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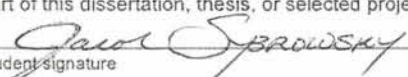

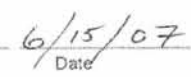
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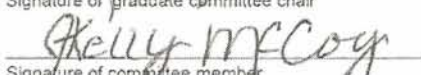
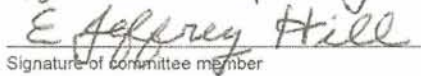


  
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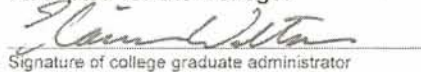
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PATHS TOWARD IMPULSIVE BUYING: THE EFFECT OF CREDIT USE AND  
DEBT AVOIDANCE ON THE PATHS BETWEEN MONEY ATTITUDES  
AND IMPULSIVE BUYING AMONG U.S. COLLEGE STUDENTS

by

Jacob P. Sybrowsky

A thesis submitted to faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Master of Science

Marriage Family and Human Development

School of Family Life

Brigham Young University

May 2007

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## ABSTRACT

# PATHS TOWARD IMPULSIVE BUYING: THE EFFECT OF CREDIT USE AND DEBT AVOIDANCE ON THE PATHS BETWEEN MONEY ATTITUDES AND IMPULSIVE BUYING AMONG U.S. COLLEGE STUDENTS

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Money attitudes modeled in the home are an important part of a child's economic socialization. Although not always labeled as such, earlier literature clearly addressed this type of child learning through observation, interaction, and direct familial involvement (Rettig, 1986). Families operate as one of society's most salient economic socializing agents as they provide environments conducive to human development, information networks, role models, and grants and exchanges (Rettig, 1983). The research reported here addresses the economic socialization of children and their money attitudes as emerging adults.



The current study investigated the role of money attitudes (power, anxiety, and distrust) by examining their contribution to impulsive buying among college students. Building on the groundbreaking work of Roberts and Jones (2001), this research also examined credit use and debt avoidance as potential moderators between money attitudes and impulsive buying.

Contrary to the way money attitudes have been modeled in previous research, this study found support indicating that the anxiety attitude scale was not an antecedent to impulsive buying. Instead the scale as originally created (Yamauchi & Templar, 1982) was found to consist of two highly correlated subscales, one conceptualized as an antecedent to impulsive buying and the other may be more appropriately modeled as a result of it. Secondly, when tested as moderators, although some of the interaction terms between the money attitudes and behaviors were significant, neither credit use nor debt avoidance was found to be a significant moderator. This indicates a potential need for further research on the relationship between this measure and impulsive buying.

Clarification made in the research reported here between anxiety and compulsive buying provides an insight that money attitudes are not all the same. Evidence suggests that some attitudes are precursors to behavior while other attitudes may be the result of behavior. With the passage of time, the drive to seek anxiety relief through impulsive buying may unwittingly fold back to greater rather than less anxiety. Impulsive buying based on anxiety then becomes a belief in relief that is not real. The proposed new attitude-behavioral model acknowledges the difference in money attitudes, that some are best conceptualized as predictors of impulsive buying while others are better conceptualized as a by-product of the behavior. Using this model in future research will

acknowledge the potential of a circular relationship between attitude-behaviors and attendant implications for helping individuals and families.

For this study, data was collected from students attending ten universities, located mostly in the state of Utah. There were 709 respondents used in this study, substantially more than have been used in similar studies. Demographically, there was a representative mix of male and female respondents and a balanced mix of age groups with a slight shift toward older students. Demographic information also includes respondent's reported race, home state, age, year in school, and family income.

In accordance with the research of Roberts and Jones (2001), using ordinary least squares regression, the unconstrained traditional model was tested. Regression analysis of impulsive buying was performed on money attitudes (anxiety, power, and distrust), controlling for age, gender and income. Following the procedure that Aiken, West, Cohen and Cohen (2003) and Baron and Kenny (1986) outlined, the attitude-behavior relationships between money attitudes and impulsive buying for the potential effects of the two moderating variables—credit use and debt avoidance were also examined. In those models where a significant interaction effect was found, post-hoc analysis was used interpret the significant slope differences in the independent variables.

## ACKNOWLEDGEMENTS

Although much longer than I originally anticipated; this process has been an amazing journey, one where family and friends have helped me to develop a greater skill base, but more importantly greater patience, humility, and understanding of myself, others, and families.

I am and will be forever grateful for my wife and the support that she so freely gives to me. She has been by my side throughout this entire process. We have learned together and learned from each other. We have a stronger family bond and a greater love for each other. Carrie, I love you and thank you.

My parents have also been a great support. Although we are separated by thousands of miles, their ability to sense my needs in times of trial has been a testament to their love for me and for the love of our father in heaven for each of us. They have inspired and encouraged me. Without their help and support, I would not have been able to come this far.

I will be forever grateful for my committee chair, Dr. Ivan Beutler. The lessons I have learned from him are of greatest importance. As my Scoutmaster, Bishop, Instructor, or Friend in times of need, I cherish the time we have had to talk. I have been the constant recipient of your kindness. To me, you are a living example of one who cares and serves as the Savior does. I am also grateful for the time and service provided by Dr. McCoy and Dr. Hill. Your time and efforts have enhanced this learning experience tremendously.

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## INTRODUCTION

Money attitudes modeled in the home are an important part of a child's economic socialization. A substantial body of literature exists on the role of family in the 'economic socialization of children.' Although not always labeled as such, earlier literature clearly addressed this type of child learning through observation, interaction, and direct familial involvement (Rettig, 1986). Families operate as one of society's most salient economic socializing agents as they provide environments conducive to human development, information networks, role models, and grants and exchanges (Rettig, 1983). One example of grants and exchanges in the literature, described by Miller and Yung (1990), are child allowances as entitled and earned allowances. The allowance literature has focused on instrumental practices and some possible outcomes associated with this type of socialization (Meeks, 1998; Miller & Yung, 1990; Mortimer, Dennehy, Lee, & Finch, 1994). This research addresses economic socialization of children and their money attitudes as emerging adults.

Money attitudes play a pivotal role in the lives of emerging adults as they finish secondary school, begin leaving home, prepare to manage their own homes, and start their own families. They enter a time of life that is not just "a brief period of transition into adult roles but [is] a distinct period of the life course, characterized by change and exploration of possible life directions" (Arnett, 2000, p. 469). For most youth from industrialized countries, the late teens to mid 20's are times of profound change and



importance. Influenced by family, peers, mass media, and educational ideologies, the course for much of the remaining years of life is set for the emerging adult.

Despite its potential importance, money attitudes and their relationships to financial behaviors have remained relatively unexplored in family scholarship, even in the social psychology literature which has extensive attitude-behavior research. For example, in a recent century review of attitude-behavioral research, only three of the over 300 studies, reported on attitudes about money (Wallace, Paulson, & Lord, 2005). A notable exception is the applied work of the advertising and marketing industry. This industry has become increasingly sophisticated and aggressive in their solicitations on college campuses because new college students tend to be particularly susceptible to credit card marketing schemes (Hayhoe, Leach, Allen, & Edwards 2005).

Evidence suggests that attitudes like power, anxiety, and distrust precede the development of money behaviors (Roberts & Jones, 2001). Therefore, knowledge of money attitudes may help inform parents, family members, and financial educators who seek to encourage, teach, and otherwise assist youth with important and inevitable financial choices before them (Acock & Bengtson, 1978; Blee & Tickamyer, 1995; Thornton, Alwin, & Camburn, 1983). Specifically, for parents, this research represents an opportunity to learn about money attitudes as a pre-cursor to money behaviors. Because certain money attitudes may signal deleterious money behaviors that arise in adolescents or emerging adults, parents can observe indicators of such behavior and forestall anguish in their child's life by influencing and encouraging their child to adopt healthy money behaviors.

In contemporary society the use of money permeates many, if not most aspects, of adult life. This pervasiveness illuminates the importance of money attitudes that lead to positive behaviors such as living within one's means, paying bills on time, avoiding excessive debt, and so forth. The research reported here also seeks to explain how relations between money attitudes (power, anxiety, and distrust) and impulsive buying may be moderated by behaviors such as credit use or debt avoidance.

### STUDY OBJECTIVES

Three objectives of the current study are: first, to investigate the role of selected money attitudes (labeled: power, anxiety, and distrust). Second, is to re-examine how specific attitudes may contribute to impulsive buying among emerging adults–college students. Finally, is to build on Roberts and Jones' (2001) research, re-considering whether each aspect of the anxiety money attitude is necessarily an antecedent to impulsive buying. In spite of its history in the financial literature and its practical importance in every-day-life, anxiety as a money attitude has yet to be carefully examined. This research takes a next logical step in that examination.

### REVIEW OF LITERATURE

A wealth of research points to attitudes as an important means in understanding behavior (Roberts & Jones, 2001). The study of attitudes began to receive attention some eighty years ago when the field of psychology underwent a period of rapid expansion. At this early juncture, the scientific study of attitudes was proclaimed “probably the most distinctive and indispensable concept in contemporary American social psychology” (Allport, 1935, p. 798). Careful assessment led to an early period of pessimism about the strength of attitude-behavioral relationships, this was followed by a consensus that

attitude-behavior relationships could be sufficiently strong to merit continued study. Over the last 25 years studies have focused on attitudes, the degree to which they influence behaviors (Zanna & Fazio, 1982), and on the mediating or moderating effects of various attitude-behavioral conditions (Wallace et al., 2005).

An attitude has been defined as “a tendency to act in a favorable or unfavorable way toward an object” (Eagly & Chaiken, 1993). Thus, direct attitude-to-behavior correlation is often significant but may not explain enough variance to merit further study (Kelman, 1974). In such cases, the addition of a moderating or mediating variable may add information about the conditions for which the modeled relationships hold (Wallace et al., 2005; Fazio, 1990; Krosnick & Petty, 1995). This type of statistical method can explain the relationship in context of other behaviors and further explain an attitude-behavioral relationship.

#### Early Money Attitude Research

Although many spending and other money related aspects have been studied for well over 100 years (Wallace et al., 2005; Veblen, 1899), the study of money attitudes are relatively new. Wiseman (1974) observed that psychological aspects of money suffered from a lack of standardized assessment instruments. Less than a decade later Yamauchi and Templar (1982) began to develop and quantify specific money attitude scales. From the writings of Freud and later theorists, Yamauchi and Templar (1982) conceptualized three money attitude domains: 1) security—defined as optimism, confidence, comfort, the reverse of pessimism, insecurity, and dissatisfaction; 2) retention—defined as parsimony, hoarding, and obsessive personality traits; and 3) power-prestige—defined as the purchase of status, importance, superiority, and attainment.

These domains are the basis for most of the published money attitude research. Within each money domain, items were developed and survey data was collected and factors analyzed. Yamauchi and Templar identified five attitudinal subscales and listed them in order of strength: 1) power-prestige—money as an external means to attain status, 2) time-retention—money as a tool for planning and preparing for the future, 3) distrust—doubt and mistrust associated with money transactions, 4) quality—a value associated with attaining quality regardless of the price, and 5) anxiety—an “attitude that money is a source of anxiety as well as a source of protection from anxiety” (Yamauchi & Templar, 1982, pp. 524-525). Subsequent research has focused on power, anxiety, and distrust because of their psychometric qualities, general scale strength, and overlap with similar studies (Roberts & Jones, 2001).

Furnham (1984) was also a contributor to research on money attitudes from a psychological perspective, but he focused his findings on the effects of mental health on purchasing behavior. Despite the difference in focus, Furnham found the same five money attitudes that Yamauchi and Templar found, along with a sixth, labeled ‘well-being.’ It “describes the subjects’ perspective on how closely one’s efforts are tied to his or her financial well-being” (Roberts & Jones, 2001). Further studies have shown that purchases are often made for reasons other than the utilitarian value of goods and services (Goldberg & Lewis, 1978). These types of findings seem to have cultivated further interest in the possible link between money attitudes and impulsive buying.

Roberts and Jones (2001) (whose research will be reviewed subsequently in greater detail) built on the work of these researchers (Yamauchi & Templar, 1982; Furnham, 1984; Goldberg & Lewis, 1978) and developed money attitude scales based on

power, anxiety, and distrust. Roberts and Jones (2001) appear to be the first to use moderation as a tool to further explain the relationships between money attitudes and behaviors. With regard to the three money attitudes included in the study (power-prestige, anxiety, and distrust), Roberts explained that these money attitudes were chosen because of their overlap in the major money attitude research of both Furnham and Yamauchi (Roberts & Jones, 2001). These three money attitudes are certainly not the only known money attitudes nor are they the only money attitudes with developed scales. However, because of their multidimensional nature, the relative independence of the three attitude measures, and their use by Roberts and Jones (2001), power-prestige, anxiety, and distrust were selected for further examination in this study.

For nearly two decades following the publication of Yamauchi and Templar's study (1982), no instances were found in the literature that tested these money attitudes against behaviors for strength of correlation and possible moderating conditions. Roberts and Jones (2001) changed this by modeling three of the scales as antecedents to impulsive buying and demonstrating that these are some of the money attitudes that can lead to impulsive buying.

#### MONEY ATTITUDES USED IN THIS STUDY

Consistent with Roberts and Jones (2001), this research builds on the work of both Furnham (1984) and Yamauchi and Templar (1982) using the same three money attitude scales they developed.

#### Power

As the first and most dominant money attitude identified by Yamauchi and Templar (1982), power represents an attitude that, beyond the necessities of life, money

can also purchase power, prestige and control over others (Goldberg & Lewis, 1978). In some ways, this view of money's purchasing power reflects a larger contemporary theme. This is the age of a global economy that has been fueled by advancing technologies, exploding information possibilities, and deepening markets. Almost everything seems to be available for purchase including prestige and control over others or, what Yamauchi and Templar (1982) labeled, power. This power has been described both recently and historically in a variety of ways. Roberts and Jones (2001) described it as "status consumption" owing to its roots dating back to the early work of Veblen (1899) on conspicuous consumption.

With such wide interest on the topic, different disciplines have described power in a variety of ways. From a sociological perspective, Bell (1998) described power as a consumer's desire to "demonstrate their social power through the display of material wealth" and thereby enter the so called "treadmill of consumption," or the state of increasing consumption and decreasing possibility for real gains in satisfaction (Bell, 1998).

Consumer research has also linked power to individual beliefs (Richins & Dawson, 1992). Rokeach (1973) conceptualized some of these beliefs within a values context of action guided by attitudes, judgments, and comparisons. For example, studies have confirmed that power facilitates impulsive buying through the acquisition of objects calculated to boost that power (Roberts & Jones 2001, 1998; Roberts & Sepulveda 1999; Roberts & Martinez, 1997). Marketing research has also indicated that wealth based on family reputation has been lost to the concept of wealth based on ownership of the right things (Eastman, Fredenburger, Campbell, & Calvert, 1997). In this regard, impulse

buyers, compared to other customers, were more likely to associate consumer purchases with social status and prestige (d'Astous & Tremblay, 1989).

### Anxiety

Anxiety as a money attitude has received far less attention than power-prestige. Yamauchi and Templar (1982) reported that early on Abraham (1917/1965) conceptualized anxiety as a money attitude. He reasoned that money may be used in an attempt to deal with anxiety, resulting in a threat to the individual. Accordingly, he then reasoned that lack of money may be perceived as a threat leading to more anxiety and depression. Thus, as a money attitude, Abraham originally conceptualized anxiety as a duality: anxiety resulting from a threat of depression and anxiety contributing to the threat of depression (Yamauchi & Templar, 1982).

Others have shown that money in connection with anxiety can be used as a defense mechanism to release stress. Valence, d'Astous, & Fortier (1988) described it as “a spontaneous action [that] pushes the consumer to reduce the tension” (p. 424) through an unplanned purchase (Edwards, 1993). These types of findings have led to continued interest in the relationship between anxiety and impulsive buying, a relationship shown to be consistently positive (Roberts & Jones, 2001; Valence et al., 1988), and associated with curbing anxiety during stressful time periods (Desarbo & Edwards, 1996). Thus, the anxiety scale provides a measure of the extent to which money is used not only to purchase goods and services but also to attempt the purchase of anxiety relief. However, with the passage of time this behavior repeated can unwittingly fold back on itself and add to the problem it was intended to resolve.

When Roberts and Jones (2001) demonstrated connection between money attitudes and compulsive buying, they also acknowledged a duality in the anxiety subscale, saying "...persons scoring high on this factor see money as a source of anxiety as well as a source of protection from anxiety" (p. 219). These individuals see money as a source of anxiety due perhaps to over spending and as a source of protection from anxiety due perhaps to an immediate release associated with spending.

### Distrust

Distrust or price sensitivity is a third money attitude relevant to the present study. It is also the least researched of the three money attitudes examined. This paucity of research may be due to its clear conceptual nature. As defined by Yamauchi and Templar (1982), distrust describes those who are hesitant, suspicious, or doubtful regarding situations involving money. From a conceptual standpoint, it is reasonable to assume that those who are more hesitant in situations involving money will be less likely to purchase impulsively. Roberts and Jones proposed renaming this variable *price sensitivity* as they felt that the new label describes the action better than the label *distrust* although both labels were used throughout their study (2001).

In their research, Roberts and Jones (2001) reported distrust to be negatively associated with impulsive buying. As far as the relationship between distrust and credit use is concerned, others have noted that higher credit use is associated with the purchase of higher priced items (Deshpande & Krishnan, 1980) and less distrust (Tokunaga, 1993; Roberts & Jones, 2001).



## Impulsive Buying

Impulsive buying is a measure of an individual's propensity to purchase with little forethought for their actual needs or for the financial implications of their spending. Others have described impulsive buying as sporadic or unplanned purchasing (Edwards, 1993). Edwards also noted that this type of behavior has increased steadily with the more prevalent use of credit card financing among college students (1993). Impulsive buyers have been shown to have more credit cards than other consumers (O'Guinn & Faber, 1989), to carry larger credit card balances (Ritzer, 1995), to engage in more irrational credit card usage (d'Astous, 1990), and to be less price conscious (Tokunaga, 1993). And as Roberts and Jones (2001) have observed, impulsive buying is associated with each of the three money attitudes described above (power, anxiety, and distrust).

Although Roberts and Jones (2001) labeled the impulsive buying scale as compulsive buying, this study has chosen the terminology of impulsive buying based on the argument of Edwards (1993) that *compulsive buying* is a clinically diagnosable disorder, while *impulsive buying* is a type of behavior.

## Moderators

Rising rates of credit use among college students have prompted concern by a number of researchers. Lea, Webley, and Walker (1995) asserted that credit card use is a catalyst in financing and facilitating a consumer lifestyle. Schor (1998) warned of a financially unsustainable lifestyle too heavily based on overspending and excessive debt. Jones (2005) added that poor credit management practices impacts job opportunities and threatens financial stability and security if continued after college. Consumer credit too often provides only a short term solution to a long term problem.

The U.S. General Accounting Office (2001) reported that 63% of all college students had at least one credit card and that of those with a credit card 42% did not pay it off each month. College students carried an average monthly debt of \$577 (Jones, 2005). Those who had credit cards were much less likely to turn to any other source of financing to get money for impulsive or planned purchases (Hayhoe, Leach, & Turner, 1999). These, and other similar reports, indicate the importance of studying behavior regarding consumer credit use in order to understand the role of money attitudes on buying behavior.

Likewise, an opposite behavior to credit card use is debt avoidance. Studying debt avoidance may also provide insight into the money attitudes-impulsive buying relationship. Avoiding debt is a tough prospect for students. Financial pressures pile up as many students see the need to spend more time focusing on school and less time working. The array of education financing options available to many students includes: use of savings or trust funds, income from ongoing employment, help from family or friends, long term student loans, or credit card financing. Growing competition for high paying jobs and rising educational costs make it increasingly difficult for students to finance higher education with personal earnings and family assistance. Student loans have become an important source of funding; however, access to student loans requires more forethought and planning. Conversely, consumer credit is quick and easy, requires little planning, and is becoming increasingly readily available to college students. By comparison, student loans require planning, deadlines, and time before the funds can be used. In the face of growing concern over expanding use of short term credit card debt to finance long term educational needs, little attention has been given to the alternative of

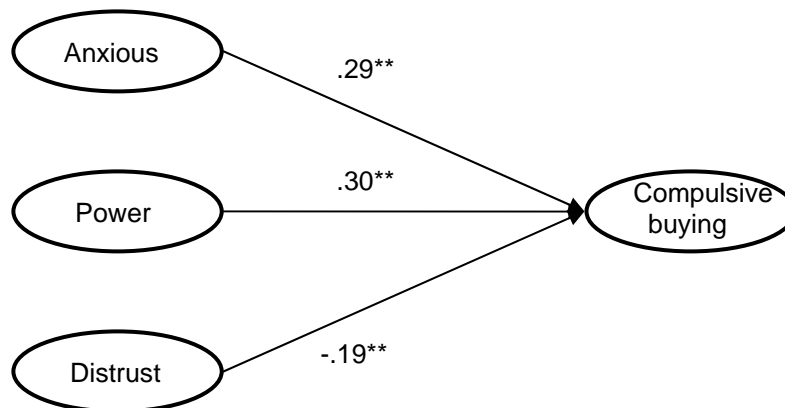
debt avoidance behavior. Hibbert, Beutler, and Martin (2004) found that higher levels of debt avoidance correlated with lower levels of credit misuse. What remains unaddressed is the moderating effect of debt avoidance on impulsive buying behavior.

### Robert's Research

Based on a review of the literature, Roberts and Jones (2001) examined the money attitude effects of power, anxiety and distrust on impulsive buying using a sample size of about 406. They then split their sample and tested for moderation between higher and lower credit card use (see results summarized in Figure 1).

Figure 1

Roberts' research: Un-moderated Model



\* $p < .05$ , \*\* $p < .01$

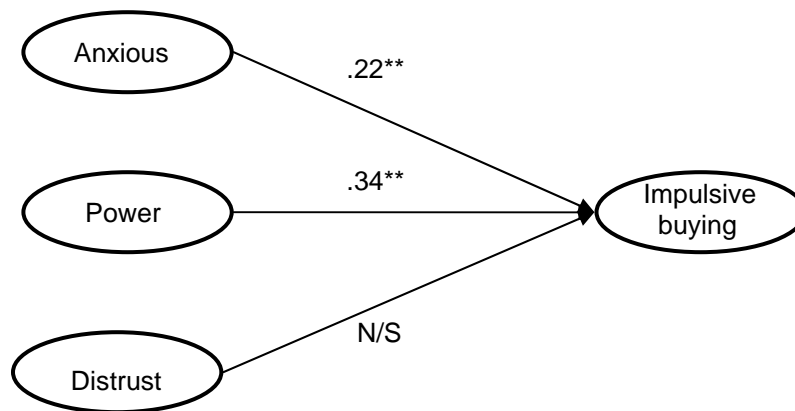
Note: standardized beta coefficients represent the path between each money attitude and impulsive buying.

The un-moderated standardized beta coefficients between the dependent impulsive buying variable and the exogenous money attitudes of anxiety, power and distrust were respectively .29, .30 and -.19. The inverse relationship of mistrust with impulsive buying is reasonable since mistrust includes a hesitancy to purchase even necessities. It also seems reasonable that the use of money to pursue power and prestige

( $\beta = .30$ ) would be positively associated with impulsive buying (see results summarized in Figure 2).

Figure 2

Robert's research: Higher Credit Users



\* $p < .05$ , \*\* $p < .01$

N/S = not statistically significant

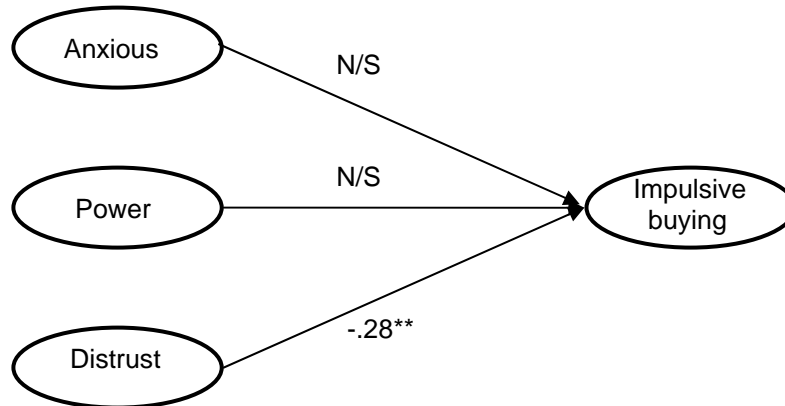
Note: standardized beta coefficients represent the path between each money attitude and impulsive buying.

Among higher credit users (relative to lower users) the positive relationship is moderated and elevated from .30 up to .34 as indicated by Roberts and Jones (2001), shown in Figure 2. In this case as well, the association between anxiety and impulsive buying is still positive although the beta coefficient falls from .29  $p < .01$  to .22  $p < .01$  (see Figure 2).

For low credit users, there were no significant correlations between anxiety and power when compared to impulsive buying. However, the distrust variable was significant with a beta coefficient that dropped from -.19  $p < .01$  to -.28  $p < .01$ , indicating a stronger negative association between low credit users pushing back when compared to the sample as a whole (see Figure 3).

Figure 3

Robert's research: Lower Credit Users



\* $p < .05$ , \*\* $p < .01$

Note: standardized beta coefficients represent the path between each money attitude and impulsive buying while N/S represents results that were not statically significant.

The duality of the anxiety money attitude subscale, described above, raises questions regarding the meaning of the positive anxiety coefficients (.29 and .22). As Roberts indicated in describing the scale, it could mean that money was used “as a source of protection from anxiety” (Roberts & Jones, 2001, p. 219) so that elevated anxiety was being relieved by using money to purchase impulsively. In other words, elevated anxiety would trigger additional impulsive buying thus accounting for the positive .29 unmoderated beta. However, given this rationale, among high credit users anxiety associated with credit driven impulsive buying should have moderated the attitude-behavior relationship upward from .29 instead of downward to .22 as reported by Roberts and Jones (2001) (see Figures 1 and 2).

An alternative explanation for the positive .29 anxiety-impulsive buying coefficient could be that “persons scoring high on this factor see money as a source of anxiety” (Roberts & Jones, 2001, p. 219) because their use of money for impulsive buying generates only a temporary, first wave sense of relief. Then, a second wave sense of anxiety sets in owing to the realities, some of which are financial, associated with a pattern of impulse buying. Where this anxiety cycle occurs, this impulsive buying actually contributes to mounting anxiousness. In this situation, the arrow should be reversed going from impulsive buying to anxiety instead of the Roberts and Jones (2001) model as shown in Figures 1 and 2.

#### PROPOSED MODEL OF MONEY ATTITUDES AND IMPULSIVE BUYING

The purpose of this study is to test a revised model of money attitudes and impulsive buying based on the above review of literature. The first revision was to re-label the Roberts’ (1998) compulsive buying scale in keeping with Edwards’ (1993) argument that compulsive buying is a clinically diagnosable disorder while impulsive buying is a type of behavior. Glatt and Cook (1987) support this view indicating that pathology varies from the more common behavior of overspending on occasions such as in times of stress. As Roberts and Jones (2001) documented, recent years have witnessed an alarming rise in patterns of overspending. Additionally, especially among college students, this overspending has frequently been financed by credit card debt. Even so, the typical college student who participated in this study was not a pathological spender and would therefore more appropriately be described as impulsive rather than compulsive in their unplanned spending.

A second change to Roberts and Jones' (2001) model was the inclusion of socioeconomic control variables: age, family income, and gender. Similar to the early money attitudes-behavior research of Roberts and Jones (2001), the focus of this research was not so much a comprehensive model of impulsive spending as a continued exploration of money attitudes in relationship to spending. In this regard, it is important to know which effects are driven by money attitudes and which are merely the effects of socioeconomic controls.

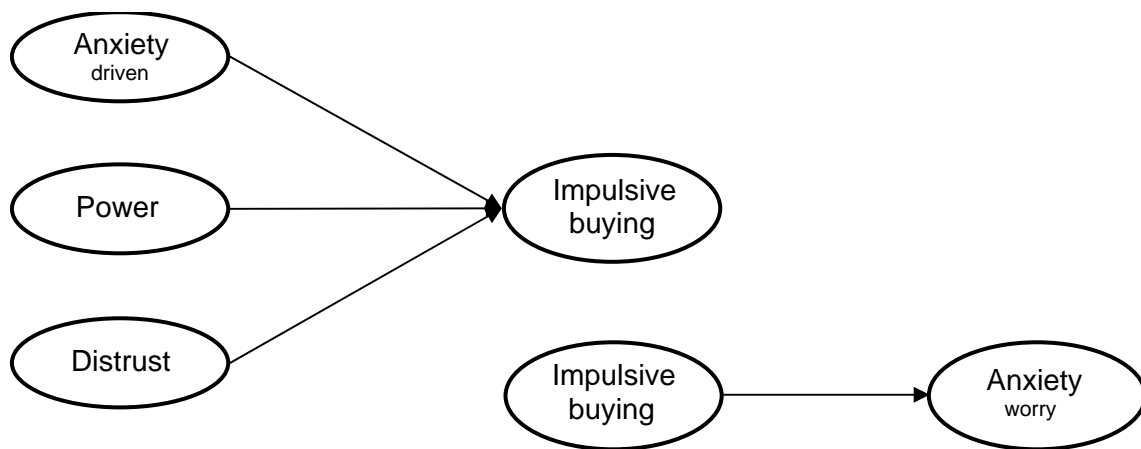
The third change was to unpack the anxiety money attitude scale and distinguish anxiety as an antecedent or input to impulsive spending (anxiety-drive) from anxiety as a resultant or output of that spending (see anxiety-worry, see Table 2). Glatt and Cook (1987) described an anxiety cycle beginning with *general anxiety* (from any number of stressors or situations) from which a person may *seek relief via a spending spree* (providing temporary relief in the form of a satisfaction high, excitement, or power sensation); subsequently, *consequences resulting from the spending* become apparent (an overdraft, overspent budget, eroded trust) resulting in a new round of *added anxiety* from the overspending. This anxiety folds back on itself as accumulating anxiety and adds to the problem it was meant to solve.

Beginning with these three adjustments, we formed a new money attitudes model as a basis for this research. A key shift conceptually was the treatment of some money attitudes as predictors of impulsive buying and others of outcome. The research of Roberts and Jones (2001) was important in modeling linkage between money attitudes and impulsive buying. They also called for further research to test for other moderators beyond credit use in the relationships between money attitudes and financial behaviors.

This new money attitude model acknowledges that some money attitudes are best conceptualized as predictors of impulsive buying, while others are best thought of as outcomes (see results summarized in Figure 4).

Figure 4

Proposed Model: Selected Money Attitudes Predicting Impulsive Buying and Impulsive buying Predicting Anxiety (worry)



## METHODOLOGY

### *Sample*

For this study, we collected data from students attending ten universities, located mostly in the state of Utah. Students were approached in various classes on college campuses and asked to participate on a voluntary basis. Data collection took place throughout the winter semester (January to April) of 2006. Initially, there were 826 respondents, 709 of which were fully complete and usable for this study.

Demographically, there was a representative mix of male and female respondents (Males- 43.6% and Females- 56.4%), a balanced mix of age groups with a slight shift toward older students that included a mix of both upper and lower class members.



Table 1

*Sample characteristics (n = 709)*

	% per category		% per category
Sex		Marital Status	
Male	43.6	Single	50.5
Female	<u>56.4</u>	Engaged	10.2
Total	100.0	Married	38.2
		Divorced/other	<u>1.1</u>
Age		Total	100.0
17-19	13.5		
20-22	44.5	Comparative Income Measure	
23+	<u>42.0</u>	Below average	16.8
Total	100.0	Average	48.1
		Above average	<u>35.1</u>
University		Total	100.0
Brigham Young University	51.5		
Utah State University	10.6	Home State	
Southern Utah University	10.2	Arizona	4.3
University of Georgia	7.1	California	12.2
University of Missouri	6.9	Georgia	7.0
Weber State University	6.2	Idaho	4.6
Other Universities	3.9	Missouri	6.6
Not attending University	<u>3.6</u>	Oregon	3.5
Total	100.0	Utah	34.4
		Washington	3.5
Ethnicity		Other Southern States	6.5
Caucasian/White	91.5	Other Western States	7.5
Hispanic or Latino	2.7	Eastern States	6.2
Oriental or Asian	2.4	Foreign	<u>3.7</u>
Other	<u>3.4</u>	Total	100.0
Total	100.0		

Approximately 50% of the respondents were unmarried and 50% married or engaged to be married. Based on the respondent's reported home state, the sample should also be described as a regional western United States college student sample (with 70% from western states and the remaining 30% were from southern or eastern U.S. or from other countries). About 79% attended a university in Utah with a likely Latter-day Saint

religious over-representation, although religious affiliation was not solicited. The questionnaire asked respondents to indicate how their family's income compared to others in their high school when they were age 17 which is typical of those attending college. Respondents reported family income slightly above average, which is about 90% White/Caucasian and 10% a combination of Hispanic, African-American, Asian, and other ethnicities (See Table 1).

## SAMPLE CHARACTERISTICS OF RECENTLY PUBLISHED MONEY ATTITUDES RESEARCH

In order to see some of the differences in recently published articles on money attitudes and consumerism, the following is a review of 12 articles chosen to represent research on money attitudes and behaviors published in the last six years.

### *Sample Sizes*

Most articles could be classified easily into national data sets and regional data sets. Most national data sets had a usable  $N$  of 3,000 to 4,000 out of data sets that began with 4,000-5,000 respondents. For example, Masuo, Malrouu, Hanashiro, and Kim (2004), Chaulk, Johnson, and Bulcroft (2003), and Finke and Huston (2003) all used the 1998 Survey of Consumer Finances. With 4,305 respondents, each author had to cut from 400 to 1,000 respondents out of the data set. Fan and Abdel-Ghany (2004) used the 1996-1997, Consumer Expenditure Survey in their research. This survey had a higher number of respondents to begin with, but the usable  $N$  was much lower. Also, it is noteworthy that the 1996-1997 data was 8 years old at the time of publication (Fan & Abdel-Ghany, 2004). The delay from data collection to publishing is a disadvantage for national data sets.

Regional data sets have a generally wider range of respondents. They ranged from 181 to 991 respondents. Average usable  $N$  for regional data sets was 417. Elliott (2003) described the process in drawing his regional sample. He began with a random draw of 1,200 university employees out of a pool of 2,357. There were 866 participants for a response rate of 73% which resulted in 785 usable surveys (Elliott, 2003). Regional data sets seemed to have more trouble gaining high sample sizes. Johnson, Schramm, Marshall, Skogrand, and Lee, for example, began with a pool of 5,646 individuals. Only 991 were included in the publication, as many did not respond to his survey request. Sample size was further limited with those who gave incomplete information (Johnson et al., 2004). This limited sample size appears to be the plague of regional data sets. It seems to be very difficult to get a truly random sample with enough respondents to achieve significant results.

Our study should be classified as a regional study as the respondents were chosen based on their location as opposed to a random sampling from each state. With a usable  $n$  of 709, the current study falls into the higher end of the studies as far as sample size is concerned. This higher sample size gives greater chance for generalizability of results. The use of more recent data also gives the current study an advantage over others as the questions and scales used were specifically chosen to test the theoretical models of this study.

### *Demographics*

Most publications did not have extensive data on the demographics of their respondents. Gender and race were the only two demographics that were reported in every publication although when reported they were mostly reported as dummy variables.

For example, Elliott measured minority group status using a dummy variable where one indicated minority status and zero indicated otherwise. In his study, Hispanics, African-Americans, Asians, and American Indians were categorized as minority whereas Whites were not” (2003). This categorization is representative of the studies being considered; it does not allow for reporting on specific minority groups, and it is a limiting factor for the application of results. When reporting on other variables, most studies combined age, family, work, education or religion into dummy variables if they measured them at all. Beak and Hong’s (2004) article, for example, did not report on any variables besides gender.

A lack of reporting on control variables decreases the generalizability of almost any study. Where a study loses the ability to spread the results across other populations, some of the value of the study is also lost. Thus, a major limitation of studies that do not use or report on demographic controls is that it is very difficult to make generalizations across a population. The conclusions made are typically only held to specific regions and further studies are required to nationalize the results.

The survey used to collect data for the current study consisted of a 78 item self-report questionnaire with 4 open-ended questions. The questions were administered via the internet (see Appendix). The questionnaire contains a few questions about students’ basic demographic make-up and several items designed to assess the respondent’s financial attitudes and behaviors along with their current credit card use and debt avoidance behaviors. The four open ended questions were designed as part of the qualitative portion of the money attitudes study. Table 1 (above) shows the basic demographic information for the 709 usable survey respondents. The addition of race,

marital status, socioeconomic information, and home state to gender and age, may provide greater insight into the patterns of those who exemplify the money attitudes and engage in impulsive buying.

### *Measurement*

To separate the effects of anxiety, power, and distrust from the effect of impulsive buying, scales, developed by Yamauchi and Templar (1982) for the money attitudes and Faber and O'Guinn (1988) for credit use, have been shown to be representative proxies for the underlying attitudes and behaviors that they were designed to examine. Similarly, the debt avoidance scale, developed by Hibbert et al. (2004), has been shown to represent its target behavior as well. Debt avoidance was, however, used as a moderator in the present study as opposed to its original design as that of an independent variable. Beginning with the dependant variable of impulsive buying, each of the scales used for measurement will be reviewed in the following section.

### *Dependant Variable*

The impulsive buying scale consists of six items that Roberts designed to measure whether an individual's purchases are planned or impulsive in nature. In the Roberts study the goodness of fit index, incremental fit index, and normed fit indexes were all well within acceptable ranges. Minor modifications were made to the scale to increase the Cronbach alpha. Reliability analysis of the impulsive buying scale was assessed using Cronbach's alpha (Carmines & Zeller, 1979). The result of the test gives impulsive buying a score of .792 as a measurement of internal consistency.

Table 2

*Impulsive Buying Items*

Item #	Money Attitude / Items (abbreviated)	Cronbach's alpha
	<i>Impulsive buying</i>	.792
1.	My friends have bought me stuff to show that they like me	
2.	If I had money was left over, I just had to spend it	
3.	I felt others would be horrified if they knew of my spending habits	
4.	I bought things even if I really couldn't afford them	
5.	I bought myself things to make myself feel better	
6.	My parents would've been shocked if they knew how I spent money	
7.	I felt anxious or nervous on days I didn't go shopping	

*Money Attitude Variables*

Yamauchi and Templar (1982) originally developed each of the money attitudes used in the present study for use as predictor variables in money attitude studies. The present study uses scale items that are similar to those that Yamauchi and Templar developed, with one notable difference in the anxiety scale. After using exploratory factor analysis to test for the strength of the anxiety scale, this study used a Varimax rotation to extract the principle components strong enough to be used in a scale (See Table 3). This analysis yielded two distinct subscales, which were subsequently labeled *driven* (comprised of factors .851, .714, and .883 respectively) and *worry* (comprised of factors .721, .851, and .822 respectively). The anxiety-driven subscale measured the degree to which the respondent found it hard to pass up a bargain, or a sale, and spent money to make [themselves] feel better. The author of this study hypothesized that the anxiety-driven money attitude scale would be a positive predictor of impulsive buying. The anxiety-worry subscale measured the degree to which the respondent reported getting nervous when they didn't have enough money and worried about money and being financially secure. The author also hypothesized that the anxiety-worry money attitude scale would be positively associated with impulsive buying as an outcome of that

behavior. And that by differentiating these two subscales greater conceptual clarity and empirical coherence toward the end of understanding money attitudes would be achieved.

Table 3

*Factor Loadings for the Six Items Making Up the Anxiety Subscales*

Anxiety scale questions	Components:	
	driven	worry
I showed signs of nervousness when I didn't have enough money		.721
I showed worrisome behavior when it came to money		.851
I have worried that I will not be financially secure		.822
I was bothered when I had to pass up a sale	.851	
I spent money to make myself feel better	.714	
It's been hard for me to pass up a bargain	.883	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Note: Factor analysis results show two principle factors comprised of three questions each. The factors are labeled 'driven' and 'worry' to represent the underlying attitudes being tested.

The anxiety scale, that Yamauchi and Templar (1982) developed and that Roberts and Jones (2001) modeled as a predictive money attitude of impulsive buying, theorized that impulsive buying is a quick fix for anxiety (Edwards, 1993). Especially during stressful periods impulsive buying tends to become a repetitive act (Desarbo & Edwards, 1996) in which anxious individuals engage as a way to reduce stress (Roberts & Jones, 2001). The items used to measure each of the four money attitude scales are shown in Table 4. The items were scored on a five-point, Likert frequency scale with a response ranges that varied from Never to Always. The anxiety money attitude was broken out in two subscales with assessed internal consistency Cronbach's alpha (Carmines & Zeller, 1979) scores of .744 and .785 for worry and driven respectively.

Table 4

*Money Attitude Scales*

Item #	Money Attitude / Items (abbreviated)	Cronbach's alpha
	<i>Anxiety-worry</i>	.744
1.	I showed signs of nervousness when I didn't have enough money	
2.	I showed worrisome behavior when it came to money	
3.	I have worried that I will not be financially secure	
	<i>Anxiety-driven</i>	.785
4.	I was bothered when I had to pass up a sale	
5.	I spent money to make myself feel better	
6.	It's been hard for me to pass up a bargain	
	<i>Power</i>	.852
7.	I should have judged by deeds, but I was more influenced by money	
8.	I placed too much emphasis on the amount of money a person had	
9.	I used money to influence other people to do things for me	
10.	I seemed to show greater respect for people with more money	
11.	I behaved as if money was the ultimate symbol of success	
12.	I must admit, I purchased things to impress others	
13.	In all honesty, I owned nice things in order to impress others	
	<i>Distrust</i>	.801
14.	I automatically said, I can't afford it, whether I could or not	
15.	When making purchases, I was suspicious of being taken advantage of	
16.	When buying something, I complained about the price I had to pay	
17.	I argued or complained about the cost of things I bought	
18.	I hesitated to spend money, even on necessities	
19.	After buying, I wondered if I could have gotten the same for less elsewhere	
20.	It bothered me when I discovered I could have gotten something for less	

Building on the work of Goldberg and Lewis (1978) and their observation that money was frequently used as a tool to gain status, domination, and control, Yamauchi and Templar (1982) also developed the power money attitude measure. Reliability analysis of the power scale based on the data that this study used resulted in a Cronbach's alpha of .852. This study also measured distrust or price sensitivity based on Yamauchi and Templar's (1982) original money attitudes scale. Consistent with previous research (Roberts & Jones, 2001), reliability analysis of the distrust scale based on the Spending Well data resulted in a Cronbach's alpha .801.



### *Control Variables*

Control variables used in the present study were gender, age, and family income. After reporting their gender, respondents indicated their age on a scale ranging from 18 or younger to 25 or older. Researchers later collapsed the respondents' age ranges into three categories (17 to 19, 20 to 22, and 23 and older) before using the data in the regression models. Respondents also indicated their families' income in relation to their peers in their later years in high school, choosing responses on a 5-point, Likert scale ranging from far below average to far above average. Researchers did not collapse responses for the family income measure.

### *Moderator Variables*

The same credit measure that Roberts used and that Feinberg (1986) developed was applied in this study. Prior research has shown that credit card usage amplifies spending habits and that credit cards increase spending by 50% to as much as 100% (Ritzer, 1995). Individuals are especially vulnerable to these increases in spending if they have been raised in a credit card heavy society (Ritzer, 1995). The credit card scale itself consisted of 12 items that measure the extent to which a respondent has used credit card(s) to amass debt, to propel spending, to facilitate conveniences, and so forth. Reliability analysis based on the data that this study used indicated a high level of internal consistency (Cronbach's alpha equaled .981), in line with previous assessment (Roberts & Jones, 2001).

This study adopted the debt avoidance scale from Hibbert et al.'s (2004) study of financial prudence and financial strain. Hibbert et al. designed the scale to measure "pro-active debt avoidance as a means of plugging debt-financed spending holes" (Hibbert et

al., 2004). In the current study, it is used as an active measure of an individual's practice in avoiding debt. In many respects, debt avoidance is a behavior opposite to that of credit use and, as such, has been shown to be associated with lower levels of debt. The debt avoidance scale also achieved a high level of internal consistency with only three items as shown in Table 5 (alpha = .929).

Table 5

*Credit Use and Debt Avoidance Items*

Item #	Money Attitude / Items (abbreviated)	Cronbach's alpha
	<i>Credit Use</i>	.981
1.	My credit cards have been near their maximum limit	
2.	I used available credit on one card to make payments on another	
3.	I've worried about how to pay off my credit card debt	
4.	I made minimum payments on my credit card bills	
5.	I was less concerned with price when I used a credit card	
6.	I've been more impulsive when shopping with a credit card	
7.	I spent more when I used a credit card	
8.	I was delinquent in making payments on my credit cards	
9.	I exceeded my available credit limit	
10.	I have taken cash advances on my credit cards	
11.	I've had too many credit cards	
	<i>Debt Avoidance</i>	.929
12.	I bought what I wanted without really considering my budget	
13.	Before borrowing money, I took time to think about it	
14.	I minimized my expenses to reduce my need for student or other loans	

*Plan of Analysis*

Consistent with the research of Roberts and Jones (2001), ordinary least squares regression analysis was used in this research with a sample selected to mirror Roberts and Jones (2001) sample demographics. In the current study a regression model controlled for age, gender and income, and regressed the money attitudes (anxiety, power, and distrust) on impulsive buying.

Next, following the procedure that Aiken, West, Cohen and Cohen (2003) and Baron and Kenny (1986) outlined, this study examined attitude-behavior relationships

between money attitudes and impulsive buying for the potential effects of the two moderating variables—credit use and debt avoidance. Researchers first computed bi-variant statistical means, standard deviations, and correlations in order to facilitate fundamental inquiry and analysis of the data. Also, in accordance with the procedure that Aiken et al. (2003) outlined, researchers created interaction variables using the product of each money attitude, independent and moderating variable. For this study, researchers first centered all variables prior to creating the product variables. When included with both the independent and moderating variable in a regression model, a significant interaction variable indicates that there is a moderating effect present between the independent and moderating variable.

In those models where a significant interaction effect was observed, post-hoc analysis was generated to help interpret the effect of the moderator variable; consistent with the approach established by Aiken et al. (2003). This was done to identify how the moderator variable impacts the relationship between the independent and dependent variables. Researchers typically examine the significance of the independent variable at three different times while centering the moderating variable at a different point for each analysis: at the mean, at one standard deviation above the mean, and at one standard deviation below the mean. Adjusting the point at which the moderating variable is centered allows for a more powerful examination of the main variable's significance on the dependent variable at differing levels of the moderating variable (Aiken et al., 2003).

Finally, the last form of analysis followed the new money attitudes model. A simple path analysis was used first. The model used included Power, Distrust, Anxiety-driven, and the control variables, Age, Gender, and Income, to examine the amount of

variance that could be accounted for in the Impulsive Buying variable. This analysis then included Impulsive Buying with the other independent and controlling variables to determine the amount of variance that could be accounted for in the Anxiety-worry variable. Researchers tested regression coefficients using a two tailed probability test. After checking for acceptable significance, researchers checked slopes to better understand the relationship between the money attitudes and impulsive buying. Researchers again generated a post-hoc analysis for those models in which they identified a significant interaction effect.

## RESULTS

Results are separated into five sections. First, the means and standard deviations of each variable are reported, followed by the correlation matrix for all variables used in this study (see Table 6). Second, the ordinary least squares regression statistics for the traditional money attitudes model are presented (see Table 7). The traditional model with credit use and debt avoidance as interaction terms was tested next, which have high potential for moderating the relationships between the three money attitudes and the behavior of impulsive buying (see Table 8). Next, using post-hoc analysis to better understand the nature of their moderating effects, the analysis examines the two debt avoidance interaction terms that researchers observed to be significant (see Figures 5 & 6). Finally, this study reports the regression results for the new money attitudes model (see Table 9).

Table 6 shows the results for variable mean and standard deviation for all variables (independent variable, dependant variables, moderating variables, and control variables). Consistent with past research, anxiety is presented as a combined scale (Roberts & Jones,

2001), and, in keeping with the research reported above, divides anxiety into two subscales—*anxiety-driven*, a money attitude predictor variable, and *anxiety-worry*, a money attitude dependent variable.

Table 6

*Correlation Matrix with Means and Standard Deviations*

Variable:	1	2	3	4	5	6	7	8	9	10	11
1. Gender	--										
2. Age	-.419**	--									
3. Income	-.037	-.131**	--								
4. Impulse Buying	.107**	-.063	.036	--							
5. Power	-.208**	.069	.123**	.486**	--						
6. Anxiety	.156**	-.026	-.138**	.534**	.480**	--					
7. Anxiety-Worry	.066	.032	-.167**	.346**	.391**	.854**	--				
8. Anxiety-Driven	.201**	-.082*	-.059	.558**	.415**	.820**	.403**	--			
9. Distrust	-.120**	.083*	-.084*	-.009	.181**	.359**	.380**	.214**	--		
10. Debt Avoidance	.096*	-.046	.108**	-.282**	-.191**	-.114**	-.103**	-.086*	.093*	--	
11. Credit Use	.108**	-.262**	-.001	.176**	.052	.106**	.086*	.093*	-.006	-.058	--
Mean	.560	4.670	2.240	.987	.813	1.313	1.539	1.087	1.871	3.375	1.334
Standard deviation	.496	1.657	.864	.591	.651	.689	.863	.783	.649	1.036	1.708

\* $p < .05$ , \*\* $p < .01$   
 $n = 705-709$

Controlling for age, income and gender, Table 7 shows the standardized coefficient effect of each of the three money attitudes on impulsive buying. The un-moderated effect of anxiety (combined scale) had the largest coefficient ( $\beta = .45, p < .001$ ) of the three money attitudes, meaning a one percent increase in anxiety is associated with a .45 percent increase in impulsive buying. Consistent with the findings of Roberts and Jones

(2001), power are similarly associated with impulsive buying ( $\beta = .32, p < .001$ ), and distrust is negatively associated with impulsive buying ( $\beta = -.22, p < .001$ ).

Table 7

*Multiple Regression (OLS) for the Impulsive Buying Outcome Variable*

Predictor Variables	Traditional Money Attitudes Model (un-moderated) <sup>1</sup>
<i>Control Variables</i>	
Age	N/S
Family Inc.	N/S
Gender	.07*
<i>Money Attitude</i>	
Anxiety <sup>2</sup>	.45***
Power	.32***
Distrust	-.22***
R-square	.410
Sample n	701

<sup>1</sup>Standardized Regression Coefficients

<sup>2</sup>Combined Anxiety Scale

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 8 shows multiple regression analysis results for the traditional money attitudes model based on three control variables (age, income, and gender), three money attitudes (anxiety, power, and distrust), two money behaviors (debt avoidance and credit use), and six possible money attitude-money behavior interactions. This study identified two significant interactions terms: anxiety-debt avoidance ( $\beta = .076, p < .001$ ) and distrust-debt avoidance ( $\beta = .022, p < .05$ ). These results indicate that debt avoidance moderates the anxiety-impulsive buying and the distrust-impulsive buying relationships.

Table 8

*Multiple Regression (OLS) Traditional Money Attitudes Model with Debt Avoidance and Credit Use Tested for Potential Moderation*

Predictor Variables	Dependent Variable: Impulsive Buying	
	Debt Avoidance	Credit Use
Regression Equations:		
Control Variables		
Gender	.106*	.085
Age	-.005	.005
Family Income	.019	.006
Money Attitudes		
Anxiety	.310***	.322***
Power	.294***	.316***
Distrust	-.118***	-.141***
Money Behaviors		
Debt Avoidance	-.102***	
Credit Use		.039***
Interaction terms		
Anxiety x Debt Avoidance	-.076***	--
Power x Debt Avoidance	.021	--
Distrust x Debt Avoidance	.022*	--
Interaction Terms		
Anxiety x Credit Use	--	.012
Power x Credit Use	--	.006
Distrust x Credit Use	--	.008
R-square	.468	.440
Sample <i>n</i>	704	704

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

The post-hoc analysis of Figure 5 reveals how debt avoidance moderates the anxiety-impulsive buying relationship, at three levels of debt avoidance, with trend lines labeled respectively as low, mean, and high. Accordingly, the slopes of the anxiety-

impulsive buying trend lines vary; indicating for each of the three debt avoidance levels a different rate of substitution or marginal propensity to impulsively buy with respect to anxiety. The marginal propensity is highest (has the greatest slope) at the low level of debt avoidance (see Figure 5) and is lowest at the high level, even though impulsive buying at about one standard deviation below the anxiety mean is the same across all three debt avoidance functions. Thus, debt avoidance had the greatest moderating effect on the impulsive buying-anxiety relationship when debt avoidance was lower and had the least effect when debt avoidance was higher.

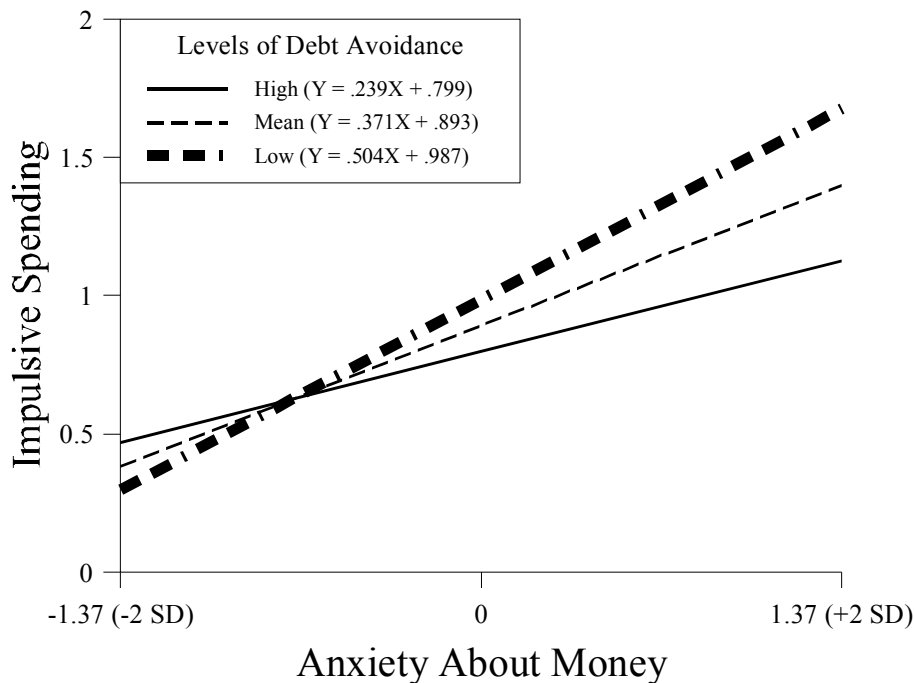


Figure 5. Relationship between Impulsive Buying and Anxiety at levels of Debt Avoidance.

In addition to the moderating effect regarding anxiety about money, there is second debt avoidance moderating effect, regarding distrust (see Figure 6). But, in this case debt avoidance exerts a slightly positive effect on the marginal propensity to impulsively



spend with respect to distrust. This positive effect is because the marginal propensity to impulsively spend is negative (see the negative slope in the post-hoc analysis of Figure 6) with respect to distrust so that as debt avoidance heightens (from low to high in Figure 6) the negative marginal propensity diminishes.

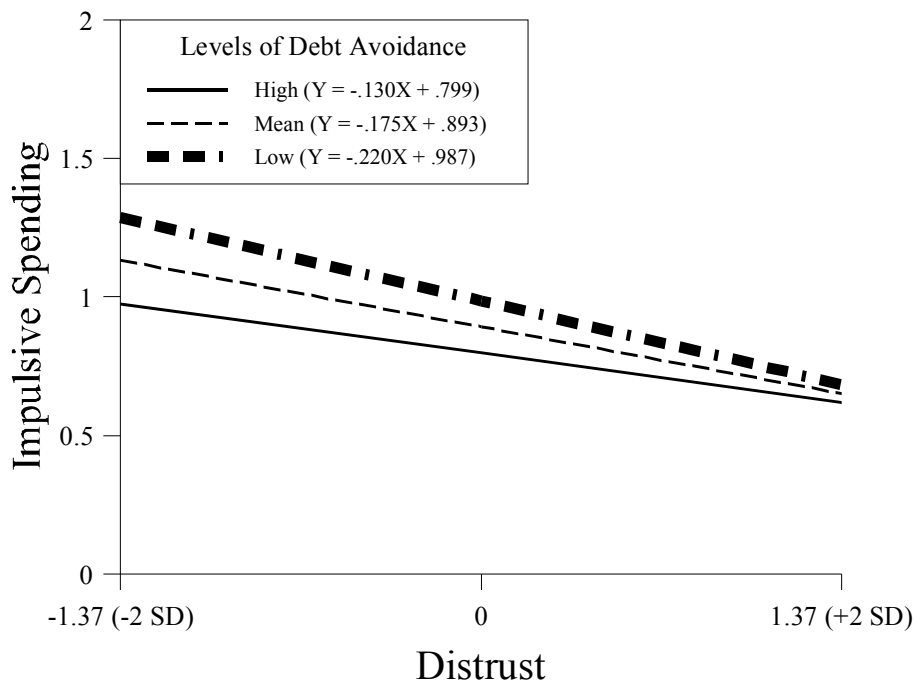


Figure 6. Relationship between Impulsive Buying and Distrust at levels of Debt Avoidance.

By way of summary, analysis dealing with the potential moderation of debt avoidance and credit use indicated some moderation by debt avoidance as described in the post hoc analysis above. However, none of the credit use interaction terms were significant; hence the sample data tested in this study fails to confirm Roberts and Jones

(2001) finding of credit use as a moderator. Further research will be required to understand or resolve this inconsistency.

Following the post-hoc analysis, the fifth and final step of analysis in this study, was to test the proposed new money attitudes model (as introduced in Figure 4). Table 9 models impulsive buying as a function of the control variables, the money attitudes (anxiety-driven, power, and distrust), the money behaviors (debt avoidance and credit use), and the money attitudes (times) debt avoidance interaction variables. Then, from these variables including the impulsive buying variable, we identified primary paths and variables as predictors of anxiety-worry. Thus, this study modeled anxiety-worry as an outcome of impulsive buying rather than an input to it. This model is consistent with theoretical assumptions which may label anxiety-worry as an outcome of, rather than a predictor of, impulsive buying. Accordingly, this study then modeled the money attitude of anxiety as two subscales (driven and worry) with driven anxiety as a predictor of impulsive buying and worry anxiety as an outcome.

As indicated in Table 9, the new money attitudes model is shown using multiple regression. Of the three control variables gender ( $\beta = .104, p < .01$ ), age, and family income tested, only gender significantly predicted impulsive buying. Each of the three money attitudes, anxiety-driven ( $\beta = .317, p < .001$ ), power ( $\beta = .285, p < .001$ ), and distrust ( $\beta = -.117, p < .001$ ), were significantly associated with impulsive buying. Both of the money behaviors, debt avoidance ( $\beta = -.101, p < .001$ ), and credit use ( $\beta = .035, p < .001$ ) were also significantly associated with impulsive buying.

Table 9

*Multiple Regression (OLS) for the New Money Attitudes Model*

Predictive Variables	Impulsive Buying Dependent Variable	Anxiety-Worry Dependent Variable
Control Variables		
Gender	0.104**	0.230***
Age	0.006	0.029
Family Income	0.025	-0.153***
Money Attitudes		
Anxiety – Driven	0.317***	0.117**
Power	0.285***	0.323***
Distrust	-0.117***	0.421***
Money Behaviors		
Debt Avoidance	-0.101***	-0.021
Credit Use	0.035***	0.018
Impulsive Buying		0.232***
R Square	0.468	0.356

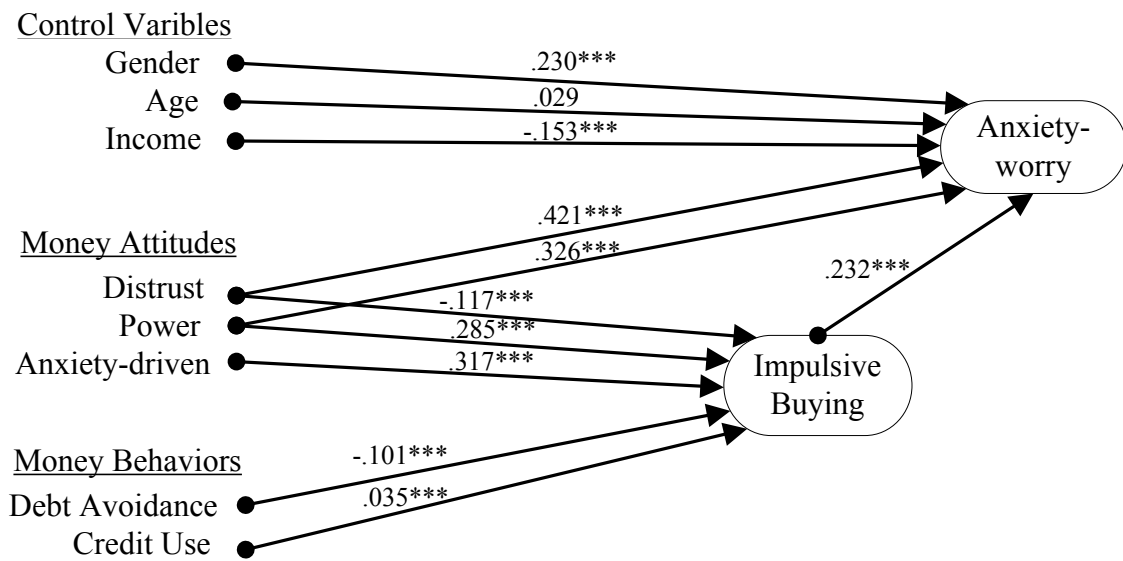
<sup>†</sup>Standardized Coefficients

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Significant predictors of anxiety-worry as the dependant variable were: gender ( $\beta = .230, p < .001$ ), family income ( $\beta = -.153, p < .001$ ), anxiety-driven ( $\beta = .117, p < .01$ ), power ( $\beta = .326, p < .001$ ), distrust ( $\beta = .421, p < .001$ ), and impulsive buying ( $\beta = .232, p < .001$ ). Neither debt avoidance or credit use were significantly associated with anxiety-worry. These results, as shown in Table 9, are also reported in the new money attitude model, Figure 7 which visually illustrates the relationships between the control variables, money attitudes, and money behaviors against impulsive buying and anxiety-

worry as dependant variables. Most important to the research reported here, anxiety-driven is modeled and tested as an input to impulsive buying. Then, anxiety-worry is modeled and tested as an output of impulsive buying. Modeled in this way, certain aspects of anxiety are shown as precursors to impulsive buying while others are shown as results of it.

Figure 7. New Money Attitudes Model



\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$   
See Table 9 for more details

## DISCUSSION

When Yamauchi and Templar originally developed the anxiety money attitude scale, they described the scale as a duality: “money as a source of anxiety as well as a source of protection from anxiety” (1982, pp.524-525). No doubt, this was an attempt to appropriately include items at the extremes of the anxiety scale they developed; however, such inclusion risks crossing beyond the bounds of the concept in question. This concern emerged in the process of reviewing literature and conducting the research reported here. The concern was that the anxiety money attitudes scale seemed to measure two highly correlated, but conceptually separate anxiety dimensions. This first became apparent when as conceptually modeled, the money attitudes of power and anxiety each displayed a positive propensity for impulsive buying of similar magnitude. However while high credit card use elevated the power propensity, contrary to conceptual expectation it diminished the anxiety propensity (Roberts & Jones, 2001).

Careful review of the power and anxiety money attitude survey items led to a further question of face validity regarding the anxiety items which seemed to divide between an anxious drive to purchase or spend and a more general worry about money and having enough of it. This idea was reaffirmed with factor analysis that broke anxiety out into two subscales with three items each that were labeled anxiety-driven and anxiety-worry respectively. In this study, I conceptualized anxiety-driven as a pre-cursor or predictor of impulsive spending and hypothesized that it was positively associated with the same. As a more general measure of worry about money, anxiety-worry was conceptualized as an outcome to which impulsive buying with other variables would contribute.

Thus, this study developed and tested a new money attitudes model of impulsive buying with the two separate anxiety money attitudes as shown in Figure 7. Anxiety-driven was conceptualized as being parallel with power and distrust and, consequently, these money attitudes and the two money behaviors of debt avoidance and credit use were treated as predictors of impulsive buying in the model. The findings controlling for gender, age and income illustrate the importance of money attitudes in predicting impulsive buying behavior (shown in Table 9). Of the three money attitudes, anxiety-driven was most highly correlated with impulsive buying; further, individually, and as a group, the predictive power of the three money attitudes exceeded that of the two money behaviors—debt avoidance and credit use. Thus, money attitudes and money behaviors predicted impulsive buying, but the money attitudes were highly associated than the money behaviors. This is an unusual example of negative money attitudes being more highly associated with the behavior of impulsive buying than other behaviors commonly associated with it.

Again, the high correlations of money attitudes with anxiety-worry followed by impulsive buying, illustrates the relative predictive importance of the money attitudes. It is also noteworthy that, as indicated by the gender dummy variable, female respondents showed a greater propensity for anxiety worry, as did college students from families with lesser relative income. Higher family income may be associated with a possible way out of the discomfort resulting from impulsive purchases. On the other hand, it is understandable that lower income may expose an individual to increased anxiety for fear of not being able to make ends meet. But, why females are more prone to worry and to feel anxiety, than males is less obvious and is deserving of further research.

From the time that Yamauchi and Templar (1982) published their money attitude scales and Furnham (1984) followed up with an expanded version, there was no literature that tested these money attitudes against money behaviors for possible correlations and moderating effects. Roberts and Jones (2001) changed this by modeling three of the scales as antecedents to impulsive buying. Building on their work, this study contributes to money attitudes research by adding (1) demographic control variables, (2) unpacked anxiety scales, and (3) money behaviors predictors to the model. Also, in addition to impulsive buying as the dependant variable, one of the anxiety scales is modeled as a dependant variable as well.

With anxiety-worry modeled as the dependant variable, the money attitudes become import precursors through both direct effects and indirect effects through impulsive buying. The substantial direct effect that money attitudes had on anxiety-worry illustrates the importance of money attitudes in understanding money behaviors. The three negative money attitudes accounted for five times more variance in impulsive buying as compared to the combined effect of the money behaviors: debt avoidance and credit use. The direct and indirect effects of money attitudes on anxiety worry also exceeded those of all other variables in the model (money behaviors: debt avoidance, credit use, and impulsive buying; and control variables: age, gender, and income). This result indicates that some money attitudes appropriately qualify to be labeled as *negative money attitudes*. The three money attitudes modeled here (distrust, power, and anxiety-driven) are candidates for such a label based on their patterns of association with impulsive buying and anxiety-worry.

Power has been aptly described both in previous research and in this study as a predictor of impulsive buying. Both in theory and application the positive relationship between this money attitude and impulsive buying behavior seems justified. Despite any financial implications, for those who desire to purchase power and influence over others, impulsive buying is one possibility that may bring them closer to their goals. The strong association between power and impulsive buying indicates a tendency to use purchasing power to gain influence over others. This may speak to a larger issue of control; money spent impulsively does command control of others in the marketplace of goods and services at ones command. Those feelings of power may carry over to relationships with others as well and is also deserving of further research.

This research has implications for a broad group that may include parents, financial educators, youth, and financial practitioners. Parents and financial educators share a common interest in the economic socialization of youth, each with a differentiated comparative advantage. Parents model money behaviors and practices (intended or not) in the commonplace routines of home and family life (Hibbert et al., 2004). Formative observations provide a foundation for a child's economic socialization. The emotional climate associated with the meaning and use of resources may do more to shape this emotional socialization than the cognitive details associated with it. As youth gain greater cognitive maturity, financial education becomes relevant and valuable.

Parents are a primary agent for financial socialization (Alhabeeb, 1996). Parents face ever-growing challenges in helping to teach and preparing their children for adult roles. Lifestyles have changed since most parents were growing up and they continue to do so at an increasingly rapid rate. Cauffman and Steinberg (1995) wrote about these



changes and proposed that the lifestyle of early adults during the last century has changed from a focus on production to an obsession with consumption. This obsession with consumption is thought to be based largely in the desire for status, envy provocation, and pleasure seeking. These motives dictate one of the most powerful forces shaping both individuals and societies (Roberts & Sepulveda, 1999). With this consumer force as competition, Doherty (2000) pleads that parents need to take back their kids—an approach in today’s world that requires greater wisdom regarding money attitudes and behaviors modeled in the home.

Parents and educators must consider making behavior adjustments themselves to more effectively model positive money attitudes and practices for the youth with whom they have influence. In terms of financial education, the road to financial health also needs sign posts that warn of *negative money attitudes*, *impulsive buying*, and *anxiety-worry*, because such financial practices may result in a self defeating cycle or detour that may include bruises, pain, and a crash or two. In addition to parents, educators can alert youth by calling attention to important sign-posts. Such a focus may be drawn from the rich inventory of existing financial education curriculums or from innovations yet to be developed.

#### LIMITATIONS & FUTURE RESEARCH

As with other regional studies, a limitation of the current study is the sample used. Results of a study based on a national sample of emerging adults would be more generalizable. In addition to the moderators used in the current study, others such as financial strain, work experience, or family of origin may further inform relationships within the money attitudes model proposed here. Further analysis using more

sophisticated statistical analysis such as structural equation modeling may also shed important additional understanding of money attitudes and attendant behaviors.

Just as the negative money attitudes point to financial potholes to avoid, it would be helpful in future research to identify and illuminate positive alternatives. In this regard, some of the other Yamauchi and Templar (1982) scales should provide a good starting place for further research.



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## APPENDIX

### Relevant Scales Used in this Study

1 Never	2 Seldom	3 Sometimes	4 Frequently	5 Always	6 Does Not Apply
------------	-------------	----------------	-----------------	-------------	------------------------

#### **Savings:**

1. I felt that saving money was important?
2. I made a point to save some of the money I received?
3. I've had money in savings?
4. I saved money from my summer earnings?
5. I saved money in a savings/checking account?
6. I added money to my savings regularly?

#### **Financial Prudence:**

1. I lived within my income?
2. I paid bills on time?
3. Being in debt was a problem for me?
4. I had money problems?

#### **Debt Avoidance:**

1. I bought what I wanted without really considering by budget?
2. Before borrowing money, I took time to think about it?
3. I tried to minimize my expenses to reduce my need for student or other loans?

#### **Financial Strain:**

1. I've worried about my ability to pay back debt?
2. In light of money I've borrowed, I've worried about my financial condition in the next five years?

#### **Impulsive Buying:**

1. My friends have bought me stuff to show that they like me?
2. If I had money was left over, I just had to spend it?
3. I felt others would be horrified if they knew of my spending habits?
4. I bought things even if I really couldn't afford them?
5. I bought myself things to make myself feel better?
6. My parents would have been shocked if they knew how I spent my money?
7. I felt anxious or nervous on days I didn't go shopping?

**Power:**

1. Although I should have judged the success of people by their deeds, I was actually more influenced by the amount of money they had?
2. People I know told me that I placed too much emphasis on the amount of money a person had as a sign of success?
3. I used money to influence other people to do things for me?
4. I seemed to show greater respect for people with more money than I had?
5. I behaved as if money was the ultimate symbol of success?
6. I must admit that I purchased things because I knew they would impress others?
7. In all honesty, I owned nice things in order to impress others?

**Anxiety:**

1. I showed signs of nervousness when I didn't have enough money?
2. I showed worrisome behavior when it came to money?
3. I have worried that I will not be financially secure?
4. I was bothered when I had to pass up a sale?
5. I spent money to make myself feel better?
6. It's been hard for me to pass up a bargain?

**Distrust:**

1. I automatically said, I can't afford it, whether I could or not?
2. When making major purchases, I had suspicions that I was being taken advantage of?
3. When buying something, I complained about the price I had to pay?
4. I argued or complained about the cost of things I bought?
5. I hesitated to spend money, even on necessities?
6. After buying something, I wondered if I could have gotten the same for less elsewhere?
7. It bothered me when I discovered I could have gotten something for less somewhere else?

**Credit Card Use:**

1. My credit cards have been near their maximum limit?
2. I've used available credit on one card to make payments on another?
3. I've worried about how to pay off my credit card debt?
4. I made minimum payments on my credit card bills?
5. I was less concerned with price when I used a credit card?
6. I've been more impulsive when shopping with a credit card?
7. I spent more when I used a credit card?
8. I was delinquent in making payments on my credit cards?
9. I exceeded my available credit limit?
10. I have taken cash advances on my credit cards?
11. I've had too many credit cards?