	.44	.50
Total Scale Score Cronbach alpha = .63	2.34	1.64

Personality Scores

Survey respondents were asked to answer one question for each of the ten personality traits. Responses were scored on a 7-point Likert Scale, with 1 (strongly disagree) to 7 (strongly agree). Ten personality scores were computed for the following personality traits: (a) reserved, (b) extraverted, (c) critical, (d) sympathetic, (e) dependable, (f) disorganized, (g) anxious, (h) calm, (i) open, and (j) conventional.

The scores for the traits reserved, critical, disorganized, anxious, and conventional were reverse coded to become negative rather than positive. The scores for the ten traits were then combined into pairs as follows: (a) reserved/extraverted, (b) critical/sympathetic, (c) disorganized/dependable, (d) anxious/calm, and (e) conventional/open. Each of the five combined scores was then recoded as follows: negative scores were coded as 1, positive scores were coded as 2, and neutral scores were coded as 0. Respondents with a score of 1 tended to be more reserved, critical, disorganized, anxious, and conventional. Respondents with a score of 2 tended to be more extraverted, sympathetic, dependable, calm, and open. For scores of 0, respondents scored equally on the pairs of traits.

For respondents in the survey, the average score for reserved/extraverted was 1.39 ($SD = .73$), the average score for critical/sympathetic was 1.48 ($SD = .79$), the average score for disorganized/dependable was 1.66, ($SD = .71$), the average score for anxious/calm was 1.31 ($SD = .73$), and the average score for conventional/open was 1.54 ($SD = .78$). The results indicate that the sample tends to be more sympathetic, calm, extraverted, dependable, and open. Table 4.3 details the descriptive statistics for personality.

Table 4.3 Personality Scale and Characteristics

Item	Mean Score	SD	Coding
Extraversion:			
I see myself as extraverted, enthusiastic	4.98	1.61	1 = More reserved than extraverted.
I see myself as reserved, quiet	4.01	1.83	2 = More extraverted than reserved. 0 = Equally extraverted and reserved.
Criticalness:			
I see myself as critical, quarrelsome	3.99	1.54	1 = More critical than sympathetic
I see myself as sympathetic, warm	5.43	1.31	2 = More sympathetic than critical 0 = Equally sympathetic and critical
Conscientious:			
I see myself as dependable, self-disciplined	5.56	1.23	1 = More disorganized than dependable
I see myself as disorganized, careless	2.92	1.55	2 = More dependable than disorganized 0 = Equally disorganized and dependable
Neuroticism:			
I see myself as anxious, easily upset	3.96	1.73	1 = More anxious than calm
I see myself as calm, emotionally stable	5.00	1.37	2 = More calm than anxious 0 = Equally anxious and calm
Openness:			
I see myself as open to new experiences, complex	5.17	1.35	1 = More conventional than open
I see myself as conventional, uncreative	3.26	1.56	2 = More open than conventional 0 = Equally conventional and open

Factor Analysis Results

A factor analysis for the four dependent variables, behavioral belief, control beliefs, injunctive normative beliefs, and descriptive normative beliefs, was conducted using a principle component analysis (PCA) with Varimax rotation and Kaiser normalization. A PCA was conducted on the 32 items with oblique rotation (direct oblimin). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .837 and all KMO values for individual items were greater than .710, which is above the acceptable limit of .5. Bartlett's test of sphericity χ^2 (496) = 4745.88, $p < .001$, indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. Seven components had eigenvalues over Kaiser's criterion of 1 and in combination explained 70.05% of the variance. The scree plot was slightly ambiguous and showed inflexions that would justify retaining components 1, 2, 3 and 4. The convergence of the scree plot and Kaiser's criterion on four components, and an analysis of the pattern matrix, resulted in four components being retained in the final analysis, explaining 57.22% of the variance. The factor loadings for the four dependent variables are shown in Appendix G.

The factor for behavioral beliefs contains 4 items, which are: (a) I will improve my credit score, (b) I will build/improve credit my credit history, (c) I will learn financial responsibility, and (d) I will have credit card payments that will reduce future amount to spend. The four items were summed and a score ranging from 4 to 28 was determined for each respondent. A test of reliability using Cronbach's coefficient alpha for the scale indicated high reliability α = (.84). The total mean score was 17.62 (SD = 5.71). Table 4.4 details the descriptive statistics for behavioral beliefs.

Table 4.4 Behavioral Beliefs Scale and Characteristics

Item	Mean	SD	Coding
If I do not obtain a credit card from a financial institution within six months, I will build or improve my credit score.	4.13	1.86	1 = Very Unlikely 2 = Unlikely 3 = Somewhat Unlikely 4 = Neither 5 = Somewhat Likely 6 = Likely 7 = Very Likely
If I do not obtain a credit card from a financial institution within six months, I will learn financial responsibility.	5.14	1.52	1 = Very Unlikely 2 = Unlikely 3 = Somewhat Unlikely 4 = Neither 5 = Somewhat Likely 6 = Likely 7 = Very Likely
If I do not obtain a credit card from a financial institution within six months, I will improve my credit history.	4.27	1.84	1 = Very Unlikely 2 = Unlikely 3 = Somewhat Unlikely 4 = Neither 5 = Somewhat Likely 6 = Likely 7 = Very Likely
If I do not obtain a credit card from a financial institution within six months, I will have credit card payments that will reduce the future amounts I have to spend.	4.00	1.73	1 = Very Unlikely 2 = Unlikely 3 = Somewhat Unlikely 4 = Neither 5 = Somewhat Likely 6 = Likely 7 = Very Likely
Total Scale Score Cronbach alpha = .84	17.62	5.71	Minimum Value = 4 Maximum Value = 28

The factor for control beliefs contains six items, including: (a) not have any revolving credit card debt, (b) learn more financial responsibility, (c) have less overspending, (d) have less interest charges, (e) have more future income, (f) not be a shop-a-holic. The six items were summed and a score ranging from 6 to 42 was determined for each respondent. A total mean score of 32.11 ($SD = 6.54$) was obtained for the scale. A test of reliability using Cronbach's coefficient alpha indicated high reliability $\alpha = .86$. Table 4.5 details the descriptive statistics for the Control Beliefs Scale.

Table 4.5 Control Beliefs Scale and Characteristics

Item / Coding	Mean Response	SD
Within in the next six months, I will not have any revolving credit card debt related to unnecessary living expenses within the next six months.	5.54	1.63
Coding: 1 = Very Unlikely; 2 = Unlikely; 3 = Somewhat Unlikely; 4 = Neither; 5 = Somewhat Likely; 6 = Likely; 7 = Very Likely		
Within in the next six months, I will learn more financial responsibility.	5.27	1.36
Coding: 1 = Very Unlikely; 2 = Unlikely; 3 = Somewhat Unlikely; 4 = Neither; 5 = Somewhat Likely; 6 = Likely; 7 = Very Likely		
Within the next six months, I will have less overspending on credit cards.	5.32	1.44
Coding: 1 = Very Unlikely; 2 = Unlikely; 3 = Somewhat Unlikely; 4 = Neither; 5 = Somewhat Likely; 6 = Likely; 7 = Very Likely		
Within the next six months, I will have less interest charges from credit card purchases.	5.28	1.56
Coding: 1 = Very Unlikely; 2 = Unlikely; 3 = Somewhat Unlikely; 4 = Neither; 5 = Somewhat Likely; 6 = Likely; 7 = Very Likely		
Within the next six months, I will have more future income because I will have smaller credit card payments.	5.17	1.45
Coding: 1 = Very Unlikely; 2 = Unlikely; 3 = Somewhat Unlikely; 4 = Neither; 5 = Somewhat Likely; 6 = Likely; 7 = Very Likely		
Within the next six months, I will not be a shop-a-holic because of credit card purchases.	5.39	1.42
Coding: 1 = Very Unlikely; 2 = Unlikely; 3 = Somewhat Unlikely; 4 = Neither; 5 = Somewhat Likely; 6 = Likely; 7 = Very Likely		
Total Scale Score	32.11	6.54
Cronbach alpha = .86		

The factor for injunctive normative beliefs contains eight items: (a) parents think I should not possess a credit card, (b) closest friends think I should not possess a credit card, (c) most people like me think I should not possess a credit card, (d) my spouse/partner think I should not possess a credit card, (e) my brothers/sisters think I should not possess a credit card, (f) my grandfather/grandmother think I should not possess a credit card, (g) other family members think I should not possess a credit card and, (h) my boyfriend/girlfriend thinks I should not possess a credit card. The eight items were summed, and a score ranging from 8 to 56 was determined for each respondent. The total mean score was 30.23 ($SD = 10.93$).   A test of reliability using Cronbach's coefficient alpha for the scale indicated high reliability (.94). Table 4.6 details the descriptive statistics for the injunctive normative beliefs scale.

Table 4.6 Injunctive Normative Beliefs Scale and Characteristics

Item/Coding	Mean	SD
My parents think that I should not possess a credit card from a financial institution within the next six months. Coding: 1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree or Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree	4.26	1.90
My closest friends think that I should not possess a credit card from a financial institution within the next six months. Coding: 1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree or Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree	3.58	1.62
Most people like me think that I should not possess a credit card from a financial institution within the next six months. Coding: 1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree or Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree	3.62	1.64
My spouse/partner thinks that I should not possess a credit card from a financial institution within the next six months. Coding: 1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree or Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree	3.61	1.54
My brothers/sisters think that I should not possess a credit card within the next six months. Coding: 1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree or Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree	3.75	1.70
My grandfather/grandmother thinks that I should not possess a credit card within the next six months. Coding: 1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree or Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree	3.78	1.73
Other family members that are important to me think that I should not possess a credit card within the next six months. Coding: 1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree or Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree	3.69	1.68
My boyfriend/girlfriend thinks that I should not possess a credit card within the next six months. Coding: 1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree or Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree	3.62	1.62
Total Scale Score Minimum Value = 8; Maximum Value = 56 σ = .94	30.23	10.93

The factor for descriptive normative beliefs contains four items, which are: (a) my parents do not have a credit card, (b) most people important to me do not have a credit card, (c) my grandfather/grandmother does not have a credit card, and (d) other family members important to me do not have a credit card. The four items were summed and a score ranging from 4 to 28 was determined for each respondent. A test of reliability using Cronbach's coefficient alpha indicated high reliability $\alpha = (.87)$. The mean score was 30.23 ($SD = 10.93$) for the scale. Table 4.7 details the descriptive statistics for Descriptive Normative Beliefs Scale.

Table 4.7 Descriptive Normative Beliefs Scale and Characteristics

Item	Mean	SD	Coding
My parents do not have a credit card from a financial institution.	2.44	2.02	1 = Definitely False 2 = Probably False 3 = Maybe False 4 = Don't Know 5 = Maybe True 6 = Probably True 7 = Definitely True
Most people who are important to me do not have a credit card from a financial institution.	2.92	1.67	1 = Definitely False 2 = Probably False 3 = Maybe False 4 = Don't Know 5 = Maybe True 6 = Probably True 7 = Definitely True
My grandfather/grandmother does not have a credit card from a financial institution.	2.78	1.93	1 = Definitely False 2 = Probably False 3 = Maybe False 4 = Don't Know 5 = Maybe True 6 = Probably True 7 = Definitely True
Other family members who are important to me do not have a credit card from a financial institution.	2.50	1.65	1 = Definitely False 2 = Probably False 3 = Maybe False 4 = Don't Know 5 = Maybe True 6 = Probably True 7 = Definitely True
Total Scale Score Minimum Value = 4 Maximum Value = 28 α = .87	10.66	6.22	

Correlation Analysis

A correlation analysis was performed on the dependent variables behavioral beliefs, control beliefs, injunctive normative beliefs, and descriptive normative beliefs. The factors selected from the factor analysis previously discussed were all found to be statistically significant at the .01 level. The results of the tests are shown respectively in Appendices C, D, E, and F.

Analyses for Hypotheses

A study of 224 undergraduate students who did not intend to possess a credit card was conducted to determine if the background factors personality, education level, gender, religiosity, ethnicity, and financial knowledge were associated with behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs. A multivariate analysis of variance (MANOVA) was performed to examine the testable hypotheses shown in Appendix B. Using MANOVA as the primary analysis tool provided information regarding the association of the independent variables with the dependent variables, information regarding the between variable associations of the independent variables, and identified differences between groups.

There are four assumptions of the MANOVA test: (a) observations were statistically independent, (b) data were sampled randomly, (c) the dependent variables were normally distributed within groups, and (d) the variances in each group were approximately equal. For this study, respondents were able to participate in the survey without interaction with other respondents, thus meeting the independence test. Respondents of the study were not specifically selected to participate in the study by the

researcher, and were not personally known by the researcher. The requirement for randomness was met. The assumption of normality and the question of whether homogeneity of co-variances exists are not concerns with this study. The dependent variables in this study have equal cases (N=224). Field (2009), Tweedy and Lunardelli (2016), and Horn (2016) noted that if the dependent variables have equal cases, the impact on multivariate normality and homogeneity is assumed minimal.

The results of the MANOVA model specified the dependent variable injunctive normative beliefs explained 13.7% of the variance, control beliefs explained 30.8% of the variance, behavioral beliefs explained 13.7% of the variance, and descriptive normative beliefs explained 11.5% of the variance. Seven associations of statistical significance were found as follows: (a) financial knowledge was found to be associated with control beliefs, (b) agreeableness was found to be associated with injunctive normative beliefs, (c) openness was found to be associated with behavioral beliefs, and (d) extraversion, agreeableness, conscientiousness, and neuroticism were all found to be associated with control beliefs. Table 4.8 below presents a summary of the results of the MANOVA. This table details the significance, the degrees of freedom, the F statistic and the partial eta squared for each independent variable tested related to the four dependent variables. For those hypotheses for which MANOVA found a statistically significant association, discriminant analyses were performed to confirm the results of the MANOVA. The results of the MANOVA and the related discriminant analyses for each of the testable hypotheses are presented below. Appendix H contains a summary of the results for the testable hypotheses.

Table 4.8 Comparison of Summary Results from MANOVA Test

Variable	Significance (Wilks Lambda)	df	F	Partial Eta Squared
Education Level				
Behavioral Beliefs	.74	3	.420	.01
Control Beliefs	.19	3	1.626	.02
Injunctive Normative Beliefs	.64	3	.561	.00
Descriptive Normative Beliefs	.56	3	.699	.01
Ethnicity				
Behavioral Beliefs	.32	1	1.004	.00
Control Beliefs	.20	1	1.623	.00
Injunctive Normative Beliefs	.36	1	.852	.00
Descriptive Normative Beliefs	.71	1	.142	.00
Gender				
Behavioral Beliefs	.57	1	.324	.00
Control Beliefs	.89	1	.018	.00
Injunctive Normative Beliefs	.13	1	2.311	.01
Descriptive Normative Beliefs	.15	1	2.131	.01
Religiosity				
Behavioral Beliefs	.46	4	.914	.02
Control Beliefs	.39	4	1.043	.02
Injunctive Normative Beliefs	.37	4	1.067	.02
Descriptive Normative Beliefs	.70	4	.552	.01
Financial Knowledge				
Behavioral Beliefs	.13	6	1.682	.05
Control Beliefs	**.00**	**6**	**3.828**	**.10**
Injunctive Normative Beliefs	.27	6	1.282	.04
Descriptive Normative Beliefs	.50	6	.889	.03
Extraversion Score				
Behavioral Beliefs	.99	2	.006	.00
Control Beliefs	**.05**	**2**	**2.964**	**.03**
Injunctive Normative Beliefs	.66	2	.407	.00
Descriptive Normative Beliefs	.56	2	.575	.01
Agreeableness Score				
Behavioral Beliefs	.41	2	.899	.01
Control Beliefs	**.00**	**2**	**5.864**	**.05**
Injunctive Normative Beliefs	**.04**	**2**	**3.198**	**.03**
Descriptive Normative Beliefs	.54	2	.614	.01
Conscientiousness Score				
Behavioral Beliefs	.98	2	.023	.00
Control Beliefs	**.05**	**2**	**2.953**	**.03**
Injunctive Normative Beliefs	.76	2	.272	.00
Descriptive Normative Beliefs	.44	2	.831	.01
Neuroticism Score				
Behavioral Beliefs	.99	2	.001	.00
Control Beliefs	**.01**	**2**	**4.918**	**.05**
Injunctive Normative Beliefs	.38	2	.969	.01
Descriptive Normative Beliefs	.78	2	.247	.00
Openness Score				
Behavioral Beliefs	**.00**	**2**	**5.947**	**.06**
Control Beliefs	.92	2	.088	.00
Injunctive Normative Beliefs	.72	2	.377	.00
Descriptive Normative Beliefs	.77	2	.265	.00

Note: Significance levels at .05 or less are shown in bold.

Hypothesis 1

The personality extraversion (i.e., reserved and extraverted) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 1, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.9. These results support the null hypothesis. There is no significant statistical association between extraversion and behavioral beliefs, $F(2,224) = .006$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.9 Extraversion and Behavioral Belief

Extraversion	*p*-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.99	.00

Hypothesis 2

The personality agreeableness (i.e., anxiousness and sympathetic) of undergraduate college students who did not intend to obtain a credit card within the next

six months is not significantly associated with their behavioral beliefs (i.e., learning

financial responsibility, building a credit history, building and maintaining a credit

score, staying out of unnecessary credit card debt, overspending when using a credit

card, incurring interest charges on unpaid credit card balances, having reduced future

amount to spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

The results of the MANOVA related to Hypothesis 2, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.10. These results supported the null hypothesis. There is no significant statistical

association between agreeableness and behavioral beliefs, $F(2,224) = .899$, $p > .05$, $\omega^2 =$

.01. The p-value is greater than .05, and partial eta squared indicates one percent of the

variance was explained.

Table 4.10 Agreeableness and Behavioral Beliefs

Agreeableness	P-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.41	.01

Hypothesis 3

The personality conscientiousness (i.e., disorganized and dependableness) of

undergraduate college students who did not intend to obtain a credit card within the next

six months is not significantly associated with their behavioral beliefs (i.e., learning

financial responsibility, building a credit history, building and maintaining a credit

score, staying out of unnecessary credit card debt, overspending when using a credit

card, incurring interest charges on unpaid credit card balances, having reduced future

amount to spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

The results of the MANOVA related to Hypothesis 3, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.11. These results supported the null hypothesis. There is no significant statistical association between conscientiousness and behavioral beliefs, $F(2,224) = .023$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.11 Conscientiousness and Behavioral Beliefs

Conscientiousness	P-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.98	.00

Hypothesis 4

The personality neuroticism (i.e., anxiousness and calmness) of undergraduate

college students who did not intend to obtain a credit card within the next six months is

not significantly associated with their behavioral beliefs (i.e., learning financial

responsibility, building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring

interest charges on unpaid credit card balances, having reduced future amount to spend

due to payment obligations on unpaid credit card balances, and inability to control

spending).

The results of the MANOVA related to Hypothesis 4, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.12. These results supported the null hypothesis. There is no significant statistical association between neuroticism and behavioral beliefs $F(2,224) = .001$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.12 Neuroticism and Behavioral Beliefs

Neuroticism	P-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.99	.00

Hypothesis 5

The personality openness (i.e., conventional and open) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 5, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.13. These results do not support the null hypothesis. A significant negative statistical association between openness and behavioral beliefs was found, controlling for education

level, F(2,224) = 5.947, p <.01, ω^2 = .06. The p-value and the partial eta squared are reported below in Table 4.13. A size effect of .23 was found from the MANOVA, representing a small size effect. The pairwise comparison test utilized the recoded openness score of 1 being conventional, 2 being open, and 0 being neutral between the two personality traits. The results indicated a negative group difference existed when comparing the personality traits conventional and open. A statistically significant association at the .05 level was found for respondents who were more conventional than open, and those who were more open than conventional.

The MANOVA for openness and behavioral beliefs was followed up with two discriminant analyses. The personality traits conventional and openness were each recoded dichotomously with 1 for having some traits and 0 for having no traits. The two traits were analyzed separately with behavioral beliefs, and each explained 100% of the variance, canonical R^2 = .005 and R^2 = .023, respectively. For the trait conventional, Λ = .99, $\chi^2(4)$ = 1.18, p = .88. For the trait openness, Λ = .98, $\chi^2(4)$ = 4.98, p = .29. The correlations outcomes and the discriminant functions revealed that conventional loaded with an r = .24, and openness loaded with an r = .25. The r values did not exceed .40, and did not confirm the MANOVA results that openness is associated with behavioral beliefs.

Table 4.13 Openness and Behavioral Beliefs

Openness	P-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.00	.06

Hypothesis 6

The personality extraversion (i.e., reserved and extraverted) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 6, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.14. These results supported the null hypothesis. There is no significant statistical association between extraversion and injunctive normative beliefs, $F(2,224) = .407$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.14 Extraversion and Injunctive Normative Beliefs

Extraversion	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.66	.00

Hypothesis 7

The personality agreeableness (i.e., criticalness and sympathetic) of undergraduate college students who did not intend to obtain a credit card within the next

six months is not significantly associated with their injunctive normative beliefs (i.e.,

learning financial responsibility, building a credit history, building and maintaining a

credit score, staying out of unnecessary credit card debt, overspending when using a

credit card, incurring interest charges on unpaid credit card balances, having reduced

future amount to spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

The results of the MANOVA related to Hypothesis 7, shown in The Comparison
of Summary Results in Table 4.8 previously presented, are reiterated below in Table
4.15. These results did not confirm the null hypothesis. A significant negative statistical
association between agreeableness and injunctive normative beliefs was found,
controlling for education level, $F(2,224) = 3.198$, $p < .05$, $\omega^2 = .03$. The p-value and the
partial eta squared are reported below in Table 4.15.

Table 4.15 Agreeableness and Injunctive Beliefs

Agreeableness	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.04	.03

A size effect of .17 was found from the MANOVA, representing a small size
effect. The pairwise comparison test utilized the recoded agreeableness score with 1
being critical, 2 being sympathetic, and 0 being neutral between the two personality traits.
The results indicated a negative group difference existed when comparing the personality
traits criticalness and sympathetic. A statistically significant association at the .05 level

was found for respondents who were more critical than sympathetic and those who were equally sympathetic and critical.

The MANOVA for agreeableness and injunctive normative beliefs was followed up with two discriminant analyses. The personality traits criticalness and sympathetic were each recoded dichotomously with 1 for having some traits and 0 for having no traits. The two traits were analyzed separately with injunctive normative beliefs, and each explained 100% of the variance, canonical $R^2 = .008$ and $R^2 = .056$, respectively. For the trait criticalness, $\Lambda = .99$, $\chi^2(4) = 1.75$, $p = .78$. For the trait sympathetic, $\Lambda = .94$, $\chi^2(4) = 12.74$, $p = .02$. The correlations outcomes and the discriminant functions revealed that criticalness loaded with an $r = .443$, and sympathetic loaded with an $r = .029$. The r value for criticalness exceeded .40, while the r value for sympathetic did not exceed .40. The results confirm the MANOVA findings that agreeableness is associated with injunctive normative beliefs.

Hypothesis 8

The personality conscientiousness (i.e., disorganized and dependableness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 8, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.16. These results supported the null hypothesis. There is no significant statistical association between conscientiousness and injunctive normative beliefs, F(2,224) = .272, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.16 Conscientiousness and Injunctive Normative Beliefs

Conscientiousness	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.76	.00

Hypothesis 9

The personality neuroticism (i.e., anxiousness and calmness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 9, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.17. These results supported the null hypothesis. There is no significant statistical

association between neuroticism and injunctive normative beliefs, $F(2,224) = .969$, $p >$ .05, $\omega^2 = .01$. The p-value is greater than .05, and partial eta squared indicates one percent of the variance was explained.

Table 4.17 First Table in Chapter 1

Neuroticism	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.38	.01

Hypothesis 10

The personality openness (i.e., conventional and open) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 10, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.18. These results supported the null hypothesis. There is no significant statistical association between openness and injunctive normative beliefs, $F(2,224) = .377$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.18 Openness and Injunctive Normative Beliefs

Openness	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.72	.00

Hypothesis 11

The personality extraversion (i.e., reserved and extraverted) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 11, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.19. These results did not confirm the null hypothesis. A significant negative statistical association between extraversion and control beliefs was found, controlling for education level, $F(2,224) = 2.964$, $p = .05$, $\omega^2 = .03$. The partial eta squared indicates three percent of the variance was explained. The p-value and the partial eta squared are reported below in Table 4.19. A size effect of .14 was found from the MANOVA, representing a small size effect. The pairwise comparison test utilized the recoded extraversion score with 1 being reserved, 2 being extraverted, and 0 being neutral between the two personality

traits. The results indicated there were no statistically significant group differences at the .05 level.

The MANOVA for extraversion and control beliefs was followed up with two discriminant analyses. The personality traits reserved and extraverted were each recoded dichotomously with 1 for having some traits and 0 for having no traits. The two traits were analyzed separately with control beliefs, and each explained 100% of the variance, canonical $R^2 = .008$ and $R^2 = .049$, respectively. For the trait reserved, $\Lambda = .99$, $\chi^2(4) = 1.81$, $p = .77$. For the trait extraverted, $\Lambda = .95$, $\chi^2(4) = 10.69$, $p = .03$. The correlation outcomes and the discriminant functions revealed that reserved loaded with an $r = .416$, and extraverted loaded with an $r = .804$. The r value for both reserved and extraverted exceeded .40. The results confirm the MANOVA findings that agreeableness is associated with control beliefs.

Table 4.19 Extraversion and Control Beliefs

Extraversion	P-value	Partial Eta Squared (ω^2)
Control Beliefs	.05	.03

Hypothesis 12

The personality agreeableness (i.e., criticalness and sympathetic) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring

interest charges on unpaid credit card balances, having reduced future amount to spend

due to payment obligations on unpaid credit card balances, and inability to control

spending).

The results of the MANOVA related to Hypothesis 12, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.20. These results did not confirm the null hypothesis. A statistically significant negative

association between agreeableness and control beliefs was found, controlling for

education level, $F(2,224) = 5.864$, $p < .01$, $\omega^2 = .06$. Table 4.20 presents the p-value and

the explained variance. The partial eta squared indicates five percent of the variance was

explained.

Table 4.20 Agreeableness and Control Beliefs

Agreeableness	P-value	Partial Eta Squared (ω^2)
Control Beliefs	.00	.05

A size effect of .20 was found from the MANOVA, representing a small size

effect. The pairwise comparison test utilized the recoded agreeableness score with 1

being critical, 2 being sympathetic, and 0 being neutral between the two personality traits.

The results indicated there were two statistically significant negative group differences at

the .05 level. The first significant group difference was between those who were more

critical than sympathetic and those who were equally sympathetic and critical. The

second significant group difference was between those who were more critical than

sympathetic and those who were more sympathetic than critical.

The MANOVA for agreeableness and control beliefs was followed up with two discriminant analyses. The personality traits criticalness and sympathetic were analyzed separately. Each explained 100% of the variance, canonical $R^2 = .008$ and $R^2 = .056$, respectively. For the criticalness trait, $\Lambda = .99$, $\chi^2(4) = 1.75$, $p = .78$. For the sympathetic trait, $\Lambda = .94$, $\chi^2(4) = 12.74$, $p = .02$. The correlation outcomes and the discriminant functions revealed that criticalness loaded with an $r = .45$. Similarly, the sympathetic loaded with an $r = .82$. The r values exceeded .40. The results confirm the MANOVA findings that agreeableness is associated with control beliefs.

Hypothesis 13

The personality conscientiousness (i.e. disorganized/dependableness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 13, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.21. These results did not confirm the null hypothesis. A statistically significant negative association between conscientiousness and control beliefs was found, controlling for education level, $F(2,224) = 2.953$, $p = .05$, $\omega^2 = .03$. The partial eta squared indicates

three percent of the variance was explained. The p-value and the partial eta squared are reported below in Table 4.21.

Table 4.21 Conscientiousness and Control Beliefs

Conscientiousness	P-value	Partial Eta Squared (ω^2)
Control Beliefs	.05	.03

A size effect of .14 was found from the MANOVA, representing a small size effect. The pairwise comparison test utilized the recoded conscientiousness score with 1 being disorganized, 2 being dependable, and 0 being neutral between the two personality traits. The results indicated there were no statistically significant group differences at the .05 level.

The MANOVA for conscientiousness and control beliefs was followed up with two discriminant analyses. The personality traits disorganized and dependableness were analyzed separately. Each explained 100% of the variance, canonical $R^2 = .03$ and $R^2 = .07$, respectively. For the disorganized trait, $\Lambda = .97$, $\chi^2(4) = 7.23$, $p = .12$. For the dependableness trait, $\Lambda = .93$, $\chi^2(4) = 16.79$, $p = .002$. The correlation outcomes and the discriminant functions revealed that disorganized loaded with an $r = .63$. Similarly, the dependableness loaded with an $r = .99$.   The r values exceeded .40. The results confirm the MANOVA findings that conscientiousness is associated with control beliefs.

Hypothesis 14

The personality neuroticism (i.e. anxiousness and calmness) of undergraduate college students who did not intend to obtain a credit card within the next six month sis not significantly associated with their control beliefs (i.e., learning financial

responsibility, building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring

interest charges on unpaid credit card balances, having reduced future amount to spend

due to payment obligations on unpaid credit card balances, and inability to control

spending).

The results of the MANOVA related to Hypothesis 14, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.22. These results did not confirm the null hypothesis. A significant negative statistical

association between neuroticism and control beliefs was found, controlling for education

level, $F(2,224) = 4.918$, $p = .01$, $\omega^2 = .05$. The partial eta squared indicates five percent

of the variance was explained. The p-value and the partial eta squared are reported below

in Table 4.22. A size effect of .19 was found from the MANOVA, representing a small

size effect. The pairwise comparison test utilized the recoded neuroticism score with 1

being anxious, 2 being calm, and 0 being neutral between the two personality traits. The

results indicated there was a statistically significant negative group difference at the .05

level. The group difference was between those who were more calm than anxious and

those who were equally calm and anxious.

The MANOVA for neuroticism and control beliefs was followed up with two

discriminant analyses. The personality traits anxiousness and calmness were analyzed

separately. Each explained 100% of the variance, canonical $R^2 = .01$ and $R^2 = .05$,

respectively. For the anxiousness trait, $\Lambda = .99$, $\chi^2(4) = 2.78$, $p = .60$. For the calmness

trait, $\Lambda = .95$, $\chi^2(4) = 10.54$, $p = .03$. The correlation outcomes and the discriminant

functions revealed that anxiousness loaded with an $r = .43$. Similarly, the calmness trait

loaded with an $r = .94$. The r values exceeded .40. The results confirm the MANOVA

findings that neuroticism is associated with control beliefs.

Table 4.22 Neuroticism and Control Beliefs

Neuroticism	P-value	Partial Eta Squared (ω^2)
Control Beliefs	.01	.05

Hypothesis 15

The personality openness (i.e. conventional and open) of undergraduate college

students who did not intend to obtain a credit card within the next six months is not

significantly associated with their control beliefs (i.e., learning financial responsibility,

building a credit history, building and maintaining a credit score, staying out of

unnecessary credit card debt, overspending when using a credit card, incurring interest

charges on unpaid credit card balances, having reduced future amount to spend due to

payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 15, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.23. These results supported the null hypothesis. There is no significant statistical

association between openness and control beliefs, $F(2,224) = .088$, $p > .05$, $\omega^2 = .00$.

The p-value is greater than .05, and partial eta squared indicates less than one percent of

the variance was explained.

Table 4.23 Openness and Control Beliefs

Openness	P-value	Partial Eta Squared (ω^2)
Control Beliefs	.92	.00

Hypothesis 16

The personality extraversion (i.e. reserved and extraverted) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 16, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.24. These results supported the null hypothesis. There is no significant statistical association between extraversion and descriptive normative beliefs, $F(2,224) = .575$, $p > .05$, $\omega^2 = .01$. The p-value is greater than .05, and partial eta squared indicates one percent of the variance was explained.

Table 4.24 Extraversion and Descriptive Normative Beliefs

Extraversion	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.56	.01

Hypothesis 17

The personality agreeableness (i.e. anxiousness and sympathetic) of

undergraduate college students who did not intend to obtain a credit card within the next

six months is not significantly associated with their descriptive normative beliefs (i.e.,

learning financial responsibility, building a credit history, building and maintaining a

credit score, staying out of unnecessary credit card debt, overspending when using a

credit card, incurring interest charges on unpaid credit card balances, having reduced

future amount to spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

The results of the MANOVA related to Hypothesis 17, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.25. These results supported the null hypothesis.   There is no significant statistical

association between agreeableness and descriptive normative beliefs, $F(2,224) = .614$, $p >$

$.05$, $\omega^2 = .01$. The p-value is greater than .05, and partial eta squared indicates that one

percent of the variance was explained.

Table 4.25 Agreeableness and Descriptive Normative Beliefs

Agreeableness	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.54	.01

Hypothesis 18

The personality conscientiousness (i.e. disorganized and dependableness) of

undergraduate college students who did not intend to obtain a credit card within the next

six months is not significantly associated with their descriptive normative beliefs (i.e.,

learning financial responsibility, building a credit history, building and maintaining a

credit score, staying out of unnecessary credit card debt, overspending when using a

credit card, incurring interest charges on unpaid credit card balances, having reduced

future amount to spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

The results of the MANOVA related to Hypothesis 18, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.26. These results supported the null hypothesis.   There is no significant statistical

association between conscientiousness and descriptive normative beliefs, $F(2,224) =$

$.831, p > .05, \omega^2 = .01$. The p-value is greater than .05, and partial eta squared indicates

one percent of the variance was explained.

Table 4.26 Conscientiousness and Descriptive Normative Beliefs

Conscientiousness	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.44	.01

Hypothesis 19

The personality neuroticism (i.e. anxiousness and calmness) of undergraduate

college students who did not intend to obtain a credit card within the next six months is

not significantly associated with their descriptive normative beliefs (i.e., learning

financial responsibility, building a credit history, building and maintaining a credit

score, staying out of unnecessary credit card debt, overspending when using a credit

card, incurring interest charges on unpaid credit cards balances, having reduced future

amount to spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

The results of the MANOVA related to Hypothesis 19, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.27. These results supported the null hypothesis.   There is no significant statistical association between neuroticism and descriptive normative beliefs, $F(2,224) = .247$, $p > .05$, $\omega^2 = .00$.   The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.27 Neuroticism and Descriptive Normative Beliefs

Neuroticism	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.78	.00

Hypothesis 20

The personality openness (i.e. conventional and openness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 20, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.28. These results supported the null hypothesis. There is no significant statistical association between openness and descriptive normative beliefs, $F(2,224) = .265$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.28 Openness and Descriptive Normative Beliefs

Openness	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.77	.00

Hypothesis 21

The education level of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 21, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.29. These results supported the null hypothesis. There is no significant statistical association between education level and behavioral beliefs, $F(3,224) = .420$, $p > .05$, ω^2

= .00. The p-value is greater than .05, and partial eta squared indicates one percent of the variance was explained.

Table 4.29 Education Level and Behavioral Beliefs

Education Level	P-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.74	.00

Hypothesis 22

The gender of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 22, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.30. These results supported the null hypothesis. There is no significant statistical association between gender and behavioral beliefs, $F(1,224) = .324$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.30 Gender and Behavioral Beliefs

Gender	P-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.57	.00

Hypothesis 23

The religiosity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 23, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.31. These results supported the null hypothesis. There is no significant statistical association between religiosity and behavioral beliefs, $F(4,224) = .914$, $p > .05$, $\omega^2 = .02$. The p-value is greater than .05, and partial eta squared indicates two percent of the variance was explained.

Table 4.31 Religiosity and Behavioral Beliefs

Religiosity	P-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.46	.02

Hypothesis 24

The ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 24, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.32. These results supported the null hypothesis.   There is no significant statistical association between ethnicity and behavioral beliefs, $F(1,224) = 1.004$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates that less than one percent of the variance was explained.

Table 4.32 Ethnicity and Behavioral Beliefs

Ethnicity	P-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.32	.00

Hypothesis 25

The education level of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit

history, building and maintaining a credit score, staying out of unnecessary credit card

debt, overspending when using a credit card, incurring interest charges on unpaid credit

card balances, having reduced future amount to spend due to payment obligations on

unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 25, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.33. These results supported the null hypothesis. There is no significant statistical

association between education and injunctive normative beliefs, $F(3,224) = .561$, $p > .05$,

$\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one

percent of the variance was explained.

Table 4.33 Education Level and Injunctive Normative Beliefs

Education Level	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.64	.00

Hypothesis 26

The gender of undergraduate college students who did not intend to obtain a

credit card within the next six months is not significantly associated with their injunctive

normative beliefs (i.e., learning financial responsibility, building a credit history,

building and maintaining a credit score, staying out of unnecessary credit card debt,

overspending when using a credit card, incurring interest charges on unpaid credit card

balances, having reduced future amount to spend due to payment obligations on unpaid

credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 26, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.34. These results supported the null hypothesis. There is no significant statistical association between gender and injunctive normative beliefs, $F(1,224) = 2.311$, $p > .05$, $\omega^2 = .01$. The p-value is greater than .05, and partial eta squared indicates one percent of the variance was explained.

Table 4.34 Gender and Injunctive Normative Beliefs

Gender	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.13	.01

Hypothesis 27

The religiosity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 27, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.35. These results supported the null hypothesis. There is no significant statistical association between religiosity and injunctive normative beliefs, $F(4,224) = 1.067$, $p >$

.05, $\omega^2 = .02$. The p-value is greater than .05, and partial eta squared indicates two percent of the variance was explained.

Table 4.35 Religiosity and Injunctive Normative Beliefs

Religiosity	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.37	.02

Hypothesis 28

The ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 28, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.36. These results supported the null hypothesis. There is no significant statistical association between ethnicity and injunctive normative beliefs, $F(1,224) = .852$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates that less than one percent of the variance was explained.

Table 4.36 Ethnicity and Injunctive Normative Beliefs

Ethnicity	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.36	.00

Hypothesis 29

The education level of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 29, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.37. These results supported the null hypothesis. There is no significant statistical association between education level and control beliefs, $F(3,224) = 1.626$, $p > .05$, $\omega^2 = .02$. The p-value is greater than .05, and partial eta squared indicates two percent of the variance was explained.

Table 4.37 Education Level and Control Beliefs

Education Level	P-value	Partial Eta Squared (ω^2)
Control Beliefs	.19	.02

Hypothesis 30

The gender level of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 30, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.38. These results supported the null hypothesis. There is no significant statistical association between gender and control beliefs, $F(1,224) = .018$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.38 Gender and Control Beliefs

Gender	P-value	Partial Eta Squared (ω^2)
Control Beliefs	.89	.00

Hypothesis 31

The religiosity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending

when using a credit card, incurring interest charges on unpaid credit card balances,

having reduced future amount to spend due to payment obligations on unpaid credit card

balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 31, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.39. These results supported the null hypothesis. There is no significant statistical

association between religiosity and control beliefs, $F(4,224) = 1.043$, $p > .05$, $\omega^2 = .02$.

The p-value is greater than .05, and partial eta squared indicates two percent of the

variance was explained.

Table 4.39 Religiosity and Control Beliefs

Religiosity	P-value	Partial Eta Squared (ω^2)
Control Beliefs	.39	.02

Hypothesis 32

The ethnicity of undergraduate college students who did not intend to obtain a

credit card within the next six months is not significantly associated with their control

beliefs (i.e., learning financial responsibility, building a credit history, building and

maintaining a credit score, staying out of unnecessary credit card debt, overspending

when using a credit card, incurring interest charges on unpaid credit card balances,

having reduced future amount to spend due to payment obligations on unpaid credit card

balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 32, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.40. These results supported the null hypothesis. There is no significant statistical

association between ethnicity and control beliefs, $F(1,224) = 1.623, p > .05, \omega^2 = .01$.

The p-value is greater than .05, and partial eta squared indicates one percent of the

variance was explained.

Table 4.40 Ethnicity and Control Beliefs

Ethnicity	P-value	Partial Eta Squared (ω^2)
Control Beliefs	.20	.01

Hypothesis 33

The education level of undergraduate college students who did not intend to

obtain a credit card within the next six months is not significantly associated with their

descriptive normative beliefs (i.e., learning financial responsibility, building a credit

history, building and maintaining a credit score, staying out of unnecessary credit card

debt, overspending when using a credit card, incurring interest charges on unpaid credit

card balances, having reduced future amount to spend due to payment obligations on

unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 33, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.41. These results supported the null hypothesis. There is no significant statistical

association between education level and descriptive normative beliefs, $F(3,224) = .699, p$

$> .05, \omega^2 = .01$. The p-value is greater than .05, and partial eta squared indicates one

percent of the variance was explained.

Table 4.41 Education Level and Descriptive Normative Beliefs

Education Level	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.56	.01

Hypothesis 34

The gender of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 34, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.42. These results supported the null hypothesis. There is no significant statistical association between gender and descriptive normative beliefs, $F(1,224) = 2.131$, $p > .05$, $\omega^2 = .01$. The p-value is greater than .05, and partial eta squared indicates one percent of the variance was explained.

Table 4.42 Gender and Descriptive Normative Beliefs

Gender	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.15	.01

Hypothesis 35

The religiosity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 35, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.43. These results supported the null hypothesis. There is no significant statistical association between religiosity and descriptive normative beliefs, $F(4,224) = .552$, $p > .05$, $\omega^2 = .01$. The p-value is greater than .05, and partial eta squared indicates one percent of the variance was explained.

Table 4.43 Religiosity and Descriptive Normative Beliefs

Religiosity	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.70	.01

Hypothesis 36

The ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 36, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.44. These results supported the null hypothesis. There is no significant statistical association between ethnicity and descriptive normative beliefs, $F(1,224) = .142$, $p > .05$, $\omega^2 = .00$. The p-value is greater than .05, and partial eta squared indicates less than one percent of the variance was explained.

Table 4.44 Ethnicity and Descriptive Normative Beliefs

Ethnicity	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.71	.00

Hypothesis 37

The financial knowledge of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 37, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.45. These results supported the null hypothesis. There is no significant statistical association between financial knowledge and behavioral beliefs, $F(6,224) = 1.682$, $p > .05$, $\omega^2 = .05$. The p-value is greater than .05, and partial eta squared indicates five percent of the variance was explained.

Table 4.45 Financial Knowledge and Behavioral Beliefs

Financial Knowledge	P-value	Partial Eta Squared (ω^2)
Behavioral Beliefs	.13	.05

Hypothesis 38

The financial knowledge of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending

when using a credit card, incurring interest charges on unpaid credit card balances,

having reduced future amount to spend due to payment obligations on unpaid credit card

balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 38, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.46. These results did not confirm null hypothesis. A positive association between

control beliefs and financial knowledge was found, controlling for education level,

$F(6,224) = 3.828$, $p<.01$, $\omega^2 = .10$. A size effect of .28 was found from the MANOVA,

representing a small size effect. The pairwise comparison test utilized the financial

knowledge scores. The results indicated there were four statistically negative significant

group differences at the .05 level. The group differences were between those respondents

who answered none of the financial knowledge questions correctly and those respondents

who answered two, three, four, and five financial knowledge questions correctly.   The p-

value and the partial eta squared are reported below in Table 4.46.

Table 4.46 Association between Financial Knowledge and Control Belief

Financial Knowledge	P-value	Partial Eta Squared (R^2)
Control Beliefs	.00	.10

The MANOVA for financial knowledge and control beliefs was followed

up with discriminant analysis. Financial knowledge explained 100% of the variance,

canonical $R^2 = .13$.   For financial knowledge, $\Lambda = .87$, $\chi^2(4) = 30.25$, $p = .00$. The

correlation outcome and the discriminant function revealed that financial knowledge

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loaded with an $r = .81$. The r value exceeded .40. The results confirm the MANOVA

findings that financial knowledge is associated with control beliefs.

Hypothesis 39

The financial knowledge of undergraduate college students who did not intend to

obtain a credit card within the next six months is not significantly associated with their

injunctive normative (i.e., learning financial responsibility, building a credit history,

building and maintaining a credit score, staying out of unnecessary credit card debt,

overspending when using a credit card, incurring interest charges on unpaid credit card

balances, having reduced future amount to spend due to payment obligations on unpaid

credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 39, shown in The Comparison

of Summary Results in Table 4.8 previously presented, are reiterated below in Table

4.47. These results supported the null hypothesis. There is no significant statistical

association between financial knowledge and injunctive normative beliefs, $F(6,224) =$

$1.282, p > .05, \omega^2 = .04$. The p-value is greater than .05, and partial eta squared indicates

four percent of the variance was explained.

Table 4.47 Financial Knowledge and Injunctive Normative Beliefs

Financial Knowledge	P-value	Partial Eta Squared (ω^2)
Injunctive Normative Beliefs	.27	.04

Hypothesis 40

The financial knowledge of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

The results of the MANOVA related to Hypothesis 40, shown in The Comparison of Summary Results in Table 4.8 previously presented, are reiterated below in Table 4.48. These results supported the null hypothesis. There is no significant statistical association between financial knowledge and descriptive normative beliefs, $F(6,224) = .889$, $p > .05$, $\omega^2 = .03$. The p-value is greater than .05, and partial eta squared indicates three percent of the variance was explained.

Table 4.48 Financial Knowledge and Descriptive Normative Beliefs

Financial Knowledge	P-value	Partial Eta Squared (ω^2)
Descriptive Normative Beliefs	.50	.03

Summary

This chapter consisted of a discussion of the sample characteristics and the scales used to measure personality, financial knowledge, behavioral beliefs, control beliefs, injunctive normative beliefs, and descriptive normative beliefs. The results of the Factor

Analysis and Correlation Analysis followed. The analysis of the testable hypotheses began with a broad overview of the results of the MANOVA in Table 4.8. A detailed discussion of the results for the individual forty hypotheses was presented, consisting of the individual results of the MANOVA and the related confirmatory results of the discriminant analyses. Statistically significant results were found for seven of the hypotheses. A discussion of the results of the study from a macro perspective will be presented in the next chapter.

The dependent variable control beliefs was found to be significantly associated with the four personality types extraversion, agreeableness, conscientiousness, and neuroticism, while the dependent variable, injunctive normative beliefs, was found to be significantly associated only with the personality type extraversion. The fifth personality type, openness, was found to be significantly associated with behavioral beliefs. Financial knowledge also was found to be significantly associated with control beliefs. Descriptive normative beliefs were not found to be significantly associated with any of the independent variables tested. Finally, none of the independent variables, education level, gender, religiosity, or ethnicity, was found to be significantly associated with either behavioral, control, descriptive normative, or injunctive normative beliefs.

Chapter 5 - Discussion

The following discussion will connect the results of the study with the literature presented in Chapter 2, as well as the Theory of Reasoned Action (TRA), which was the theoretical framework that guided this study. A discussion of the research findings and analysis of the related implications of findings will follow. Separate discussions for the limitations of the current study and recommendations for future studies will follow the discussion of research findings and implications. Appendix H summarizes the results of each of the testable hypotheses.

Discussion of Research Findings

Appendix H presents the results of the testable hypotheses. The results of the study did not support the null hypotheses 5, 7, 11, 12, 13, 14, and 38; each yielded significant associations with small effect size, discussed further below. The remaining null hypotheses were supported, and no significant results were found. Control beliefs were significantly associated with personality and financial knowledge as discussed in Chapter 4.   Control beliefs were defined by Fishbein and Ajzen (2010), as *the presence of subjective probabilities that may contribute or detract from the performance of a specific behavior.* The five personality types, extraversion, agreeableness, conscientiousness, neuroticism, and openness, were all found to be significantly associated with either behavioral beliefs, defined as *consideration of consequences of a specific behavior*;   control beliefs, defined as *those events that influence whether the performance of the behavior is easy or difficult*; or injunctive normative beliefs, defined as *the approval or disapproval of a certain behavior by friends, associates, co-workers,*

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or family members (Fishbein & Ajzen, 1980). Descriptive normative beliefs, defined as *those beliefs that are established on the basis of perceptions of what other people are doing* (Fishbein & Ajzen, 1980), were not found to be associated with any of the five personality types. The demographics of the sample may explain the lack of any personalities associated with descriptive normative beliefs. The sample for this study contained more freshmen and sophomores than juniors and seniors. It is possible that if the sample had a different mix of students from the four education levels, there may have been more personality types associated with descriptive normative beliefs. Financial knowledge was found to be significantly associated only with control beliefs. The definitions and related discussions of behavioral beliefs, control beliefs, injunctive normative beliefs, and descriptive normative beliefs were presented in Chapter 2. The definitions of each of the four beliefs are based on subjective probabilities as perceived by the individual. The following discussion will focus on the results of the seven hypotheses listed above for which the associations were found to be significantly associated. Scrutinizing the impact of the five personality types and the related behavioral, normative, and control beliefs can provide a clearer understanding of how personality may impact a specific behavior (Fishbein & Ajzen, 2010).

Hypothesis 5

A significant negative association (described in Chapter 4) was found between openness (i.e., conventional and open) and behavioral beliefs for hypothesis 5. Individuals who were more conventional than open scored lower on behavioral beliefs. To clarify, individuals who are more open are more willing to try new approaches, and those who are more conventional are less willing to try new approaches. An example of

behavioral beliefs would be *having a credit card may cause me to become a shop-a-holic.* As behavioral belief scores increased, the less conventional, and more open an individual became. This suggests that as individuals become more open versus conventional (i.e., the higher behavioral beliefs scores become), individuals may be more willing to consider obtaining a credit card.

Fishbein and Ajzen (2010) noted that many studies have been conducted that focus on the ability of personality traits to predict behavior. Fishbein and Ajzen also noted the lack of studies that examine the association of personality traits with beliefs. Hypothesis 5 supports that the personality trait *openness* is associated with behavioral beliefs. This finding contributes to the body of literature where little known research has been conducted (i.e., college students who do not have a credit card) and broadens the area of research by examining the association of *openness* and behavioral beliefs.

Hypothesis 7

For hypothesis 7, a significant negative association (described in Chapter 4) was found between agreeableness, (i.e., criticalness and sympathetic) and injunctive normative beliefs. Individuals who were more critical than sympathetic scored lower on injunctive normative beliefs than those who were equally sympathetic and critical. To clarify, individuals who were more critical were not interested in other people's problems, and those who are more sympathetic will make time for others. An example of injunctive normative beliefs would be *my parents approve of me not having a credit card because I may become a shop-a-holic.* As injunctive normative beliefs increased, the less critical an individual became and the more equally critical and sympathetic they became. This finding suggests as individuals become more sympathetic versus critical (i.e., the

injunctive normative beliefs scores become lower), individuals may be more willing to consider obtaining a credit card. Hypothesis 7 supports that the personality trait *agreeableness* is associated with behavioral beliefs, helping to further explain how personality can predict behavior according to the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 2010). This finding contributes to the college student and credit cards body of literature, expanding the area of research by examining the association of *agreeableness* to injunctive normative beliefs.

Hypothesis 11

The third significant negative association described in Chapter 4 was found between extraversion (i.e., reserved and extraversion) and control beliefs. Individuals who were more reserved than extraverted scored lower on control beliefs. To clarify, those who are not the life of the party are more reserved, while those who are the life of the party are more extraverted. An example of control beliefs would be *I have the ability to impact whether I become a shop-a-holic.* As control beliefs increased, the less reserved one became, and the more extraverted one became. This suggests that as individuals become more extraverted versus reserved (i.e., the higher behavioral beliefs scores become), individuals may be more willing to consider obtaining a credit card.

Fishbein and Ajzen, (2010) noted many studies have been conducted that focus on the ability of personality traits to predict behavior. Fishbein and Ajzen also noted the lack of studies that examine the association between personality traits and beliefs. Hypothesis 11 supports that the personality trait *extraversion* is associated with behavioral beliefs. This finding contributes to the body of literature where little known research has been

conducted (i.e., college students who do not have a credit card) and broadens the area of research by examining the association of *extraversion* to control beliefs.

Hypothesis 12

For hypothesis 12, two significant negative associations described in Chapter 4 were found between agreeableness (i.e., criticalness and sympathetic) and control beliefs. The first significant negative association was between those who were more critical than sympathetic and those who were equally sympathetic and critical. The second significant negative association was between those who were more critical versus those who were more sympathetic. To clarify, individuals who are more critical may not be interested in other people's problems, while those who are more sympathetic will make time for others. An example of control beliefs would be *I have the ability to impact whether I become a shop-a-holic.* Individuals who are more critical versus those who were more sympathetic scored lower on control beliefs than those who were more sympathetic than critical.   In addition, as control beliefs increased, the less critical an individual became and the more sympathetic or equally critical and sympathetic they became. This suggests that as individuals become more sympathetic versus critical (i.e., the higher control beliefs scores become), individuals may be more willing to consider obtaining a credit card. Hypothesis 12 supports that the personality trait *agreeableness* is associated with control beliefs, adding to the understanding of how personality predicts beliefs according to Fishbein and Ajzen (2010).

Hypothesis 13

For hypothesis 13, a significant negative association described in Chapter 4 was found between conscientiousness, (i.e., disorganized and dependableness), and control

beliefs. As control beliefs increased, conscientiousness scores decreased. To clarify,

individuals who are more disorganized do not pay attention to details, while those who

are more dependable do pay attention to details. An example of control beliefs would be *I*

have the ability to impact whether I become a shop-a-holic. With respect to the

personality conscientiousness and control beliefs, there were no significant associations

for the responses more disorganized than dependable, more dependable than disorganized

and equally dependable and disorganized. This suggests that as individuals become more

dependable versus disorganized (i.e., the higher control beliefs scores become),

individuals may be more willing to consider obtaining a credit card. Hypothesis 13

supports that the personality trait *conscientiousness* is associated with control beliefs,

contributing to the body of literature where little known research has been conducted

(i.e., college students who do not have a credit card).

Hypothesis 14

The sixth significant negative association described in Chapter 4 was found between

neuroticism, (i.e., anxiousness and calm), and control beliefs. As control beliefs

increased, neuroticism scores decreased. In other words, individuals who are more

anxious are easily irritated, while those who are calmer are not easily irritated.

Individuals who were equally calm and anxious scored lower control belief scores than

those who were more calm than anxious. As control beliefs increased, the more calm an

individual became, and less anxious the individual became. *I have the ability to impact*

whether I become a shop-a-holic is an example of a control belief.   Hypothesis 14

supports that the personality trait of *neuroticism* is associated with control beliefs,

contributing to the body of literature where little known research has been conducted (i.e., college students who do not have a credit card).

Hypothesis 38

The final significant negative association communicated in Chapter 4 was found between financial knowledge and control beliefs. Individuals who scored lower on financial knowledge, (i.e., those who answered less than two questions correctly), had higher control belief scores. Conversely, those individuals who scored higher on financial knowledge, (i.e., those who answered more than two questions correctly) had lower control belief scores.

The demographics of the sample may be affecting the association of control beliefs and financial knowledge. The sample consists of 60% freshmen and sophomores, and 40% juniors and seniors. Freshmen and sophomores may have lower levels of financial knowledge than juniors and seniors. This may explain the prevalence of the overall poor results reflected in the financial knowledge scores.

Fishbein and Ajzen (2010) stated, "Knowledge tests that measure correctness of information regarding a wide-ranging topic can affect behavioral, normative, and control beliefs." This statement supports Hypothesis 38 and contributes to the body of literature where little known research has been conducted (i.e., college students who do not have a credit card), broadening the area of research by examining the association of *financial knowledge* to control beliefs.

Implications of Findings

Two broad categories of significant findings were discovered in this study. The first was the association of financial knowledge and control beliefs. The second was the

associations among personality and control, behavioral, and injunctive normative beliefs. The intention to obtain or not obtain a credit card is a financial decision with implications for college administrators, financial planners, counselors, and policy makers. The implications to each of these will be discussed below.

Implications to College Administrators

The decision to attend or not attend college is a financial decision, just as the decision to obtain or not obtain a credit card is a financial decision. Students should evaluate the financial costs and associated benefits when deciding to attend college. The results of this study related to the association of financial knowledge and control beliefs can also be beneficial to college administrators. College administrators may be interested to know how financial knowledge of college students is associated with control beliefs related to students' decisions about whether to attend college or student perceptions that they can easily manage a credit card. In the current study, higher levels of financial knowledge were associated with lower control beliefs. The question that needs consideration is whether education level may be mediating the relationship between financial knowledge and control beliefs. For example, Cupples, Grable, and Rasure (2013) found the number of years of education was a mediator between gender and financial risk tolerance. In the current study, the sample contained more freshmen and sophomores versus juniors and seniors. It is reasonable to expect juniors and seniors would have more financial knowledge than freshmen and sophomores. This anomaly could support the possibility that education level may be mediating financial knowledge.

Implications to Financial Planners

Financial planners guide clients in making many financial decisions. These include financial decisions related to investments, retirement planning, insurance needs, and estate planning. Understanding how personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of clients is associated with their behavioral, control, injunctive normative, and descriptive normative beliefs related to financial decisions may be helpful to financial planners in advising clients who are college students. This insight is important for financial planners to improve relations with college student clients, and better understand how personality can impact the beliefs, intentions, and eventually behavior of college student clients. For example, if a college student client is found to be more reserved than extraverted, it could explain why the client expresses certain beliefs regarding investments, retirement planning, insurance needs, and estate planning. Further, the client may be having difficulty dealing with a financial problem. The reserved behavior may be the result of a maladaptive behavior (i.e. excessive drinking) to cope with the pressing financial problem.

Financial advisors can gain from the understanding of the association of financial knowledge and control beliefs. A similar rationale discussed above regarding college administrators is applicable to financial advisors. With respect to financial advisors, understanding how financial knowledge impacts control beliefs may reveal that higher levels of control beliefs are associated with higher levels of financial knowledge. If that were the case, financial advisors should encourage clients to become more knowledgeable of investments, retirement planning, insurance, and estate planning. This can be accomplished by providing clients with resources on these topics. Understanding

the association of financial knowledge to control beliefs is also important to the financial advisor. By doing so, the advisor can better understand and identify the client's control beliefs related to investments, retirement planning, insurance, and estate planning in order to better advise the client. The possibility of education level acting as a mediator for financial knowledge and control beliefs is also important to financial advisors in understanding clients' control beliefs. If the financial advisor understands this relationship, modifications to the relationship between the financial advisor and the client can occur, taking into consideration the influence of education level.

Implications to Financial Counselors

Financial counselors provide advice and guidance to clients on a diverse group of topics related to financial matters. Understanding how personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of college student clients are associated with their behavioral, control, injunctive normative, and descriptive normative beliefs related to counseling decisions may be helpful to financial counselors in advising their college student clients. For example, the awareness of this relationship is important to financial counselors in providing services to their clients. Understanding how a college student client scores high on neuroticism may provide an understanding that feelings of calmness and anxiousness will likely impact the client's control beliefs related to debt management advice.

Limitations of Current Study

The present study contains nine specific limitations that warrant discussion. First, the sample used in the study was a convenience sample, and therefore is not generalizable to another population of college undergraduates. Second, there was a bias connected with

the researcher. This researcher has a lengthy relationship with one of the universities used in the sample. To minimize the possibility of students having known the researcher, the population at this particular university was limited to a college within the university system with which the researcher has limited affiliation. Approximately three percent of the sample used in the study was from this particular university. Bias is deemed to have been minimized in regards to the final results of the study.

Third, the beliefs about credit cards (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending) were not elicited from a selection of college students via a focus group. Rather, they are beliefs that were corroborated from the existing literature as well-established beliefs related to having a credit card. Fourth, the selection of professors who provided the survey link to their students were selected based on the researcher's connection with the professors. There was no random selection of professors at the six universities.

Fifth, the sample used in this study contained more freshmen and sophomores than juniors and seniors. That is, the sample was younger than a normal sample from university. Sixth, some of the participants in the study may have been told by their parents that they were prohibited from having a credit card until they reached the age of 21. This dynamic may have impacted the responses of the participants.

 Seventh, the CARD Act of 2009 allows students under the age of 21 to obtain a credit card if they have verifiable income, or the student has a co-signor on the account.

These legislated requirements may have impacted the results of the study. For students

that did not have verifiable income, may have considered themselves ineligible for a

credit card. These students may not had any intentions of possessing or not possessing a

credit card. Eighth, income was not included as a control variable for this study. This may

have impacted the results of the study. The level of income may have influenced students

'decision to have or not have a credit card, thus affecting their intentions regarding a

credit card. Finally, the financial knowledge scale used in this study reflected a

Cronbach's Alpha of .63. This is an acceptable measure, but not excellent. Although this

is a common measurement scale used in previous literature, a different scale measuring

financial knowledge could have been utilized in this study.

Recommendations for Future Studies

Further research into the impact of education level on the association of financial

knowledge and control beliefs should be considered. The question that needs

consideration is whether education level may be mediating the relationship between

financial knowledge and control beliefs. The sample used in this study consisted of more

freshmen and sophomores than juniors and seniors. Additionally, as reported in Chapter

4, the average score on the financial knowledge questions was 2.34 questions answered

correctly, and 17% of the sample answered none of the six questions correctly. This may

be an anomaly related to the nature of the sample of this study. The sample was heavily

weighted with more freshmen and sophomores than juniors and seniors. As discussed in

Chapter 4, this may have impacted the results of the study.

The second area of future research involves the association of personality and

control beliefs. Significant statistical associations of the five personalities and control

beliefs were discussed in Chapter 4. Additional research to confirm these results is

needed in order to advance the understanding of the impact of personality on control

beliefs.

The third area of future research involves the further testing of the Theory of

Reasoned Action (TRA), which could extend the research to include the remaining

variables: attitude toward behavior, perceived norm, perceived behavioral control, and

intentions. The expansion of research in this area will advance the literature toward

understanding the full impact of background factors on intention to not obtain a credit

card. In addition, this extension of research may provide greater insight into the impact of

beliefs (i.e. behavioral, injunctive normative, descriptive normative, and control beliefs)

on intentions.

The final area of future research would concentrate on the extension to other

financial planning decisions in the areas of investments, retirement planning, and estate

planning. Understanding how background factors and beliefs impact how individuals

make investment choices, retirement decisions, and estate planning choices can advance

the literature in these areas.

This study could have been enhanced with the inclusion of perceived risk as an

independent variable. As noted earlier Chapter 2, Norvilitis (2015) concluded that college

students' attitude toward credit cards have become increasingly negative since the CARD

Act of 2009. A study of perceived risk may help to explain this shift in attitudes.

Summary

The purpose of this dissertation was to explore the beliefs of an understudied

population—college students who do not possess a credit card. The goal of the study was

to determine if the Theory of Reasoned Action (TRA) could be used to predict undergraduate college student beliefs that lead them to not possess a credit card. There is little known about why many undergraduate college students do not possess a credit card. This study examined whether personality, education level, gender, religiosity, ethnicity, and financial knowledge are associated with behavioral beliefs, injunctive normative beliefs, descriptive normative beliefs, and control beliefs.

This study collected primary data. A pilot study was conducted to set the stage for the data collection of the current study. To gather data, a convenience sample was obtained from undergraduate college students attending six universities located throughout the U.S. The data analysis methodology for this study consisted of the following four methods: (a) factor analysis, (b) correlation analysis, (c) MANOVA, and (d) discriminant function analysis.

Factor analysis identified questions that were used to develop scales to measure the dependent variables. Strong reliability estimates were obtained, ranging from .84 to .94. The MANOVA test identified seven testable hypotheses with statistically significant results. Personality, (i.e. extraversion, agreeableness, neuroticism, and conscientiousness) were found to be associated primarily with control beliefs. Extraversion was also found to be associated with injunctive normative beliefs. Openness was found to be associated with behavioral beliefs. Financial knowledge was also found to be associated with control beliefs. Discriminant function analysis was performed as a confirmatory test of the results from the MANOVA test. Discriminant function analysis supports the results on the MANOVA for six of the seven hypotheses. The hypothesis for openness and behavioral belief was not supported.

The goal of this study was to determine if the Theory of Reasoned Action could be used to predict undergraduate college student beliefs that lead them to not possess a credit card. This goal was partially accomplished. Control beliefs were predicted using the four personality traits extraversion, agreeableness, neuroticism, and conscientiousness. Control beliefs were also predicted using financial knowledge. Behavioral beliefs were only predicted using the personality trait openness. Injunctive normative beliefs were only predicted using the personality trait extraversion. Descriptive normative beliefs were not predicted using any personality traits, financial knowledge, education level, gender, ethnicity, or religiosity.

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Appendix A - Survey

What is it? The purpose of this study is to collect data about college students' attitudes and behavior toward credit card use.

What are the benefits and risks? You will have the opportunity to identify certain attitudes and behaviors related to the use of credit cards.

Is it private? All information we collect for research is confidential.   Can I quit if I want to? Participating in the research study is voluntary. You may choose not to complete the questionnaire or may drop out of the project at any time.   Who should I speak with if I have any questions? Should you have any questions about this project or its conduct, you can contact Sam Cupples, Ph.D. Candidate, Kansas State University, 405-834-5650.

Eligibility for Participation in Drawing: In order to be eligible to participate in a drawing to win 1 of 20, $25.00 prepaid VISA cards, you must complete the survey.
Winners will be selected randomly, and you must include your e-mail address in the designated space at the end of the survey. Your Email information will not be shared, and will not be connected with the responses you provided in the survey. Winners will be notified via e-mail.

Participant's Agreement and Responsibilities: I understand this project is research, and that my participation is completely voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits to which I may otherwise be entitled. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits to which I may otherwise

be entitled. If you would like to learn about the results of the study, please contact Sam Cupples at, scupples@ksu.edu or 405-834-5650, at the conclusion of the study. Leave your name, address, and phone number where you can be reached. I acknowledge that by clicking "I Agree" below indicates that I have read and understand what my participation in this project entails and I know of no reason that I cannot participate in this project. I have had all my questions answered and hereby give my voluntary consent for participation in the project.

○   I Agree
○   I Decline

I intend to possess a credit card from a financial institution within the next 6 months.

○   Yes
○   No

Below are some statements about personal finances. Please select the response to each of the following statements to indicate the extent which you agree or disagree with each statement.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Staying out of unnecessary credit card debt (i.e., debt unrelated to monthly living expenses) is a reason I do not have a credit card.	❍	❍	❍	❍	❍	❍	❍
Building a credit history is a reason I do not have a credit card.	❍	❍	❍	❍	❍	❍	❍
Improving one's credit score is a reason I do not have a credit card.	❍	❍	❍	❍	❍	❍	❍
Learning financial responsibility is a reason I do not have a credit card.	❍	❍	❍	❍	❍	❍	❍
Helping me avoid overspending is a reason I do not have a credit card.	❍	❍	❍	❍	❍	❍	❍
The additional cost of purchases from interest charges is a reason is why I do not have a credit card.	❍	❍	❍	❍	❍	❍	❍
I do not have a credit card because the payments for purchases made with a credit card will reduce the future amount I have to spend.	❍	❍	❍	❍	❍	❍	❍
I do not have a credit card because my inability to control my spending may cause me to become a shop-a-holic.	❍	❍	❍	❍	❍	❍	❍

Please select the response to each of the following statements to indicate the extent which you agree or disagree with each statement.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
My parents think that I should not possess a credit card from a financial institution within the next six months.	○	○	○	○	○	○	○
My closest friends think that I should not possess a credit card from a financial institution within the next six months.	○	○	○	○	○	○	○
Most people like me think I should not possess a credit card from a financial institution within the next six months.	○	○	○	○	○	○	○
My spouse/partner thinks that I should not possess a credit card from a financial institution within the next six months.	○	○	○	○	○	○	○
My brothers/sisters think that I should not possess a credit card from a financial institution within the next six months.	○	○	○	○	○	○	○
My grandfather/ grandmother think that I should not possess a credit card from a financial institution within the next six months.	○	○	○	○	○	○	○
Other family members that are important to me think that I should not possess a credit card from a financial institution within the next six months.	○	○	○	○	○	○	○
My boyfriend/girlfriend thinks that I should not possess a credit card from a financial institution within the next six months.	○	○	○	○	○	○	○

Below are some statements about obtaining a credit card. For each of the following statements,

please select the response that best represents your opinion.

 If I do not obtain a credit card from a financial institution within the next six months:

	Very Unlikely	Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Likely	Very Likely
I will stay out of unnecessary revolving credit card debt (i.e., debt unrelated to monthly living expenses).	❍	❍	❍	❍	❍	❍	❍
I will build or improve my credit score.	❍	❍	❍	❍	❍	❍	❍
I will learn financial responsibility.	❍	❍	❍	❍	❍	❍	❍
I will improve my credit history.	❍	❍	❍	❍	❍	❍	❍
I will avoid overspending.	❍	❍	❍	❍	❍	❍	❍
I will have credit card payments that will reduce the future amounts I have to spend.	❍	❍	❍	❍	❍	❍	❍
I will not have interest charges from credit card purchases.	❍	❍	❍	❍	❍	❍	❍
I may not become a shop-a-holic.	❍	❍	❍	❍	❍	❍	❍

Below are some statements related to having credit cards. Please read the following statements and indicate your level of agreement with each statement.

When it comes to matters of not possessing a credit card from a financial institution within the next six months:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I want to do what I think my parents think I should do.	○	○	○	○	○	○	○
I want to do what I think my closest friends think I should do.	○	○	○	○	○	○	○
I want to do what I think my spouse/partner thinks I should do.	○	○	○	○	○	○	○
I want to do what I think my brothers/sisters think I should do.	○	○	○	○	○	○	○
I want to do what I think my grandfather/grand-mother think I should do.	○	○	○	○	○	○	○
I want to do what I think my other family members that are important to me think I should do.	○	○	○	○	○	○	○
I want to do what I think my boyfriend/girlfriend thinks I should do.	○	○	○	○	○	○	○
I want to do what most people like me think I should do.	○	○	○	○	○	○	○

Below are some statements about having a credit card. Please select the response to each of the following statements to indicate the extent which you agree or disagree with each statement.

Not possessing a credit card from a financial institution within the next six months:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Will assist me in staying out of unnecessary debt (debt unrelated to monthly living expenses).	❍	❍	❍	❍	❍	❍	❍
Will assist me in building/improving my credit score.	❍	❍	❍	❍	❍	❍	❍
Will enable me to learn financial responsibility.	❍	❍	❍	❍	❍	❍	❍
Will assist me in building a credit history.	❍	❍	❍	❍	❍	❍	❍
Will help me avoid overspending.	❍	❍	❍	❍	❍	❍	❍
Will prevent me from incurring interest charges.	❍	❍	❍	❍	❍	❍	❍
Will result in have more future income to spend.	❍	❍	❍	❍	❍	❍	❍
Will assist me in not becoming a shop-a-holic.	❍	❍	❍	❍	❍	❍	❍

Please read the following statements and indicate your level of agreement with each statement.

Within in the next six months, I will:

	Very Unlikely	Unlikely	Somewhat Unlikely	Undecided	Somewhat Likely	Likely	Very Likely
Not have any revolving credit card debt related to unnecessary living expenses within the next six months.	❍	❍	❍	❍	❍	❍	❍
Improve/build my credit score.	❍	❍	❍	❍	❍	❍	❍
Learn more financial responsibility.	❍	❍	❍	❍	❍	❍	❍
Build/improve a credit history.	❍	❍	❍	❍	❍	❍	❍
Have less overspending on credit cards.	❍	❍	❍	❍	❍	❍	❍
Have less interest charges from credit card purchases.	❍	❍	❍	❍	❍	❍	❍
Have more future income because I will have smaller credit card payments.	❍	❍	❍	❍	❍	❍	❍
Not be a shop-a-holic because of credit card purchases.	❍	❍	❍	❍	❍	❍	❍

Below are some statements about having a credit card. Please select the response to each of the following statements to indicate the extent which you believe each statement is true or false.

	Definitely False	Probably False	Maybe False	Don't Know	Maybe True	Probably True	Definitely True
My parents do not have a credit card from a financial institution.	○	○	○	○	○	○	○
My closest friends do not have a credit card from a financial institution.	○	○	○	○	○	○	○
My spouse/partner does not have a credit card from a financial institution.	○	○	○	○	○	○	○
Most people who are important to me do not have a credit card from a financial institution.	○	○	○	○	○	○	○
My boyfriend/girlfriend does not have a credit card from a financial institution.	○	○	○	○	○	○	○
My brothers/sisters do not have a credit card from a financial institution.	○	○	○	○	○	○	○
My grandfather/ grandmother does not have a credit card from a financial institution.	○	○	○	○	○	○	○
Other family members who are important to me do not have a credit card from a financial institution.	○	○	○	○	○	○	○

Below are some statements about obtaining a credit card. For each of the following statements, please select the response that best represents your opinion.

When it comes to not having a credit card, how much do you want to be like:

	Very Unlikely	Unlikely	Somewhat Unlikely	Undecided	Somewhat Likely	Likely	Very Likely
Your parents.	❍	❍	❍	❍	❍	❍	❍
Your close friends.	❍	❍	❍	❍	❍	❍	❍
Your spouse/partner.	❍	❍	❍	❍	❍	❍	❍
People who are important to you.	❍	❍	❍	❍	❍	❍	❍
Your boyfriend/girlfriend.	❍	❍	❍	❍	❍	❍	❍
Your brothers/sisters.	❍	❍	❍	❍	❍	❍	❍
Your grandfather/grandmother	❍	❍	❍	❍	❍	❍	❍
Other family members who are important to you.	❍	❍	❍	❍	❍	❍	❍

Please answer the following questions to the best of your ability.

Which of the following credit card users is likely to pay the greatest dollar amount in finance charges per year, if they all charge the same amount per year on their cards?

○ Someone who always pays off their credit card in full shortly after it is received.
○ Someone who only pays the minimum amount each month.
○ Someone who pays at least the minimum amount each month, and more when they have more money.
○ Someone who generally pays their card off in full, but occasionally will pay the minimum when they are short on cash.
○ Don't know.

Which of the following types of investment would best protect the purchasing power of a family's savings in the event of a sudden increase in inflation?

○ A twenty-five year corporate bond
○ A house financed with a fixed rate mortgage
○ A 10-year bond issued by a corporation
○ A certificate of deposit at a bank
○ Don't know

Which of the following statements best describes your right to check your credit history for accuracy?

○ All credit reports are the property of the U.S. Government and access is only available to the FBI and Lenders.
○ You can only check your credit report for free if you are turned down for credit based on a credit report.
○ Your credit report can be checked once a year for free.
○ You cannot see your credit report.
○ Don't know

Which of the following loans is likely to carry the highest interest rate?

○ A car loan
○ A home equity loan
○ A credit card loan
○ A student loan
○ Don't know

Which of the following is TRUE about the annual percentage rate (APR)?

○ APR is expressed as a percentage on a semi-annual basis
○ APR does not take into account all loan fees
○ APR is not an accurate measure of the interest paid over the life of the loan
○ APR should be used to compare loans
○ Don't know

A high-risk and high-return investment strategy would be most suitable for

○ An elderly retired couple living on a fixed income
○ A middle-aged couple needing funds for their children's education in two years
○ A young married couple without children
○ All of the above because they all need high returns
○ Don't know

What is your education level?

○ Freshman
○ Sophomore
○ Junior
○ Senior
○ Graduate Student
○ Other

Which of the following groups best describes your primary ancestry?

❍ Hispanic/Latino
❍ African/American
❍ Pacific Islander
❍ Asian
❍ Native American
❍ White/European American
❍ Other

Are you:

❍ Male
❍ Female

What is your marital status?

❍ Never married
❍ Married
❍ Separated
❍ Divorced
❍ Widowed
❍ Not married but living with significant other

Indicate in the space below your current age? (For example, 23 yrs.)

Indicate in the space below your current monthly income from all sources, including public assistance, before taxes? (For example, $_,780 per month)

In general, how much would you say your religious beliefs influence your daily life?

❍ Very much
❍ Quite a bit
❍ Some
❍ Little
❍ None

Here are some personality traits that may or may not apply to you. Please select the response to each statement to indicate the extent which you agree or disagree with that statement. You should select a response to each pair of traits, even if one characteristic applies more strongly than the other.

I see myself as:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Extraverted, enthusiastic	❍	❍	❍	❍	❍	❍	❍
Critical, quarrelsome	❍	❍	❍	❍	❍	❍	❍
Dependable, self-disciplined	❍	❍	❍	❍	❍	❍	❍
Anxious, easily upset	❍	❍	❍	❍	❍	❍	❍
Open to new experiences, complex	❍	❍	❍	❍	❍	❍	❍
Reserved, quiet	❍	❍	❍	❍	❍	❍	❍
Sympathetic, warm	❍	❍	❍	❍	❍	❍	❍
Disorganized, careless	❍	❍	❍	❍	❍	❍	❍
Calm, emotionally stable	❍	❍	❍	❍	❍	❍	❍
Conventional, uncreative	❍	❍	❍	❍	❍	❍	❍

Below are some financial questions. Please type your response in the space provided.

How much in automobile loan(s) do you currently owe, if any? (for example, $14,500)

```
┌──────────────────────────────────────────────────────────────┐
│                                                                │
│                                                                │
└──────────────────────────────────────────────────────────────┘
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How much revolving credit card debt (debt that you don't pay off at the end of each month) do you currently owe, if any? (for example, $1,500)

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┌──────────────────────────────────────────────────────────────┐
│                                                                │
│                                                                │
└──────────────────────────────────────────────────────────────┘
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How much in installment debt (home appliances, electronics, and furniture etc.) do you currently have, in any? (for example, $7,500)

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┌──────────────────────────────────────────────────────────────┐
│                                                                │
│                                                                │
└──────────────────────────────────────────────────────────────┘
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How much student loan debt do you currently owe, if any? (for example, $24,500)

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┌──────────────────────────────────────────────────────────────┐
│                                                                │
│                                                                │
└──────────────────────────────────────────────────────────────┘
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Have you ever been declined on an application for a credit card because you had insufficient income?

❍ Yes
❍ No

Have you ever been declined on an application for a credit card because you did not have a co-signer?

❍ Yes
❍ No

Here are some questions related to investing. Please select the response to indicate the extent to which you agree or disagree with each statement as it applies to you.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Investing is too difficult to understand.	❍	❍	❍	❍	❍	❍	❍
I am more comfortable putting my money in a bank account than in the stock market.	❍	❍	❍	❍	❍	❍	❍
When I think of the word "risk" the term "loss" comes to mind immediately.	❍	❍	❍	❍	❍	❍	❍
Making money in stocks and bonds is based on luck.	❍	❍	❍	❍	❍	❍	❍
In terms of investing, safety is more important than returns.	❍	❍	❍	❍	❍	❍	❍

Thank you for participating in this survey!   If you would like to participate in the drawing to win 1 of 20 prepaid $25.00 VISA gift cards, enter your Email contact information below. Your Email information will not be shared, and will not be connected with the responses you provided in the survey. Winners will be selected randomly, and will be notified via Email.

Email address:

Appendix B - Conceptual Hypotheses and Related Testable Hypotheses

Conceptual Hypothesis 1: The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of college students who do not intend to obtain a credit card within the next months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H1. *The personality extraversion (i.e., reserved and extraverted) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H2. *The personality agreeableness (i.e., criticalness and sympathetic) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring*

interest charges on unpaid credit card balances, having reduced future amount to spend

due to payment obligations on unpaid credit card balances, and inability to control

spending).

H3. *The personality conscientiousness (i.e., disorganized and dependableness) of*

college students who did not intend to obtain a credit card within the next six months is

not significantly associated with their behavioral beliefs (i.e., learning financial

responsibility, building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring

interest charges on unpaid credit card balances, having reduced future amount to spend

due to payment obligations on unpaid credit card balances, and inability to control

spending).

H4. *The personality neuroticism (i.e., anxiousness and calmness) of college*

students who did not intend to obtain a credit card within the next six months is not

significantly associated with their behavioral beliefs (i.e., learning financial

responsibility, building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring

interest charges on unpaid credit card balances, having reduced future amount to spend

due to payment obligations on unpaid credit card balances, and inability to control

spending).

H5. *The personality openness (i.e., conventional and open) of college students*

who did not intend to obtain a credit card within the next six months is not significantly

associated with their behavioral beliefs (i.e., learning financial responsibility, building a

credit history, building and maintaining a credit score, staying out of unnecessary credit

card debt, overspending when using a credit card, incurring interest charges on unpaid

credit card balances, having reduced future amount to spend due to payment obligations

on unpaid credit card balances, and inability to control spending).

Conceptual Hypothesis 2: The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H6. *The personality extraversion (i.e., reserved and extraverted) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H7. *The personality agreeableness (i.e.,criticalness and sympathetic) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying*

out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H8. The personality conscientiousness (i.e., disorganized and dependableness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H9. The personality neuroticism (i.e., anxiousness and calmness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H10. The personality openness (i.e., conventional and open) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility,

building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

Conceptual Hypothesis 3: The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H11. *The personality extraversion (i.e., reserved and extraverted) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H12. *The personality agreeableness (i.e., criticalness and sympathetic) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying*

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out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H13. *The personality conscientiousness (i.e. disorganized/dependableness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H14. *The personality neuroticism (i.e. anxiousness and calmness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H15. *The personality openness (i.e. conventional and open) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit*

card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

Conceptual Hypothesis 4: The personality (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H16. *The personality extraversion (i.e. reserved and extraverted) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H17. *The personality agreeableness (i.e. criticalness and sympathetic) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying*

out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H18. *The personality conscientiousness (i.e. disorganized and dependableness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H19. *The personality neuroticism (i.e. anxiousness and calmness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H20. *The personality openness (i.e. conventional and openness) of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial*

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responsibility, building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring

interest charges on unpaid credit card balances, having reduced future amount to spend

due to payment obligations on unpaid credit card balances, and inability to control

spending).

Conceptual Hypothesis 5: The education level, gender, religiosity, and ethnicity

of college students who did not intend to obtain a credit card within the next six months

is not significantly associated with their behavioral beliefs (i.e., learning financial

responsibility, building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring

interest charges on unpaid credit card balances, having reduced future amount to spend

due to payment obligations on unpaid credit card balances, and inability to control

spending).

H21. *The education level of college students who did not intend to obtain a credit*

card within the next six months is not significantly associated with their behavioral

beliefs (i.e., learning financial responsibility, building a credit history, building and

maintaining a credit score, staying out of unnecessary credit card debt, overspending

when using a credit card, incurring interest charges on unpaid credit card balances,

having reduced future amount to spend due to payment obligations on unpaid credit card

balances, and inability to control spending).

H22. *The gender of college students who did not intend to obtain a credit card*

within the next six months is not significantly associated with their behavioral beliefs

(i.e., learning financial responsibility, building a credit history, building and maintaining

a credit score, staying out of unnecessary credit card debt, overspending when using a

credit card, incurring interest charges on unpaid credit card balances, having reduced

future amount to spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

H23. *The religiosity of college students who did not intend to obtain a credit card*

within the next six months is not significantly associated with their behavioral beliefs

(i.e., learning financial responsibility, building a credit history, building and maintaining

a credit score, staying out of unnecessary credit card debt, overspending when using a

credit card, incurring interest charges on unpaid credit card balances, having reduced

future amount to spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

H24. *The ethnicity of college students who did not intend to obtain a credit card*

within the next six months is not significantly associated with their behavioral beliefs

(i.e., learning financial responsibility, building a credit history, building and maintaining

a credit score, staying out of unnecessary credit card debt, overspending when using a

credit card, incurring interest charges on unpaid credit card balances, having reduced

future amount to spend due to payment obligations on unpaid credit card balances, and

inability to control spending).

Conceptual Hypothesis 6: The education level, gender, religiosity, and ethnicity

of college students who did not intend to obtain a credit card within the next six months

is not significantly associated with their injunctive normative beliefs (i.e., learning

financial responsibility, building a credit history, building and maintaining a credit score,

staying out of unnecessary credit card debt, overspending when using a credit card,

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incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H25. *The education level of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H26. *The gender of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H27. *The religiosity of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances,*

having reduced future amount to spend due to payment obligations on unpaid credit card

balances, and inability to control spending).

H28. *The ethnicity of college students who did not intend to obtain a credit card*

within the next six months is not significantly associated with their injunctive normative

beliefs (i.e., learning financial responsibility, building a credit history, building and

maintaining a credit score, staying out of unnecessary credit card debt, overspending

when using a credit card, incurring interest charges on unpaid credit card balances,

having reduced future amount to spend due to payment obligations on unpaid credit card

balances, and inability to control spending).

Conceptual Hypothesis 7: The education level, gender, religiosity, and ethnicity

of college students who did not intend to obtain a credit card within the next six months

is not significantly associated with their control beliefs (i.e., learning financial

responsibility, building a credit history, building and maintaining a credit score, staying

out of unnecessary credit card debt, overspending when using a credit card, incurring

interest charges on unpaid credit card balances, having reduced future amount to spend

due to payment obligations on unpaid credit card balances, and inability to control

spending).

H29. *The education level of college students who did not intend to obtain a credit*

card within the next six months is not significantly associated with their control beliefs

(i.e., learning financial responsibility, building a credit history, building and maintaining

a credit score, staying out of unnecessary credit card debt, overspending when using a

credit card, incurring interest charges on unpaid credit card balances, having reduced

future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H30. *The gender level of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H31. *The religiosity of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H32. *The ethnicity of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

Conceptual Hypothesis 8: The education level, gender, religiosity, and ethnicity of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H33. *The education level of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H34. *The gender of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).*

H35. *The religiosity of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H36. *The ethnicity of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

Conceptual Hypothesis 9: The financial knowledge of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs, control beliefs, injunctive normative beliefs, and descriptive normative beliefs, (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

H37. *The financial knowledge of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H38. *The financial knowledge of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H39. *The financial knowledge of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).*

H40. *The financial knowledge of college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive*

normative (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit card balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances, and inability to control spending).

Appendix C - Correlation Analysis – Behavioral Beliefs

Table C.1 Correlation Analysis – Behavioral Beliefs

Spearman's rho		Injunctive Normative Belief Score	Control Belief Score	Behavioral Belief Score	Descriptive Normative Belief Score	I will build/ improve my credit score	I will learn financial responsibility	I will improve my credit history	I will have credit card payments that reduce future amounts to spend
Injunctive	p	1	.166[*]	.191[**]	.285[**]	.149[*]	.201[**]	.125	.179[**]
Normative	Sig.		.013	.004	.000	.025	.003	.062	.007
Score	N	224	224	224	224	224	224	224	224
Control	p	.166[*]	1	.127	-.024	.095	.324[**]	.057	.002
Belief	Sig	.013		.057	.716	.154	.000	.400	.972
Score	N	224	224	224	224	224	224	224	224
Behavioral	p	.191[**]	.127	1	.188[**]	.906[**]	.712[**]	.917[**]	.749[**]
Belief	Sig	.004	.057		.005	.000	.000	.000	.000
Score	N	224	224	224	224	224	224	224	224
Descriptive	p	.285[**]	-.024	.188[**]	1	.188[**]	.099	.197[**]	.177[**]
Normative	Sig.	.000	.716	.005		.005	.138	.003	.008
Belief	N	224	224	224	224	224	224	224	224
Score									
I will build/	p	.149[*]	.095	.906[**]	.188[**]	1	.582[**]	.872[**]	.561[**]
improve my credit	Sig	.025	.154	.000	.005		.000	.000	.000
score	N	224	224	224	224	224	224	224	224
I will learn	p	.201[**]	.324[**]	.712[**]	.099	.582[**]	1	.592[**]	.352[**]
financial	Sig	.003	.000	.000	.138	.000		.000	.000
responsibility	N	224	224	224	224	224	224	224	224
I will	p	.125	.057	.917[**]	.197[**]	.872[**]	.592[**]	1	.580[**]
improve my credit	Sig	.062	.400	.000	.003	.000	.000		.000
history	N	224	224	224	224	224	224	224	224
I will have credit	p	.179[**]	.002	.749[**]	.177[**]	.561[**]	.352[**]	.580[**]	1
card payments that	Sig	.007	.972	.000	.008	.000	.000	.000	
reduce future	N	224	224	224	224	224	224	224	224
amounts to spend									

Appendix D - Correlation Analysis – Control Beliefs

Table D.1 Correlation Analysis – Control Beliefs

Within the next six months, I will … N = 224		INB Score	CB Score	BB Score	DNB Score	not have any revolving credit card debt	learn more financial responsibility	have less over-spending	have less interest charges	have more future income	not be a shop-a-holic
Injunctive Normative Belief Score	P	1	.166*	.191**	.285**	.083	.151*	.132*	.160*	.158*	.043
	Sig.		.013	.004	.000	.219	.024	.048	.016	.018	.520
Control Belief Score	P	.166*	1	.127	-.024	.651**	.646**	.809**	.780**	.778**	.739**
	Sig.	.013		.057	.716	.000	.000	.000	.000	.000	.000
Behavioral Belief Score	P	.191**	.127	1	.188**	.080	.266**	.096	.076	.057	.074
	Sig.	.004	.057		.005	.232	.000	.152	.260	.394	.272
Descriptive Normative Belief Score	P	.285**	-.024	.188**	1	-.087	.023	-.086	-.073	.025	.016
	Sig.	.000	.716	.005		.197	.731	.198	.277	.710	.816
Not have any revolving credit card debt	P	.083	.651**	.080	-.087	1	.369**	.378**	.390**	.405**	.456**
	Sig.	.219	.000	.232	.197		.000	.000	.000	.000	.000
Learn more Financial responsibility	P	.151*	.646**	.266**	.023	.369**	1	.442**	.386**	.420**	.450**
	Sig.	.024	.000	.000	.731	.000		.000	.000	.000	.000
Have less overspending	P	.132*	.809**	.096	-.086	.378**	.442**	1	.695**	.618**	.565**
	Sig.	.048	.000	.152	.198	.000	.000		.000	.000	.000
Have less interest charges	P	.160*	.780**	.076	-.073	.390**	.386**	.695**	1	.615**	.398**
	Sig.	.016	.000	.260	.277	.000	.000	.000		.000	.000
Have more future income	P	.158*	.778**	.057	.025	.405**	.420**	.618**	.615**	1	.519**
	Sig.	.018	.000	.394	.710	.000	.000	.000	.000		.000
Not be a shop-a-holic	P	.043	.739**	.074	.016	.456**	.450**	.565**	.398**	.519**	1
	Sig.	.520	.000	.272	.816	.000	.000	.000	.000	.000	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix E - Correlation Analysis – Injunctive Normative Beliefs

Table E.1 Correlation Analysis – Injunctive Normative Beliefs

		INB Score	CB Score	BB Score	DNB Score	Parents	Closest friends	People like me	Spouse/partner	Brothers/sisters	Grandfather/ grandmother	Other important family members	Boyfriend/girlfriend
INB Score	P	1	.166*	.191**	.285**	.729**	.790**	.805**	.839**	.838**	.819**	.822**	.854**
	Sig.		.013	.004	.000	.000	.000	.000	.000	.000	.000	.000	.000
CB Score	P	.166*	1	.127	-.024	.248**	.106	.144*	.134*	.160*	.202**	.173**	.132*
	Sig.	.013		.057	.716	.000	.114	.031	.046	.017	.002	.009	.048
BB Score	P	.191**	.127	1	.188**	.160*	.233**	.191**	.230**	.247**	.146*	.174**	.220**
	Sig.	.004	.057		.005	.016	.000	.004	.001	.000	.028	.009	.001
DNB Score	P	.285**	-.024	.188**	1	.146*	.282**	.284**	.314**	.289**	.239**	.258**	.340**
	Sig.	.000	.716	.005		.029	.000	.000	.000	.000	.000	.000	.000
Parents think I should not possess credit card	P	.729**	.248**	.160*	.146*	1	.604**	.593**	.566**	.631**	.527**	.620**	.570**
	Sig.	.000	.000	.016	.029		.000	.000	.000	.000	.000	.000	.000
Closest friend think I should not possess credit card	P	.790**	.106	.233**	.282**	.604**	1	.722**	.679**	.657**	.618**	.593**	.701**
	Sig.	.000	.114	.000	.000	.000		.000	.000	.000	.000	.000	.000
People like me think I should not possess a credit card	P	.805**	.144*	.191**	.284**	.593**	.722**	1	.657**	.721**	.671**	.659**	.721**
	Sig.	.000	.031	.004	.000	.000	.000		.000	.000	.000	.000	.000

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix F - Correlation Analysis – Descriptive Normative Beliefs

Table F.1 Correlation Analysis – Descriptive Normative Beliefs

Spearman's rho		Injunctive Normative Belief Score	Control Belief Score	Behavioral Belief Score	Descriptive Normative Belief Score	My parents do not have a credit card	Most people important to me do not have a credit card	My grand-father/grand-mother does not have a credit card	Other family members important to me do not have a credit card
Injunctive	p	1	.166*	.191**	.285**	.264**	.216**	.269**	.218**
Normative	Sig.		.013	.004	.000	.000	.001	.000	.001
Score	N	224	224	224	224	224	224	224	224
Control	p	.166*	1	.127	-.024	-.021	-.054	.057	-.042
Belief	Sig	.013		.057	.716	.760	.425	.394	.529
Score	N	224	224	224	224	224	224	224	224
Behavioral	p	.191**	.127	1	.188**	.208**	.132*	.123	.171*
Belief	Sig	.004	.057		.005	.002	.049	.067	.010
Score	N	224	224	224	224	224	224	224	224
Descriptive	p	.285**	-.024	.188**	1	.857**	.807**	.861**	.860**
Normative	Sig.	.000	.716	.005		.000	.000	.000	.000
Belief	N	224	224	224	224	224	224	224	224
Score									
My parents do	p	.264**	-.021	.208**	.857**	1	.601**	.616**	.654**
not have a credit	Sig	.000	.760	.002	.000		.000	.000	.000
card	N	224	224	224	224	224	224	224	224
Most people	p	.216**	-.054	.132*	.807**	.601**	1	.567**	.617**
important to me	Sig	.001	.425	.049	.000	.000		.000	.000
do not have a	N	224	224	224	224	224	224	224	224
credit card									
My grandfather/	p	.269**	.057	.123	.861**	.616**	.567**	1	.707**
grandmother does	Sig	.000	.394	.067	.000	.000	.000		.000
not have a	N	224	224	224	224	224	224	224	224
credit card									
Other family	p	.218**	-.042	.171*	.860**	.654**	.617**	.707**	1
Members	Sig	.001	.529	.010	.000	.000	.000	.000	
important to me	N	224	224	224	224	224	224	224	224
do not have a									
credit card									

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed)

Appendix G - Summary of Exploratory Factor Analysis

Table G.1 Summary of Exploratory Factor Analysis

Item	Injunctive Normative Beliefs	Control Beliefs	Behavioral Beliefs	Descriptive Normative Beliefs
Parents think I should not possess a credit card (INB1)	.87			
Closest friends think I should not possess a credit card (INB2)	.87			
Most people like me think I should not possess a credit card (INB3)	.86			
My spouse/partner think I should not possess a credit card (INB4)	.85			
My brothers/sisters think I should not possess a credit card (INB5)	.85			
My grandfather/grandmother think I should not possess a credit card (INB6)	.84			
Other family members think I should not possess a credit card (INB7)	.82			
My boyfriend/girlfriend thinks I should not possess a credit card (INB8)	.77			
Not have any revolving credit card debt (CB1)		.86		
Learn more financial responsibility (CB3)		.81		
Have less overspending (CB5)		.77		
Have less interest charges (CB6)		.71		
Have more future income (CB7)		.58		
Not be a shop-a-holic (CB8)		.54		
I will improve my credit score (BB2)			.90	
I will build/improve credit my credit history (BB3)			.90	
I will learn financial responsibility (BB4)			.77	
I will have credit card payments that will reduce future amount to spend (BB6)			.55	
My parents do not have a credit card (DNB1)				.90
Most people important to me do not have a credit card (DNB4)				.86
My grandfather/grandmother does not have a credit card(DNB7)				.82
Other family members important to me do not have a credit card (DNB8)				.62
Eigenvalue	7.98	4.56	3.25	2.51
% of Variance	24.95	14.26	10.16	7.86
Cronbach's Alpha (α)	.94	.86	.84	.87

Note: Factor Loadings over .40 appear in bold.

Appendix H - Summary Results of Testable Hypotheses

H1	The personality extraversion (i.e., reserved and extraverted) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H2	The personality agreeableness (i.e., criticalness and sympathetic) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Not Supported
H3	The personality conscientiousness (i.e., disorganized and dependableness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H4	The personality neuroticism (i.e., anxiousness and calmness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported

H5   The personality openness (i.e., conventional and open) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).

                                                     Null Hypothesis Supported

H6   The personality extraversion (i.e., reserved and extraverted) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending)

                                                     Null Hypothesis Not Supported

H7   The personality agreeableness (i.e., criticalness and sympathetic) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).

                                                     Null Hypothesis Not Supported

H8   The personality conscientiousness (i.e., disorganized and dependableness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).

                                                     Null Hypothesis Supported

H9	The personality neuroticism (i.e., anxiousness and calmness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H10	The personality openness (i.e., conventional and open) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Not Supported
H11	The personality extraversion (i.e., reserved and extraverted) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H12	The personality agreeableness (i.e., criticalness and sympathetic) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported

H13	The personality conscientiousness (i.e. disorganized/dependableness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H14	The personality neuroticism (i.e. anxiousness and calmness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Not Supported
H15	The personality openness (i.e. conventional and open) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H16	The personality extraversion (i.e. reserved and extraverted) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported

H17	The personality agreeableness (i.e. criticalness and sympathetic) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Not Supported
H18	The personality conscientiousness (i.e. disorganized and dependableness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H19	The personality neuroticism (i.e. anxiousness and calmness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H20	The personality openness (i.e. conventional and openness) of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported

H21	The education level of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending)	Null Hypothesis Supported
H22	The gender of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H23	The religiosity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H24	The ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported

H25	The education level of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H26	The gender of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H27	The gender of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H28	The ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported

H29	The education level of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H30	The gender level of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H31	The religiosity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H32	The ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported

H33   The education level of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).

Null Hypothesis Supported

H34   The gender of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).

Null Hypothesis Supported

H35   The religiosity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).

Null Hypothesis Supported

H36   The ethnicity of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).

Null Hypothesis Supported

H37	The financial knowledge of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their behavioral beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H38	The financial knowledge of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their control beliefs (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Not Supported
H39	The financial knowledge of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their injunctive normative (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported
H40	The financial knowledge of undergraduate college students who did not intend to obtain a credit card within the next six months is not significantly associated with their descriptive normative (i.e., learning financial responsibility, building a credit history, building and maintaining a credit score, staying out of unnecessary credit card debt, overspending when using a credit card, incurring interest charges on unpaid credit cards balances, having reduced future amount to spend due to payment obligations on unpaid credit card balances and inability to control spending).	Null Hypothesis Supported

Appendix I - Codebook

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Codebook

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		/STATISTICS COUNT PERCENT MEAN STDDEV QUARTILES.
Resources	Processor Time	00:00:00.281
	Elapsed Time	00:00:00.391

FINK1

		Value
Standard Attributes	Position	117
	Label	Financial Knowledge Q1
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	.6116
	Standard Deviation	.48848
	Percentile 25	.0000
	Percentile 50	1.0000
	Percentile 75	1.0000

FINK2

		Value
Standard Attributes	Position	118
	Label	Financial Knowledge Q2
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	.2366
	Standard Deviation	.42595
	Percentile 25	.0000
	Percentile 50	.0000
	Percentile 75	.0000

FINK3

		Value
		Value
Standard Attributes	Position	119
	Label	Financial Knowledge Q3
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	.5045
	Standard Deviation	.50110
	Percentile 25	.0000
	Percentile 50	1.0000
	Percentile 75	1.0000

FINK4

		Value
		Value
Standard Attributes	Position	120
	Label	Financial Knowledge Q4
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	.3839
	Standard Deviation	.48743
	Percentile 25	.0000
	Percentile 50	.0000
	Percentile 75	1.0000

FINK5

		Value
Standard Attributes	Position	121
	Label	Financial Knowledge Q5
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	.1652
	Standard Deviation	.37217
	Percentile 25	.0000
	Percentile 50	.0000
	Percentile 75	.0000

FINK6

		Value
Standard Attributes	Position	122
	Label	Financial Knowledge Q6
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	.4420
	Standard Deviation	.49773
	Percentile 25	.0000
	Percentile 50	.0000
	Percentile 75	1.0000

GENDER

		Value	Count	Percent
Standard Attributes	Position	123		
	Label	Gender		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.6830		
	Standard Deviation	.46634		
	Percentile 25	1.0000		
	Percentile 50	2.0000		
	Percentile 75	2.0000		
Labeled Values	1.00	Male	71	31.7%
	2.00	Female	153	68.3%

ED level

		Value	Count	Percent
Standard Attributes	Position	125		
	Label	Education level		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	2.1920		
	Standard Deviation	1.12602		
	Percentile 25	1.0000		
	Percentile 50	2.0000		
	Percentile 75	3.0000		
Labeled Values	.00	Graduate Student	0	.0%
	1.00	Freshman	83	37.1%
	2.00	Sophomore	56	25.0%
	3.00	Junior	44	19.6%
	4.00	Senior	41	18.3%
	5.00	Other	0	.0%

ETHNICITY

		Value	Count	Percent
Standard Attributes	Position	126		
	Label	Ethnicity		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.7411		
	Standard Deviation	.43903		
	Percentile 25	.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	Non White	58	25.9%
	1.00	White	166	74.1%

RELIG belief

		Value	Count	Percent
Standard Attributes	Position	129		
	Label	Religiosity		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.9955		
	Standard Deviation	1.33426		
	Percentile 25	1.0000		
	Percentile 50	2.0000		
	Percentile 75	3.0000		
Labeled Values	.00	None	42	18.8%
	1.00	Little	41	18.3%
	2.00	Some	49	21.9%
	3.00	Quite a bit	60	26.8%
	4.00	Very Much	32	14.3%

Extraversion

		Value	Count	Percent
Standard Attributes	Position	130		
	Label	Extraversion		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	4.9375		
	Standard Deviation	1.60594		
	Percentile 25	4.0000		
	Percentile 50	5.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Strongly Disagree	8	3.6%
	2.00	Disagree	17	7.6%
	3.00	Somewhat Agree	20	8.9%
	4.00	Neither Agree nor Disagree	18	8.0%
	5.00	Somewhat Agree	69	30.8%
	6.00	Agree	57	25.4%
	7.00	Strongly Agree	35	15.6%

Critical

		Value	Count	Percent
Standard Attributes	Position	131		
	Label	Critical		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.9911		
	Standard Deviation	1.53579		
	Percentile 25	3.0000		
	Percentile 50	4.0000		
	Percentile 75	5.0000		
Labeled Values	1.00	Strongly Disagree	12	5.4%
	2.00	Disagree	37	16.5%
	3.00	Somewhat Disagree	32	14.3%
	4.00	Neither Agree nor Disagree	47	21.0%
	5.00	Somewhat Agree	57	25.4%
	6.00	Agree	34	15.2%
	7.00	Strongly Agree	5	2.2%

Dependable

		Value	Count	Percent
Standard Attributes	Position	132		
	Label	Dependable		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.5625		
	Standard Deviation	1.22954		
	Percentile 25	5.0000		
	Percentile 50	6.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Strongly Disagree	3	1.3%
	2.00	Disagree	2	.9%
	3.00	Somewhat Disagree	9	4.0%
	4.00	Neither Agree nor Disagree	22	9.8%
	5.00	Somewhat Agree	54	24.1%
	6.00	Agree	84	37.5%
	7.00	Strongly Agree	50	22.3%

Anxious

		Value	Count	Percent
Standard Attributes	Position	133		
	Label	Anxious		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.9554		
	Standard Deviation	1.73018		
	Percentile 25	3.0000		
	Percentile 50	4.0000		
	Percentile 75	5.0000		
Labeled Values	1.00	Strongly Agree	23	10.3%
	2.00	Disagree	31	13.8%
	3.00	Somewhat Disagree	37	16.5%
	4.00	Neither Agree nor Disagree	33	14.7%
	5.00	Somewhat Agree	55	24.6%
	6.00	Agree	32	14.3%
	7.00	Strongly Agree	13	5.8%

Open

		Value	Count	Percent
Standard Attributes	Position	134		
	Label	Open		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.1696		
	Standard Deviation	1.35189		
	Percentile 25	5.0000		
	Percentile 50	5.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Strongly Disagree	3	1.3%
	2.00	Disagree	6	2.7%
	3.00	Somewhat Disagree	23	10.3%
	4.00	Neither Agree nor Disagree	18	8.0%
	5.00	Somewhat Agree	77	34.4%
	6.00	Agree	62	27.7%
	7.00	Strongly Agree	35	15.6%

Reserve

		Value	Count	Percent
Standard Attributes	Position	135		
	Label	Reserve		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	4.0982		
	Standard Deviation	1.83371		
	Percentile 25	3.0000		
	Percentile 50	4.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Strongly Disagree	24	10.7%
	2.00	Disagree	28	12.5%
	3.00	Somewhat Disagree	38	17.0%
	4.00	Neither Agree nor Disagree	25	11.2%
	5.00	Somewhat Agree	50	22.3%
	6.00	Agree	39	17.4%
	7.00	Strongly Agree	20	8.9%

Sympathetic

		Value	Count	Percent
Standard Attributes	Position	136		
	Label	Sympathetic		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.4286		
	Standard Deviation	1.31029		
	Percentile 25	5.0000		
	Percentile 50	6.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Strongly Disagree	6	2.7%
	2.00	Disagree	4	1.8%
	3.00	Somewhat Disagree	6	2.7%
	4.00	Neither Agree nor Disagree	20	8.9%
	5.00	Somewhat Agree	66	29.5%
	6.00	Agree	80	35.7%
	7.00	Strongly Agree	42	18.8%

Disorganized

		Value	Count	Percent
Standard Attributes	Position	137		
	Label	Disorganized		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	2.9196		
	Standard Deviation	1.54536		
	Percentile 25	2.0000		
	Percentile 50	3.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Strongly Disagree	50	22.3%
	2.00	Disagree	54	24.1%
	3.00	Somewhat Disagree	43	19.2%
	4.00	Neither Agree nor Disagree	31	13.8%
	5.00	Somewhat Agree	33	14.7%
	6.00	Agree	13	5.8%
	7.00	Strongly Agree	0	.0%

Calm

		Value	Count	Percent
Standard Attributes	Position	138		
	Label	Calm		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.0000		
	Standard Deviation	1.36582		
	Percentile 25	4.0000		
	Percentile 50	5.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Strongly Disagree	4	1.8%
	2.00	Disagree	6	2.7%
	3.00	Somewhat Agree	24	10.7%
	4.00	Neither Agree nor Disagree	35	15.6%
	5.00	Somewhat Agree	63	28.1%
	6.00	Agree	67	29.9%
	7.00	Strongly Agree	25	11.2%

Conventional

		Value	Count	Percent
Standard Attributes	Position	139		
	Label	Conventional		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.2589		
	Standard Deviation	1.55754		
	Percentile 25	2.0000		
	Percentile 50	3.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Strongly Disagree	30	13.4%
	2.00	Disagree	53	23.7%
	3.00	Somewhat Disagree	46	20.5%
	4.00	Neither Agree nor Disagree	44	19.6%
	5.00	Somewhat Agree	31	13.8%
	6.00	Agree	15	6.7%
	7.00	Strongly Agree	5	2.2%

INB1

		Value	Count	Percent
Standard Attributes	Position	140		
	Label	Parents think I should not possess credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	4.2634		
	Standard Deviation	1.90051		
	Percentile 25	3.0000		
	Percentile 50	4.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Strongly Disagree	22	9.8%
	2.00	Disagree	30	13.4%
	3.00	Somewhat Disagree	18	8.0%
	4.00	Neither Agree nor Disagree	56	25.0%
	5.00	Somewhat Agree	29	12.9%
	6.00	Agree	33	14.7%
	7.00	Strongly Agree	36	16.1%

INB2

		Value	Count	Percent
Standard Attributes	Position	141		
	Label	Closest friend think I should not possess credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.5848		
	Standard Deviation	1.61882		
	Percentile 25	2.0000		
	Percentile 50	4.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Strongly Disagree	24	10.7%
	2.00	Disagree	46	20.5%
	3.00	Somewhat Disagree	21	9.4%
	4.00	Neither Agree nor Disagree	84	37.5%
	5.00	Somewhat Agree	18	8.0%
	6.00	Agree	19	8.5%
	7.00	Strongly Agree	12	5.4%

INB3

		Value	Count	Percent
Standard Attributes	Position	142		
	Label	People like me think I should not possess a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.6205		
	Standard Deviation	1.64405		
	Percentile 25	2.0000		
	Percentile 50	4.0000		
	Percentile 75	5.0000		
Labeled Values	1.00	Strongly Disagree	24	10.7%
	2.00	Disagree	46	20.5%
	3.00	Somewhat Disagree	25	11.2%
	4.00	Neither Agree nor Disagree	66	29.5%
	5.00	Somewhat Agree	34	15.2%
	6.00	Agree	17	7.6%
	7.00	Strongly Agree	12	5.4%

INB4

		Value	Count	Percent
Standard Attributes	Position	143		
	Label	Spouse/partner thinks I should not possess credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.6071		
	Standard Deviation	1.54373		
	Percentile 25	2.0000		
	Percentile 50	4.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Strongly Disagree	25	11.2%
	2.00	Disagree	39	17.4%
	3.00	Somewhat Disagree	13	5.8%
	4.00	Neither Agree nor Disagree	105	46.9%
	5.00	Somewhat Agree	17	7.6%
	6.00	Agree	14	6.3%
	7.00	Strongly Agree	11	4.9%

INB5

		Value	Count	Percent
Standard Attributes	Position	144		
	Label	Brothers/sisters think I should not possess credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.7545		
	Standard Deviation	1.69871		
	Percentile 25	2.0000		
	Percentile 50	4.0000		
	Percentile 75	5.0000		
Labeled Values	1.00	Strongly Disagree	26	11.6%
	2.00	Disagree	39	17.4%
	3.00	Somewhat Disagree	15	6.7%
	4.00	Neither Agree nor Disagree	81	36.2%
	5.00	Somewhat Agree	25	11.2%
	6.00	Agree	23	10.3%
	7.00	Strongly Agree	15	6.7%

INB6

		Value	Count	Percent
Standard Attributes	Position	145		
	Label	Grandfather/grandmother thinks I should not possess credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.7768		
	Standard Deviation	1.73184		
	Percentile 25	2.0000		
	Percentile 50	4.0000		
	Percentile 75	5.0000		
Labeled Values	1.00	Strongly Disagree	25	11.2%
	2.00	Disagree	41	18.3%
	3.00	Somewhat Disagree	12	5.4%
	4.00	Neither Agree nor Disagree	86	38.4%
	5.00	Somewhat Agree	22	9.8%
	6.00	Agree	17	7.6%
	7.00	Strongly Agree	21	9.4%

INB7

		Value	Count	Percent
Standard Attributes	Position	146		
	Label	Other important family members think I should not possess a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.6920		
	Standard Deviation	1.67512		
	Percentile 25	2.0000		
	Percentile 50	4.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Strongly Disagree	25	11.2%
	2.00	Disagree	40	17.9%
	3.00	Somewhat Disagree	20	8.9%
	4.00	Neither Agree nor Disagree	85	37.9%
	5.00	Somewhat Agree	18	8.0%
	6.00	Agree	20	8.9%
	7.00	Strongly Agree	16	7.1%

INB8

		Value	Count	Percent
Standard Attributes	Position	147		
	Label	Boyfriend/girlfriend thinks I should not possess a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.6161		
	Standard Deviation	1.61687		
	Percentile 25	2.0000		
	Percentile 50	4.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Strongly Disagree	29	12.9%
	2.00	Disagree	36	16.1%
	3.00	Somewhat Disagree	14	6.3%
	4.00	Neither Agree nor Disagree	99	44.2%
	5.00	Somewhat Agree	19	8.5%
	6.00	Agree	13	5.8%
	7.00	Strongly Agree	14	6.3%

BB1

		Value	Count	Percent
Standard Attributes	Position	148		
	Label	I will stay out of unnecessary credit card debt		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.7768		
	Standard Deviation	1.40919		
	Percentile 25	5.0000		
	Percentile 50	6.0000		
	Percentile 75	7.0000		
Labeled Values	1.00	Very Unlikely	6	2.7%
	2.00	Unlikely	3	1.3%
	3.00	Somewhat Unlikely	7	3.1%
	4.00	Neither	15	6.7%
	5.00	Somewhat Likely	45	20.1%
	6.00	Likely	60	26.8%
	7.00	Very Likely	88	39.3%

BB2

		Value	Count	Percent
Standard Attributes	Position	149		
	Label	I will build /improve credit score		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	4.1295		
	Standard Deviation	1.85970		
	Percentile 25	3.0000		
	Percentile 50	4.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Very Unlikely	29	12.9%
	2.00	Unlikely	21	9.4%
	3.00	Somewhat Unlikely	21	9.4%
	4.00	Neither	63	28.1%
	5.00	Somewhat Likely	27	12.1%
	6.00	Likely	37	16.5%
	7.00	Very Likely	26	11.6%

BB3

		Value	Count	Percent
Standard Attributes	Position	150		
	Label	I will learn financial responsibility		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.1384		
	Standard Deviation	1.51925		
	Percentile 25	4.0000		
	Percentile 50	5.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Very Unlikely	8	3.6%
	2.00	Unlikely	5	2.2%
	3.00	Somewhat Unlikely	13	5.8%
	4.00	Neither	43	19.2%
	5.00	Somewhat Likely	60	26.8%
	6.00	Likely	43	19.2%
	7.00	Very Likely	52	23.2%

BB4

		Value	Count	Percent
Standard Attributes	Position	151		
	Label	I will improve credit history		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	4.2679		
	Standard Deviation	1.83871		
	Percentile 25	3.0000		
	Percentile 50	4.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Very Unlikely	25	11.2%
	2.00	Unlikely	20	8.9%
	3.00	Somewhat Unlikely	19	8.5%
	4.00	Neither	60	26.8%
	5.00	Somewhat Likely	38	17.0%
	6.00	Likely	30	13.4%
	7.00	Very Likely	32	14.3%

BB5

		Value	Count	Percent
Standard Attributes	Position	152		
	Label	I will avoid overspending		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.3393		
	Standard Deviation	1.51260		
	Percentile 25	5.0000		
	Percentile 50	6.0000		
	Percentile 75	7.0000		
Labeled Values	1.00	Very Unlikely	5	2.2%
	2.00	Unlikely	8	3.6%
	3.00	Somewhat Unlikely	15	6.7%
	4.00	Neither	26	11.6%
	5.00	Somewhat Likely	55	24.6%
	6.00	Likely	54	24.1%
	7.00	Very Likely	61	27.2%

BB6

		Value	Count	Percent
Standard Attributes	Position	153		
	Label	I will have credit card payments that reduce future amounts to spend		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	4.0000		
	Standard Deviation	1.73334		
	Percentile 25	3.0000		
	Percentile 50	4.0000		
	Percentile 75	5.0000		
Labeled Values	1.00	Very Unlikely	27	12.1%
	2.00	Unlikely	21	9.4%
	3.00	Somewhat Unlikely	19	8.5%
	4.00	Neither	82	36.6%
	5.00	Somewhat Likely	32	14.3%
	6.00	Likely	19	8.5%
	7.00	Very Likely	24	10.7%

BB7

		Value	Count	Percent
Standard Attributes	Position	154		
	Label	I will not have interest charges		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.1607		
	Standard Deviation	1.71542		
	Percentile 25	4.0000		
	Percentile 50	6.0000		
	Percentile 75	7.0000		
Labeled Values	1.00	Very Unlikely	10	4.5%
	2.00	Unlikely	11	4.9%
	3.00	Somewhat Unlikely	14	6.3%
	4.00	Neither	41	18.3%
	5.00	Somewhat Likely	34	15.2%
	6.00	Likely	50	22.3%
	7.00	Very Likely	64	28.6%

BB8

		Value	Count	Percent
Standard Attributes	Position	155		
	Label	May not become a shop-a-holic		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.0580		
	Standard Deviation	1.61307		
	Percentile 25	4.0000		
	Percentile 50	5.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Very Unlikely	11	4.9%
	2.00	Unlikely	5	2.2%
	3.00	Somewhat Unlikely	16	7.1%
	4.00	Neither	48	21.4%
	5.00	Somewhat Likely	40	17.9%
	6.00	Likely	56	25.0%
	7.00	Very Likely	48	21.4%

CB1

		Value	Count	Percent
Standard Attributes	Position	156		
	Label	Not have any revolving credit card debt		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.5446		
	Standard Deviation	1.62871		
	Percentile 25	4.0000		
	Percentile 50	6.0000		
	Percentile 75	7.0000		
Labeled Values	1.00	Very Unlikely	8	3.6%
	2.00	Unlikely	8	3.6%
	3.00	Somewhat Unlikely	6	2.7%
	4.00	Neither	36	16.1%
	5.00	Somewhat Likely	26	11.6%
	6.00	Likely	54	24.1%
	7.00	Very Likely	86	38.4%

CB2

		Value	Count	Percent
Standard Attributes	Position	157		
	Label	Improve/build credit score		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	4.2723		
	Standard Deviation	1.67062		
	Percentile 25	3.0000		
	Percentile 50	4.0000		
	Percentile 75	5.0000		
Labeled Values	1.00	Very Unlikely	15	6.7%
	2.00	Unlikely	23	10.3%
	3.00	Somewhat Unlikely	23	10.3%
	4.00	Neither	69	30.8%
	5.00	Somewhat Likely	39	17.4%
	6.00	Likely	29	12.9%
	7.00	Very Likely	26	11.6%

CB3

		Value	Count	Percent
Standard Attributes	Position	158		
	Label	Learn more financial responsibility		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.2723		
	Standard Deviation	1.36317		
	Percentile 25	5.0000		
	Percentile 50	5.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Very Unlikely	3	1.3%
	2.00	Unlikely	7	3.1%
	3.00	Somewhat Unlikely	13	5.8%
	4.00	Neither	32	14.3%
	5.00	Somewhat Likely	59	26.3%
	6.00	Likely	68	30.4%
	7.00	Very Likely	42	18.8%

CB4

		Value	Count	Percent
Standard Attributes	Position	159		
	Label	Build/improve credit history		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	4.3884		
	Standard Deviation	1.65284		
	Percentile 25	3.0000		
	Percentile 50	4.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Very Unlikely	12	5.4%
	2.00	Unlikely	20	8.9%
	3.00	Somewhat Unlikely	25	11.2%
	4.00	Neither	68	30.4%
	5.00	Somewhat Likely	42	18.8%
	6.00	Likely	25	11.2%
	7.00	Very Likely	32	14.3%

CB5

		Value	Count	Percent
Standard Attributes	Position	160		
	Label	Have less overspending		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.3214		
	Standard Deviation	1.44069		
	Percentile 25	4.0000		
	Percentile 50	5.5000		
	Percentile 75	7.0000		
Labeled Values	1.00	Very Unlikely	5	2.2%
	2.00	Unlikely	2	.9%
	3.00	Somewhat Unlikely	9	4.0%
	4.00	Neither	57	25.4%
	5.00	Somewhat Likely	39	17.4%
	6.00	Likely	51	22.8%
	7.00	Very Likely	61	27.2%

CB6

		Value	Count	Percent
Standard Attributes	Position	161		
	Label	Have less interest charges		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.2812		
	Standard Deviation	1.55797		
	Percentile 25	4.0000		
	Percentile 50	6.0000		
	Percentile 75	7.0000		
Labeled Values	1.00	Very Unlikely	8	3.6%
	2.00	Unlikely	5	2.2%
	3.00	Somewhat Unlikely	8	3.6%
	4.00	Neither	51	22.8%
	5.00	Somewhat Likely	38	17.0%
	6.00	Likely	51	22.8%
	7.00	Very Likely	63	28.1%

CB7

		Value	Count	Percent
Standard Attributes	Position	162		
	Label	Have more future income		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.1741		
	Standard Deviation	1.45209		
	Percentile 25	4.0000		
	Percentile 50	5.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Very Unlikely	5	2.2%
	2.00	Unlikely	4	1.8%
	3.00	Somewhat Unlikely	12	5.4%
	4.00	Neither	58	25.9%
	5.00	Somewhat Likely	43	19.2%
	6.00	Likely	51	22.8%
	7.00	Very Likely	51	22.8%

CB8

		Value	Count	Percent
Standard Attributes	Position	163		
	Label	Not be a shop-a-holic		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	5.3929		
	Standard Deviation	1.41964		
	Percentile 25	4.0000		
	Percentile 50	6.0000		
	Percentile 75	7.0000		
Labeled Values	1.00	Very Unlikely	4	1.8%
	2.00	Unlikely	4	1.8%
	3.00	Somewhat Unlikely	9	4.0%
	4.00	Neither	46	20.5%
	5.00	Somewhat Likely	42	18.8%
	6.00	Likely	58	25.9%
	7.00	Very Likely	61	27.2%

DNB1

		Value	Count	Percent
Standard Attributes	Position	164		
	Label	My parents do not have a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	2.4375		
	Standard Deviation	2.02354		
	Percentile 25	1.0000		
	Percentile 50	1.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Definitely False	130	58.0%
	2.00	Probably False	17	7.6%
	3.00	Maybe False	11	4.9%
	4.00	Don't Know	26	11.6%
	5.00	Maybe True	13	5.8%
	6.00	Probably True	9	4.0%
	7.00	Definitely True	18	8.0%

DNB2

		Value	Count	Percent
Standard Attributes	Position	165		
	Label	My closest friends do not have a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.0759		
	Standard Deviation	1.70690		
	Percentile 25	1.0000		
	Percentile 50	3.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Definitely False	58	25.9%
	2.00	Probably False	35	15.6%
	3.00	Maybe False	36	16.1%
	4.00	Don't Know	51	22.8%
	5.00	Maybe True	21	9.4%
	6.00	Probably True	17	7.6%
	7.00	Definitely True	6	2.7%

DNB3

		Value	Count	Percent
Standard Attributes	Position	166		
	Label	My spouse/partner does not have a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.5804		
	Standard Deviation	1.81986		
	Percentile 25	2.0000		
	Percentile 50	4.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Definitely False	51	22.8%
	2.00	Probably False	17	7.6%
	3.00	Maybe False	6	2.7%
	4.00	Don't Know	103	46.0%
	5.00	Maybe True	16	7.1%
	6.00	Probably True	10	4.5%
	7.00	Definitely True	21	9.4%

DNB4

		Value	Count	Percent
Standard Attributes	Position	167		
	Label	Most people important to me do not have a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	2.9196		
	Standard Deviation	1.66547		
	Percentile 25	1.0000		
	Percentile 50	3.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Definitely False	61	27.2%
	2.00	Probably False	45	20.1%
	3.00	Maybe False	31	13.8%
	4.00	Don't Know	48	21.4%
	5.00	Maybe True	22	9.8%
	6.00	Probably True	11	4.9%
	7.00	Definitely True	6	2.7%

DNB5

		Value	Count	Percent
Standard Attributes	Position	168		
	Label	My boyfriend/girlfriend does not have a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.5045		
	Standard Deviation	1.98424		
	Percentile 25	1.0000		
	Percentile 50	4.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Definitely False	63	28.1%
	2.00	Probably False	15	6.7%
	3.00	Maybe False	11	4.9%
	4.00	Don't Know	80	35.7%
	5.00	Maybe True	15	6.7%
	6.00	Probably True	16	7.1%
	7.00	Definitely True	24	10.7%

DNB6

		Value	Count	Percent
Standard Attributes	Position	169		
	Label	My brothers/sisters do not have a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	3.6205		
	Standard Deviation	2.31271		
	Percentile 25	1.0000		
	Percentile 50	4.0000		
	Percentile 75	6.0000		
Labeled Values	1.00	Definitely False	69	30.8%
	2.00	Probably False	23	10.3%
	3.00	Maybe False	14	6.3%
	4.00	Don't Know	46	20.5%
	5.00	Maybe True	10	4.5%
	6.00	Probably True	14	6.3%
	7.00	Definitely True	48	21.4%

DNB7

		Value	Count	Percent
Standard Attributes	Position	170		
	Label	My grandfather/grandmother does not have a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	2.7812		
	Standard Deviation	1.93421		
	Percentile 25	1.0000		
	Percentile 50	2.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Definitely False	90	40.2%
	2.00	Probably False	37	16.5%
	3.00	Maybe False	14	6.3%
	4.00	Don't Know	40	17.9%
	5.00	Maybe True	14	6.3%
	6.00	Probably True	16	7.1%
	7.00	Definitely True	13	5.8%

DNB8

		Value	Count	Percent
Standard Attributes	Position	171		
	Label	Other family members important to me do not have a credit card		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	2.4955		
	Standard Deviation	1.65391		
	Percentile 25	1.0000		
	Percentile 50	2.0000		
	Percentile 75	4.0000		
Labeled Values	1.00	Definitely False	96	42.9%
	2.00	Probably False	39	17.4%
	3.00	Maybe False	16	7.1%
	4.00	Don't Know	46	20.5%
	5.00	Maybe True	9	4.0%
	6.00	Probably True	18	8.0%
	7.00	Definitely True	0	.0%

FINKScore

		Value
		Value
Standard Attributes	Position	172
	Label	Financial Knowledge Score (FINK1+FINK2+FINK3+FINK4+FINK5+FINK6)
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	2.3438
	Standard Deviation	1.64376
	Percentile 25	1.0000
	Percentile 50	2.0000
	Percentile 75	4.0000

INBscore

		Value
		Value
Standard Attributes	Position	173
	Label	INB Score (INB1+INB2+INB3+INB4+INB5+INB6+INB7+INB8)
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	30.2321
	Standard Deviation	10.93477
	Percentile 25	21.5000
	Percentile 50	32.0000
	Percentile 75	36.0000

CBscore

		Value
Standard Attributes	Position	174
	Label	CB Score (CB1+CB3+CB5+CB6+CB7+CB8)
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	32.1071
	Standard Deviation	6.53704
	Percentile 25	28.0000
	Percentile 50	32.0000
	Percentile 75	36.5000

BBscore

		Value
Standard Attributes	Position	175
	Label	BB Score (BB2+BB3+BB4+BB6)
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	17.6205
	Standard Deviation	5.71237
	Percentile 25	14.5000
	Percentile 50	17.0000
	Percentile 75	22.0000

DNBscore

		Value
Standard Attributes	Position	176
	Label	DNB Score (DNB1+DNB4+DNB7+DNB8)
	Type	Numeric
	Format	F8.2
	Measurement	Scale
	Role	Input
N	Valid	224
	Missing	0
Central Tendency and Dispersion	Mean	10.6607
	Standard Deviation	6.21881
	Percentile 25	5.0000
	Percentile 50	9.0000
	Percentile 75	16.0000

CriticalDummy

		Value	Count	Percent
Standard Attributes	Position	177		
	Label	Critical Dummy		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	-3.9911		
	Standard Deviation	1.53579		
	Percentile 25	-5.0000		
	Percentile 50	-4.0000		
	Percentile 75	-3.0000		
Labeled Values	-7.00	Strongly Agree	5	2.2%
	-6.00	Agree	34	15.2%
	-5.00	Somewhat Agree	57	25.4%
	-4.00	Neither Agree nor Disagree	47	21.0%
	-3.00	Somewhat Disagree	32	14.3%
	-2.00	Disagree	37	16.5%
	-1.00	Strongly Disagree	12	5.4%

Anxious Dummy

		Value	Count	Percent
Standard Attributes	Position	178		
	Label	Anxious Dummy		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	-3.9554		
	Standard Deviation	1.73018		
	Percentile 25	-5.0000		
	Percentile 50	-4.0000		
	Percentile 75	-3.0000		
Labeled Values	-7.00	Strongly Agree	13	5.8%
	-6.00	Agree	32	14.3%
	-5.00	Somewhat Agree	55	24.6%
	-4.00	Neither Agree nor Disagree	33	14.7%
	-3.00	Somewhat Disagree	37	16.5%
	-2.00	Disagree	31	13.8%
	-1.00	Strongly Disagree	23	10.3%

Reserve Dummy

		Value	Count	Percent
Standard Attributes	Position	179		
	Label	Reserve Dummy		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	-4.0982		
	Standard Deviation	1.83371		
	Percentile 25	-6.0000		
	Percentile 50	-4.0000		
	Percentile 75	-3.0000		
Labeled Values	-7.00	Strongly Agree	20	8.9%
	-6.00	Agree	39	17.4%
	-5.00	Somewhat Agree	50	22.3%
	-4.00	Neither Agree nor Disagree	25	11.2%
	-3.00	Somewhat Disagree	38	17.0%
	-2.00	Disagree	28	12.5%
	-1.00	Strongly Disagree	24	10.7%

Disorganized Dummy

		Value	Count	Percent
Standard Attributes	Position	180		
	Label	Disorganized Dummy		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	-2.9196		
	Standard Deviation	1.54536		
	Percentile 25	-4.0000		
	Percentile 50	-3.0000		
	Percentile 75	-2.0000		
Labeled Values	-7.00	Disorganized	0	.0%
	-6.00	Disorganized	13	5.8%
	-5.00	Disorganized	33	14.7%
	-4.00	Disorganized	31	13.8%
	-3.00	Disorganized	43	19.2%
	-2.00	Disorganized	54	24.1%
	-1.00	Disorganized	50	22.3%
	.00	Disorganized	0	.0%

Conventional Dummy

		Value	Count	Percent
Standard Attributes	Position	181		
	Label	Conventional Dummy		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	-3.2589		
	Standard Deviation	1.55754		
	Percentile 25	-4.0000		
	Percentile 50	-3.0000		
	Percentile 75	-2.0000		
Labeled Values	-7.00	Strongly Agree	5	2.2%
	-6.00	Agree	15	6.7%
	-5.00	Somewhat Agree	31	13.8%
	-4.00	Neither Agree nor Disagree	44	19.6%
	-3.00	Somewhat Disagree	46	20.5%
	-2.00	Disagree	53	23.7%
	-1.00	Strongly Disagree	30	13.4%

AGREEABLENESS score

		Value	Count	Percent
Standard Attributes	Position	182		
	Label	Agreeableness Score (Critical Dummy+Sympathetic Score)		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.4375		
	Standard Deviation	2.18549		
	Percentile 25	.0000		
	Percentile 50	1.0000		
	Percentile 75	3.0000		
Labeled Values	-6.00	More Critical than Sympathetic	1	.4%
	-5.00	More Critical than Sympathetic	2	.9%
	-4.00	More Critical then Sympathetic	2	.9%
	-3.00	More Critical than Sympathetic	5	2.2%
	-2.00	More Critical than Sympathetic	7	3.1%
	-1.00	More Critical than Sympathetic	15	6.7%
	.00	Equally Critical and Sympathetic	42	18.8%
	1.00	More Sympathetic than Critical	43	19.2%
	2.00	More Sympathetic than Critical	39	17.4%
	3.00	More Sympathetic than Critical	26	11.6%
	4.00	More Sympathetic than Critical	24	10.7%
	5.00	More Sympathetic than Critical	13	5.8%
	6.00	More Sympathetic than Critical	5	2.2%

NEUROTICISM score

		Value	Count	Percent
Standard Attributes	Position	183		
	Label	Neuroticism Score (Anxious Dummy+Calm Score)		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.0446		
	Standard Deviation	2.62068		
	Percentile 25	.0000		
	Percentile 50	1.0000		
	Percentile 75	3.0000		
Labeled Values	-6.00	More Anxious than Calm	1	.4%
	-5.00	More Anxious than Calm	1	.4%
	-4.00	More Anxious than Calm	6	2.7%
	-3.00	More Anxious than Calm	15	6.7%
	-2.00	More Anxious than Calm	17	7.6%
	-1.00	More Anxious than Calm	15	6.7%
	.00	Equally Anxious and Calm	50	22.3%
	1.00	More Calm than Anxious	23	10.3%
	2.00	More Calm than Anxious	27	12.1%
	3.00	More Calm than Anxious	25	11.2%
	4.00	More Calm than Anxious	22	9.8%
	5.00	More Calm than Anxious	9	4.0%
	6.00	More Calm than Anxious	13	5.8%

EXTRAVERSION score

		Value	Count	Percent
Standard Attributes	Position	184		
	Label	Extraversion Score (Reserve Dummy+Extravert Score)		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.8393		
	Standard Deviation	2.98593		
	Percentile 25	-1.0000		
	Percentile 50	1.0000		
	Percentile 75	3.0000		
Labeled Values	-6.00	More Reserved than Extraverted	3	1.3%
	-5.00	More Reserved than Extraverted	4	1.8%
	-4.00	More Reserved than Extraverted	16	7.1%
	-3.00	More Reserved than Extraverted	9	4.0%
	-2.00	More Reserved than Extraverted	19	8.5%
	-1.00	More Reserved than Extraverted	20	8.9%
	.00	Equally Reserved and Extraverted	33	14.7%
	1.00	More Extraverted than Reserved	23	10.3%
	2.00	More Extraverted than Reserved	31	13.8%
	3.00	More Extraverted than Reserved	17	7.6%
	4.00	More Extraverted than Reserved	23	10.3%
	5.00	More Extraverted than Reserved	9	4.0%
	6.00	More Extraverted than Reserved	17	7.6%

CONSCIENTIOUSNESS score

		Value	Count	Percent
Standard Attributes	Position	185		
	Label	Conscientiousness Score (Disorganized Dummy + Depend Score)		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	2.6429		
	Standard Deviation	2.21838		
	Percentile 25	1.0000		
	Percentile 50	3.0000		
	Percentile 75	4.0000		
Labeled Values	-6.00	More Disorganized than Dependable	0	.0%
	-5.00	More Disorganized than Dependable	0	.0%
	-4.00	More Disorganized than Dependable	1	.4%
	-3.00	More Disorganized than Dependable	2	.9%
	-2.00	More Disorganized than Dependable	4	1.8%
	-1.00	More Disorganized than Dependable	8	3.6%
	.00	Equally Disorganized and Dependable	31	13.8%
	1.00	More Dependable than Disorganized	26	11.6%
	2.00	More Dependable than Disorganized	30	13.4%
	3.00	More Dependable than Disorganized	33	14.7%
	4.00	More Dependable than Disorganized	34	15.2%
	5.00	More Dependable than Disorganized	33	14.7%
	6.00	More Dependable than Disorganized	22	9.8%

OPENNESS score

		Value	Count	Percent
Standard Attributes	Position	186		
	Label	Openness Score (Conventional Dummy + Open Score)		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.9107		
	Standard Deviation	2.17426		
	Percentile 25	.0000		
	Percentile 50	2.0000		
	Percentile 75	3.5000		
Labeled Values	-6.00	=More Conventional than Open	0	.0%
	-5.00	More Conventional than Open	0	.0%
	-4.00	More Conventional than Open	2	.9%
	-3.00	More Conventional than Open	2	.9%
	-2.00	More Conventional than Open	11	4.9%
	-1.00	More Conventional than Open	9	4.0%
	.00	Equally Conventional and Open	40	17.9%
	1.00	More Open than Conventional	33	14.7%
	2.00	More Open than Conventional	38	17.0%
	3.00	More Open than Conventional	33	14.7%
	4.00	More Open than Conventional	26	11.6%
	5.00	More Open than Conventional	19	8.5%
	6.00	More Open than Conventional	11	4.9%

RECODE agreeableness SCORE

		Value	Count	Percent
Standard Attributes	Position	187		
	Label	Recode Agreeableness Score		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.4821		
	Standard Deviation	.79214		
	Percentile 25	1.0000		
	Percentile 50	2.0000		
	Percentile 75	2.0000		
Labeled Values	.00	Equally Sympathetic and Critical	42	18.8%
	1.00	More Critical than Sympathetic	32	14.3%
	2.00	More Sympathetic than Critical	150	67.0%

RECODE neuroticism SCORE

		Value	Count	Percent
Standard Attributes	Position	188		
	Label	Recode Neurotism Score		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.3080		
	Standard Deviation	.81396		
	Percentile 25	1.0000		
	Percentile 50	2.0000		
	Percentile 75	2.0000		
Labeled Values	.00	Equally Calm and Anxious	50	22.3%
	1.00	More Anxious than Calm	55	24.6%
	2.00	More Calm than Anxious	119	53.1%

RECODE extraversion SCORE

		Value	Count	Percent
Standard Attributes	Position	189		
	Label	Recode Extraversion Score		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.3884		
	Standard Deviation	.73115		
	Percentile 25	1.0000		
	Percentile 50	2.0000		
	Percentile 75	2.0000		
Labeled Values	.00	Equally Extraverted and Reserved	33	14.7%
	1.00	More Reserved than Extraverted	71	31.7%
	2.00	More Extraverted than Reserved	120	53.6%

RECODE conscientiousness SCORE

		Value	Count	Percent
Standard Attributes	Position	190		
	Label	Recode Conscientiousness Score		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.6562		
	Standard Deviation	.71037		
	Percentile 25	2.0000		
	Percentile 50	2.0000		
	Percentile 75	2.0000		
Labeled Values	.00	Equally Dependable and Disorganized	31	13.8%
	1.00	More Disorganized than Dependable	15	6.7%
	2.00	More Dependable than Disorganized	178	79.5%

RECODE openness SCORE

		Value	Count	Percent
Standard Attributes	Position	191		
	Label	Recode Openness Score		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	1.5357		
	Standard Deviation	.78012		
	Percentile 25	1.0000		
	Percentile 50	2.0000		
	Percentile 75	2.0000		
Labeled Values	.00	Equally Open and Conventional	40	17.9%
	1.00	More Conventional than Open	24	10.7%
	2.00	More Open than Conventional	160	71.4%

RECODE fink Score DA

		Value	Count	Percent
Standard Attributes	Position	192		
	Label	Recode Financial Knowledge Score DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.8304		
	Standard Deviation	.37616		
	Percentile 25	1.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Financial Knowledge	38	17.0%
	1.00	Some Financial Knowledge	186	83.0%

RECODE critical DA

		Value	Count	Percent
Standard Attributes	Position	193		
	Label	Recode Critical DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.5714		
	Standard Deviation	.49598		
	Percentile 25	.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Critical personality	96	42.9%
	1.00	Some Critical Personality	128	57.1%

RECODE sympathetic DA

		Value	Count	Percent
Standard Attributes	Position	194		
	Label	Recode Sympathetic DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.8661		
	Standard Deviation	.34134		
	Percentile 25	1.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Sympathetic Personality	30	13.4%
	1.00	Some Sympathetic Personality	194	86.6%

RECODE anxious DA

		Value	Count	Percent
Standard Attributes	Position	195		
	Label	Recode Anxious DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.6116		
	Standard Deviation	.48848		
	Percentile 25	.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Anxious Personality	87	38.8%
	1.00	Some Anxious Personality	137	61.2%

RECODE calm DA

		Value	Count	Percent
Standard Attributes	Position	196		
	Label	Recode Calm DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.7991		
	Standard Deviation	.40157		
	Percentile 25	1.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Calm Personality	45	20.1%
	1.00	Some Calm Personality	179	79.9%

RECODE reserve DA

		Value	Count	Percent
Standard Attributes	Position	197		
	Label	Recode Reserve DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.6563		
	Standard Deviation	.47602		
	Percentile 25	.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Reserved Personality	77	34.4%
	1.00	Some Reserved Personality	147	65.6%

RECODE extravert DA

		Value	Count	Percent
Standard Attributes	Position	198		
	Label	Recode Extraversion DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.8080		
	Standard Deviation	.39473		
	Percentile 25	1.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Extraversion Personality	43	19.2%
	1.00	Some Extraversion Personality	181	80.8%

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RECODE disgorge DA

		Value	Count	Percent
Standard Attributes	Position	199		
	Label	Recode Disorganized DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.3973		
	Standard Deviation	.49044		
	Percentile 25	.0000		
	Percentile 50	.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Disorganized Personality	135	60.3%
	1.00	Some Disorganized Personality	89	39.7%

RECODE depend DA

		Value	Count	Percent
Standard Attributes	Position	200		
	Label	Recode Dependable DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.8795		
	Standard Deviation	.32632		
	Percentile 25	1.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Dependable Personality	27	12.1%
	1.00	Some dependable Personality	197	87.9%

RECODE open DA

		Value	Count	Percent
Standard Attributes	Position	201		
	Label	Recode open DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.8795		
	Standard Deviation	.32632		
	Percentile 25	1.0000		
	Percentile 50	1.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Open Personality	27	12.1%
	1.00	Some Open Personality	197	87.9%

RECODE conventional DA

		Value	Count	Percent
Standard Attributes	Position	202		
	Label	Recode Conventional DA		
	Type	Numeric		
	Format	F8.2		
	Measurement	Scale		
	Role	Input		
N	Valid	224		
	Missing	0		
Central Tendency and Dispersion	Mean	.4330		
	Standard Deviation	.49661		
	Percentile 25	.0000		
	Percentile 50	.0000		
	Percentile 75	1.0000		
Labeled Values	.00	No Conventional Personality	127	56.7%
	1.00	Some Conventional Personality	97	43.3%

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