

Consumers and credit cards: A review of the empirical literature

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ABSTRACT

Research in the area of consumer credit card attitude and behavior has provided an abundance of literature in the business, psychology, and public policy fields. Beginning in the 1960s, the work revolved around descriptive characteristics and evolved as scholars probed deeper by investigating relationships between credit cards and psychological constructs, and the need for consumer policy. While the scope of credit card research has broadened, there is a need to pause and reflect on what we actually know about the phenomenon, given its proclivity in society. This paper identifies the empirical research conducted over the past four decades in order to provide insights and recommendations for additional research. A total of 537 refereed journal articles from 8 databases were reviewed and evaluated within specific parameters related to credit cards, with a final working sample of 103 journal articles published between 1969 and 2012. Emerging trends are identified and suggestions for future research are provided.

Keywords: research paper, literature review, consumer credit cards

INTRODUCTION

Ubiquitous in society, credit cards have become a fact of life for most consumers and are a part of the consumer culture. Staggering credit card statistics provide evidence of their pervasiveness. As of 2011, seventy-seven percent of US adults owned at least one credit card, with a total of 1.4 billion cards in circulation. The average cardholder owned 7.7 cards and uses a credit card 119 times a year charging an average of \$88 per transaction or \$10,500 annually (myFICO, 2012). By the end of 2011, with the unfolding of America's economic crisis, the average household credit card debt reached \$16,420 (Federal Reserve G.19 March, 2012).

The proliferation of credit cards and their ease of access have given consumers increased opportunities for making credit purchases. However, while many consumers are able to use credit cards wisely, others seem to be unable to control their spending habits. Over the past two decades, the use of credit cards has become an area of economic and social concern. The problems created by credit card usage have caused apprehension among educators, consumer advocates, and public policy administrators. Economic concerns have risen in part, as a response to the massive use of credit cards and the accumulation of debt in American society. The most striking feature of this trend in U.S. household indebtedness is the rise of personal bankruptcy (Ladka 2011; Manning, 2000). More than 1.35 million people filed for Chapter 7 or Chapter 13 bankruptcy in the United States during 2011, which equates to approximately one in every 175 adult Americans (American Bankruptcy Institute, 2010). This number was lower than 2010 but the bankruptcy rate is expected to rise again during 2012 (Atrizadeh, 2012). Credit card debt has been reported as the main reason causing Americans to file for personal bankruptcy (Murray & Light, 2010; White, 2007).

With regard to social concerns, the use of credit cards in society has affected not only traditional consumers, but also vulnerable groups, such as college students, senior citizens, and disabled citizens. College students have grown up in the age of credit, becoming independent consumers earlier in life, and constantly exposed to new products and services available through credit cards. Along with technology and the expansion of the Internet, they became an appealing demographic group for credit card companies and financial institutions for a variety of reasons. Solicitation on college campuses has caused concern among college officials, consumer advocacy groups, and legislators (Hayhoe, Leach, Allen, & Edwards, 2005; Mansfield & Pinto, 2007; Robb & Sharpe, 2009). The senior citizen market has also captured the attention of credit card marketers due to its impressive size and buying power. Various reasons have been offered for this rising trend in senior citizen credit card debt and bankruptcy, including increased health care costs, gambling, lower interest rates on investment, the loss of jobs before planned retirement, and low retirement income (Dellutri, 2010). Another population of concern is the non-traditional consumer, such as developmentally-disabled individuals. In the late 1990s marketers were criticized for their predatory activities directed toward this segment of vulnerable consumers in an attempt to gain more market share (Cahill, 1998). Other than the work of Mansfield and Pinto (2008), there has been a lack of empirical studies with developmentally-disabled individuals due to the problem of inaccessibility. These social and economic concerns have raised the level of awareness that credit cards have both positive and negative consequences for individual consumers and for society as a whole.

PURPOSE

It was not until the late 1960s that consumer credit cards became a topic of academic research, appearing in the business literature. The early work revolved around descriptive characteristics: number of cards and credit card usage (Hirschman, 1979; Hirschman & Goldstucker, 1978; Plummer, 1971; Slocum & Mathews, 1970; Wise, Brown, & Cox, 1977), social class (Hirschman & Goldstucker, 1978; Mathews & Slocum, 1969; Slocum & Mathews, 1970), gender and age (Blackwell, Hawes, & Talarzyk, 1975; Wise, Brown, & Cox 1977), and education (Hirschman & Goldstucker, 1978). The early literature also began to provide insights from a consumer behavior perspective, such as consumer's attitude towards credit cards (Awh & Waters, 1974; Blackwell, Hawes, & Talarzyk, 1975) and knowledge of credit cards (Bowers, 1979).

As the field evolved, scholars from psychology and consumer sciences broadened the scope of credit card research (Leach & Hayhoe, 1998; Norvilitis, Szablicki, & Wilson, 2003; Reynolds & Abdel-Ghany, 2001; Roberts, 1998; Yang, Spinella, & Lester, 2004). While the scope of credit card research has broadened and has produced an abundance of information in the literature, there is a need to pause and reflect on what we actually know about the phenomenon. Given the proliferation of credit card usage in today's society, perhaps it is an appropriate time to review what has been studied to determine if there are trends or findings that have occurred repeatedly.

The purpose of this study was to review and integrate the literature surrounding consumer credit cards in various disciplines and offer a series of guiding research opportunities to advance the marketing discipline. As such, the purpose was threefold: First, to investigate the empirical research conducted over the past four decades with regard to consumer credit cards; Second, to provide insights for understanding consumers' attitudes toward credit cards and the determinants of credit card usage; and finally, to provide recommendations for future research in this domain.

Further, a guide is offered to the research trends and potential opportunities for future studies in the study of credit cards from a consumer behavior perspective.

CONCEPTUAL FRAMEWORK AND METHODOLOGY

In order to accomplish the goals of this study, a contextual framework was utilized for the investigation as indicated in Figure 1 (Appendix) that is based on the Tri-Component Attitude Theory (Lutz, 1991; Petty, Wegener, & Fabrigar, 1997). The Tri-Component Attitude Theory posits that an attitude is the way one thinks, feels, and acts toward some aspect of his/her environment. In the model (aka ABC Model): "A" stands for affect or emotions, e.g., how a person feels about credit cards; "B" pertains to behavior related to credit cards, e.g., usage or repayment issues; and "C" refers to cognition or a person's beliefs about credit cards, e.g. credit card knowledge. The ABC model is considered the core of this consumer framework and is surrounded by demographic and consumer socialization issues as they relate to credit cards (see outer ring of Figure 1).

Article Identification

A large-scale integrative literature review was conducted to identify the empirical research concerning consumer behavior and credit cards. The following electronic databases

were used to search for journal articles with the words “consumer credit” or “credit card” in the title, keywords, or abstract:

- ABI/Inform Complete
- ERIC
- ERIC (USDE)
- ProQuest (Multiple Databases)
- PsychARTICLES
- PsychINFO
- Social Services Abstracts
- Sociological Abstracts

A total of 537 scholarly articles from these databases were reviewed and evaluated. Due to the voluminous amount of articles, the scope of the paper was narrowed, with the following parameters for inclusion: 1) articles must contain primary data, not historical financial and/or economical data; 2) the data must be collected directly from consumers rather than from the marketer point of view; 3) the data must provide information on credit cards specifically, not mortgages or personal lines of credit, auto debt, and/or student loan debt; and 4) data must be collected from domestic populations, no international populations outside the U.S. are included. Following a similar approach to Cronin, Gleim, and Martinez (2011), each article was examined by at least two researchers with knowledge of the subject matter, and only the articles that were approved by both judges were included. If an agreement could not be reached, a third member was asked to judge the article as well. The inter-rater reliability for the classifications exceeded the recommended .70 level (Perreault & Leigh, 1989). The articles were classified based on the overarching model (see Figure 1). Articles that did not fit these guidelines or fall within the scope of this study were eliminated. The final working sample was one hundred three research publications from forty-six journals. The journals are listed in Table 1 (Appendix). The one-hundred three articles are provided in chronological order by publication date, and their findings categorized within the contextual framework as indicated in Table 2 (Appendix).

RESULTS

Attitude toward Credit Cards: ABC Model

Relying on the tri-component attitude theory or ABC model, this study attempts to categorize articles that describe consumer’s attitudes toward credit cards. Twenty-seven studies explored a consumer’s attitude toward credit cards. Overall, the findings showed a relationship between a consumer’s attitude toward credit cards and card ownership, outstanding balance, and repayment behavior. The majority of studies regarding a consumer’s attitude toward credit cards have been conducted in the last twelve years, making it a relatively recent phenomenon. Several additional articles were found that measured financial literacy and overall credit attitude but included only one or two items about credit card attitude; these articles were eliminated from the present study due to the researchers’ inability to discriminate the specific findings on credit card attitude.

A: Affect.

The first category relates to a consumer's affect or emotional response to credit cards. Five psychological and emotional constructs were identified in the credit card research that was reviewed: control, self-esteem, anxiety, impulsivity/compulsivity, and materialism. A substantial amount of research has been conducted utilizing these psychological and emotional constructs, and while they have an important role in explaining variations in credit card attitude and behavior, no comprehensive conclusions could be drawn from the twenty-five papers included. Studies investigating the *control* construct either addressed self-control or locus of control and their relationship to credit card attitudes or behaviors. For example, in 2003 two studies found that locus of control was related to attitude toward credit, but unrelated to levels of credit card debt. In 2009, Watson found that locus of control was related to credit card misuse. When comparing across repayment behavior categories (convenience versus installment users) some studies found no significant difference in locus of control, self-esteem, and anxiety. However, Robb and Sharpe (2009) reported that anxiety is related to a lower probability of carrying a monthly balance.

The constructs of *impulsivity*, *compulsivity* and *materialism* were identified as constructs to report articles that had investigated the relationship between these personality characteristics and individual attitudes and usage of credit cards. While the measures of these characteristics may have varied across the studies, the terms of impulsivity, compulsivity, and materialism had all been used in the literature. The seminal work of Faber and O'Guinn (1988) found that compulsivity is related to credit card misuse. Subsequent research regarding impulsivity and compulsivity supports this finding (Joireman, Kees, & Sprott, 2010; Norum, 2008; Pirog & Roberts, 2007). Only one study reported that impulsivity was unrelated to levels of debt (Norvilitis, Szablicki, & Wilson, 2003).

Similarly, the findings on materialism showed conflicting results. Two studies found that materialism was not related to credit card debt (Norvilitis, et al., 2006; Pinto, Parente, & Palmer, 2000); however, Pirog and Roberts (2007) found that materialism does increase the likelihood of credit card misuse.

B: Behavior.

The second category relates to a consumer's credit card behavior; in this category several constructs were utilized to classify and describe the findings: Number of Cards Owned, Balance, Access/Availability, Repayment, and Credit Card Misuse.

Credit card behavior was a topic of interest in the earliest research on credit cards, focusing on repayment behavior (Mathews & Slocum, 1969), credit card use and misuse (Slocum & Mathews, 1970), and number of cards (Plummer, 1971). In the findings of these studies, there was a sharp increase in card ownership from the early 1970s (17%) to the 1990s (over 80%), with a recent trend toward declining numbers in the 2000s. The average number of cards is more difficult to estimate since many of the studies failed to report these statistics in a comparable manner. As the years passed, more descriptive statistics were offered on credit card ownership, such as average number of cards and range of cards owned.

The *number of cards owned* is a self-reported number, either averaged for the entire sample, or in some cases, reported in categorical terms. Fifty-six studies investigated the number of cards owned by consumers (e.g., in 2009, Wang & Xiao reported a mean of 2 cards with a

range of 1 to 18 cards). Several studies reported significant relationships between the number of cards owned and other variables; however, they failed to report the actual number of cards.

The second construct identified as *balance* represents the outstanding balance carried on the card, which was also self-reported. While we attempted to report these balances as “average balances” so that a comparison across the studies might occur, they were not always available as such. Therefore, the balance in this construct may be conveyed as an average, a mean, or category. It is interesting to note that prior to 1980 we found no study reporting an average outstanding balance. From that time forward, balances rose from \$268 to \$1,651 in 2010, with a high of \$18,985. These trends mirror the reported credit card usage patterns in the popular press. A total of thirty-nine studies were included in this category.

The third construct of *access/availability* identifies the sources from which the respondents’ credit cards were obtained. Sources for credit cards included those from card marketers, banks, retail stores, on college campuses, from parents, and through direct mail. There were twelve studies that investigated the source from which individuals acquired their credit cards and its relationship to credit card usage. All samples included in this category were drawn from college student populations. Due to the public policy concern regarding college student’s usage and access to credit cards on campus, several studies investigated the credit card solicitation policies in higher education; specifically, whether or not protecting students from on-campus solicitation impacted the students’ card ownership and outstanding balance. Interestingly enough, the results were mixed. Pinto, Parente, and Palmer (2001) found no difference in card ownership between schools that allowed on-campus solicitation and those who did not, while Norvilitis, Szablicki, and Wilson (2003) reported that students obtaining cards from on-campus sources had significantly higher credit card debt. Even when on-campus solicitation is permitted, studies found that more students acquired cards via direct mail than any other source (Cunningham, 2004; Lyons, 2004; Mansfield & Pinto, 2007). Only one study, Hayhoe, Leach, Allen, and Edwards (2005) reported that the majority of their sample obtained credit cards from parents. Given the issues with on-campus solicitation and the legislation that has occurred in the past ten years to prohibit such, it is interesting that students report that they obtain credit cards primarily from off-campus sources. However, one study did report that those students who obtained their cards from on-campus sources were more likely to have higher credit card debt levels or carry an outstanding balance, than those who obtained their cards from other sources (Norvilitis, Szabicki, & Wilson, 2003).

While many of the studies included in the Behavior category were reporting the percentages for each access/availability source, some compared balances and numbers of cards for different sources. For example, in the past decade there has been concern over whether college students should be able to obtain credit cards on campus and if this availability leads to increased usage.

The fourth construct, *repayment behavior*, reports the way in which a consumer uses the card, either as a convenience user or an installment user. Convenience users pay the entire bill in full at the end of each month, while installment users carry an outstanding balance month to month. The terms of convenience vs installment user were first employed in the literature to describe a consumer’s repayment behavior in 1969 (Mathews & Slocum) and continue to be a means of description. There were numerous differences noted between convenience and installment users, including the number of cards used, credit card knowledge, and demographics. Overall, from the twenty-eight studies in this category, the number of convenience users appears to be rising, indicating a wiser use of credit cards.

Finally, the construct of *credit card use and misuse* relates to matters such as the frequency of credit card use, the dollar amount of purchase made with credit versus cash, and the use of store-issued cards. Credit card use and misuse tends to be a “catch all” category that includes studies on credit card frequency of use, amount of purchase, and credit card misuse. Twenty-eight publications were included in this category. Beginning in 1990 with the article by D’Astous in the Journal of Consumer Policy, credit card misuse was a focus of investigation. From 2001 on, numerous studies utilized the Roberts and Jones 2001 “credit usage scale” which measures the *misuse* of credit cards. The studies in the credit card use and misuse category found that the dollars spent per purchase was higher when credit cards were used, and that there were relationships between card usage and psychological factors including: anxiety, compulsive buying, impulsivity, locus of control, materialism, and self-esteem. Studies reporting the types of items purchased with credit cards were not included due to the enormous variety of findings. In addition, a new subset of college student consumers who misuse credit was identified: financially-at risk students (Lyons 2004). This group of consumers was defined as *financially at-risk* if they met one or more credit card misuse characteristics.

C: Cognition.

The third category relates to a consumer’s cognitions or beliefs about credit cards and credit card knowledge. Beliefs include statements such as “credit cards should be used for installment reasons” (Danes & Hira, 1990) and “credit cards have gotten me into financial trouble” (Pinto, Mansfield, & Parente, 2004). There were twenty-seven studies that measured consumers’ beliefs about credit cards. Beliefs can help develop profiles of credit card users (Xiao, Noring, & Anderson, 1995). For example, heavy installment users have been shown to have “stronger beliefs about the negative effect that credit cards have on them personally” (Pinto, Mansfield, & Parente, 2004, p. 1414).

There were eight studies that pertained to credit “card” knowledge, or specific characteristics of credit card accounts, such as interest rates, credit limit, balance, or payment fees. The small number of articles may be due to the parameters of the current study requiring specifically credit “card” knowledge, not general credit knowledge or financial literacy. This category investigated specific credit card characteristics, e.g. rate, limit, and balance. Whether the sample was college students or adult consumers, the literature raised concerns over the limited understanding and recall of various credit card characteristics. Significant findings were reported between credit card knowledge and credit card behavior, credit card attitude, and age.

Consumer Focus

As noted above, the goal of this article is to review and integrate the literature surrounding consumer credit cards. The outer rings of the model pertain to consumer socialization and demographics and were used to identify relevant studies.

The work on consumer socialization began in the early 1990’s, focusing on the study of consumer socialization agents and their role in forming credit card attitude and behavior. The term “consumer socialization agents” describes any interaction between the following: 1) parents, 2) peers, 3) media, and 4) schools and the respondents, regarding credit card attitudes or credit card usage. Consumer socialization agents were investigated in thirteen studies. When

reviewing these studies of all socialization agents, only parents were found to be agents significantly related to credit card debt and credit card misuse.

Literature included in the demographics category researched the relationship between credit card attitudes or usage and demographic variables such as age, education, gender, income, race, and family life cycle. Demographics were included in forty-three of the articles in this study. Since the first paper on consumer credit cards was published in 1969, researchers have attempted to develop a demographic profile of credit card consumers. The demographic characteristics most often used were age (22 studies) and gender (20 studies), followed by income (11 studies) and education (5 studies). Overall, no conclusive demographic profile can be reported due to contradictory findings.

RESEARCH TRENDS AND OPPORTUNITIES

Seven research trends and opportunities surfaced from this investigation, as indicated in Table 3 (Appendix).

First, there has been a shift in research emphasis over time, with earlier studies focusing on demographics and observable characteristics like the number of cards held; whereas, later studies emphasize a broader range of factors such as attitudes, external impacts (social, family, and environmental factors), and behavior. We found no longitudinal studies in the total number of studies reviewed. While studying credit usage trends throughout lifetimes or generations would certainly help develop a richer understanding of the determinants of credit card attitude or behavior, it is not surprising no longitudinal data was found because of the difficulties in obtaining this type of data.

A second trend was the overwhelming use of college students as the sample population in a predominate number of studies. This sampling choice is not surprising due to the great amount of attention in the popular press on the credit card usage and spending patterns of American college students. In addition, universities and parents of college-aged students have also turned to public policymakers and academic researchers in an effort to reduce problems associated with college student credit debt. As such, in some studies the selection of college students is appropriate due to the context and purpose of the research, such as comparisons of on-campus versus off-campus solicitation (Robb & Sharpe, 2009; Lyons, 2004), and risky behavior of young adults (Adams & Moore, 2007; Politano, 1997). In other studies, college students are most likely chosen as a convenience sample and pose a limitation on the generalizability of the findings. Future researcher should consider broadening the sampling methods and include representations from cross sections of various generational groups.

Third, public opinion and legislation regarding credit card attainment has changed dramatically since the early 1980's. Due to the public policy concern regarding college student's usage and access to credit cards on campus, a great deal of attention has focused on the credit card solicitation policies in higher education; specifically, whether or not protecting students from on-campus solicitation impacted the students' card ownership and outstanding balance. The recent enactment of the CARD act in 2009 brings with it numerous research opportunities. Among its significant provisions, the Card act puts strict restrictions on marketing and issuing credit cards to young people under the age of 21. Offering free items such as water bottles and Frisbees, to induce college students to sign up for credit cards is banned if conducted within 1,000 feet of campus (Prater & Metzger, 2010). Therefore, future research needs to understand

the general perception of this legislation and how it impacts undergraduate students prior, during, and after the enactment of the act.

Fourth, several studies have noted that credit cards are unique in the market as they may, at times, serve to stimulate spending behavior. Garcia (1980) accurately predicted how credit cards would spark a movement away from the use of cash toward the use of “electronic money.” With the advancements in technology and the use of smartphones for instant purchases, future research should consider the similarities and differences between credit cards and these more recent technological tools. For example, Garun (2012), reports on a Nielsen study which found smartphone owners are increasingly using their devices to make purchases, with twenty-nine percent of all owners taking advantage of retail-related apps.

Another trend uncovered methodological concerns. The initial literature search retrieved numerous articles relating to credit but not specifically focused on credit cards. Many of the studies mixed the concepts or terminology when referring to credit in general, credit cards, money, and financial literacy. For example, attitude toward money is not equivalent to attitude toward credit, and likewise, attitude toward credit in general, is not the same as attitude toward credit *cards*. Since we wanted to isolate the specific findings related to credit cards, several studies were eliminated from this review. Future research on consumer credit cards needs to give serious consideration to methodological issues that will impact the validity and reliability of the findings.

The sixth trend applies to the increasing interest in establishing a connection between credit card knowledge and credit card use behavior. Future research should address what types of knowledge are most influential, how the knowledge is obtained, and the difficulty in changing usage behavior.

The final trend refers to publication outlets. Forty-six journals are included in this review. The majority of articles were from journals in the consumer sciences, sociology, psychology, and business-related disciplines; sixteen were from traditional marketing journals. Of the total one hundred-three papers, the greatest number was published in *The Journal of Consumer Affairs* (eleven) followed by *Psychological Reports* (ten). In the seventeen marketing journals, there were a total of 38 published studies, making up 36% of the total. Future research should continue integrating credit card topics into mainstream consumer behavior research.

LIMITATIONS

No study is without limitations. The fact that the parameters were set somewhat narrowly for the scope of this study could be seen as a limitation, as it presents an incomplete view of the findings related to credit cards. However, given the voluminous amount of work done in this area and the variety of topics studied with regard to credit cards, this paper’s focus on consumer behavior issues presents a more manageable examination of the literature. Publications may have been overlooked in this review and so the authors of this study can only claim a good faith effort. Also, the classification scheme utilized by this study was a judgment call by the authors, based on parameters consistent with extant literature (Loe, Ferrell, & Mansfield, 2000; Reynolds & Abdel-Ghany, 2001; Wrenn & Mansfield, 2001). While this study provides a compilation and categorization of numerous articles regarding credit cards over the past four decades, it demonstrates the need for additional research to further theory in this area. For example, a primary concern is the usage of college students as the sample in the majority of studies; sixty-one percent of studies used college students. While students were highly

appropriate for specific studies, i.e. those regarding on-campus solicitation, students were essentially chosen as a convenience sample for the rest. The usage of students limits the generalizability of the overall findings on credit cards. Additionally, while credit cards have become a fact of life for consumers today, new technologies such as using smart phones to pay for items in vending machines, parking spaces, your daily latte, and airline tickets at airport kiosks, will likely influence spending patterns and repayment behavior in the future. Research in consumer behavior should keep in step with these changes as they will provide an abundance of research opportunities and have numerous public policy implications.

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APPENDIX

Figure 1
Conceptual Framework Model

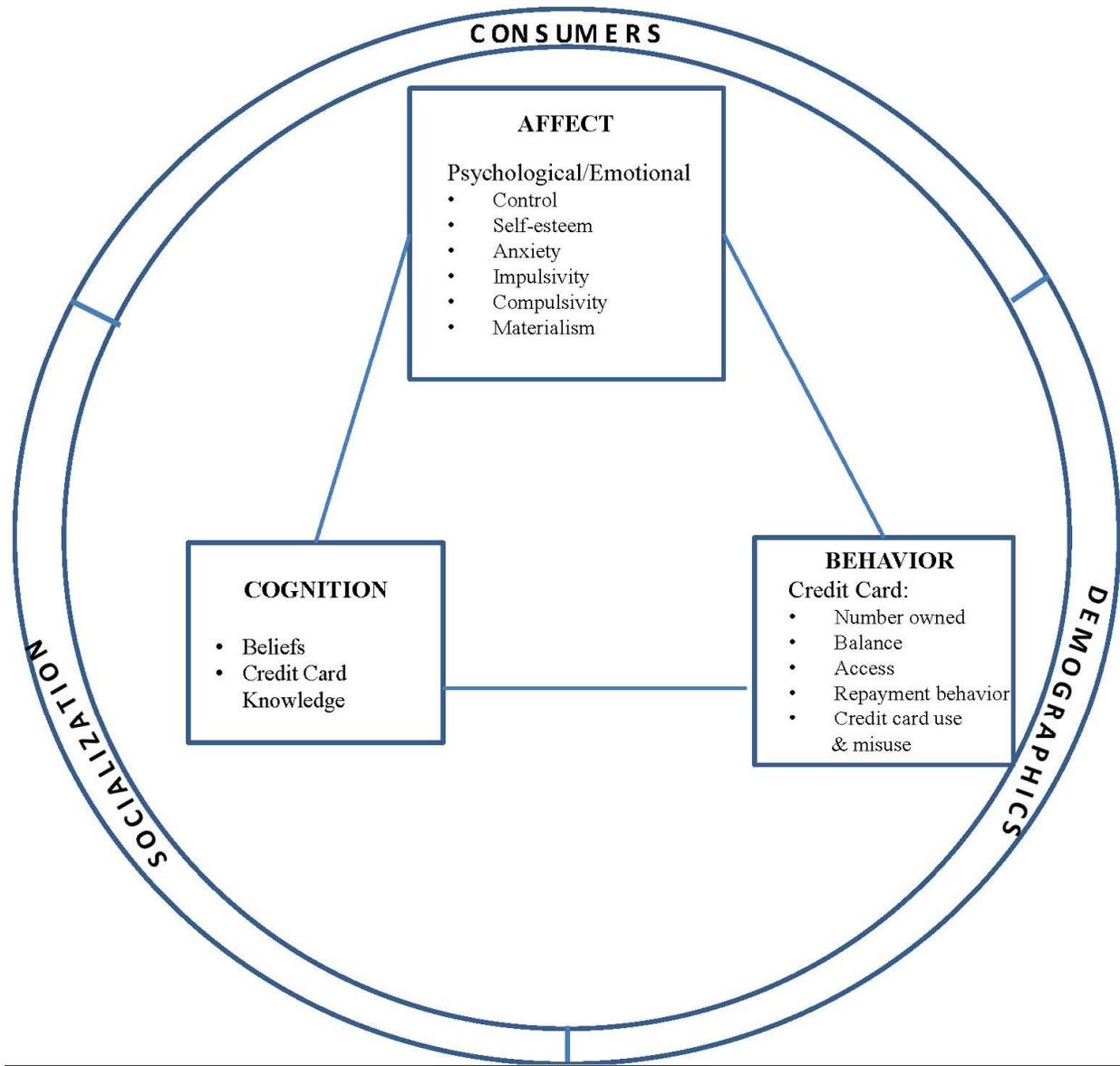


Table 1
Key to Journal Abbreviations in Table 1 and Number of Papers Included in this Study

Abbreviation	Number of Papers	Journal Title
AFCPE	2	Association for Financial Counseling and Planning Education
AJHP	1	American Journal of Health Promotion
BBR	1	Bulletin of Business Research
CSJ	3	College Student Journal
FCSRJ	3	Family and Consumer Science Research Journal
FSR	1	Financial Services Review
HERJ	2	Home Economics Research Journal
HJBS	1	Hispanic Journal of Behavioral Sciences
IJCS	4	International Journal of Consumer Studies
IJR	1	International Journal of Retailing
JACH	1	Journal of American College Health
JAMS	1	Journal of the Academy of Marketing Science
JASP	3	Journal of Applied Social Psychology
JASPP	1	Journal of Aging and Social Policy
JCA	11	The Journal of Consumer Affairs
JCCM	1	Journal of Consumer Credit Management
JCM	1	Journal of Consumer Marketing
JCP	2	Journal of Consumer Policy
JCR	3	Journal of Consumer Research
JCSD	4	Journal of College Student Development
JCSDCB	1	Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior
JCSHE	4	Journal of Consumer Studies and Home Economics
JEP	5	The Journal of Economic Psychology
JF	1	Journal of Finance
JFCP	2	Journal of Financial Counseling and Planning
JFCS	4	Journal of Family and Consumer Sciences
JFEI	4	Journal of Family and Economic Issues
JHSB	1	Journal of Health and Social Behavior
JM	3	Journal of Marketing
JMTP	1	Journal of Marketing Theory and Practice
JPF	1	Journal of Personal Finance
JPPM	1	Journal of Public Policy and Marketing
JR	2	Journal of Retailing
JSM	1	Journal of Services Marketing
JSE	1	Journal of Socio-Economics
JSFA	1	The Journal of Student Financial Aid

JSM	2	The Journal of Services Marketing
MMJ	1	Marketing Management Journal
NASFAA	3	NASFAA Journal of Student Financial Aid
PMS	1	Perceptual and Motor Skills
PR	10	Psychological Reports
S	1	Semiotica
SMQ	2	Services Marketing Quarterly
SSM	1	Social Science and Medicine
TBE	1	Teaching Business Ethics
URJHS	1	Undergraduate Research Journal for Human Sciences

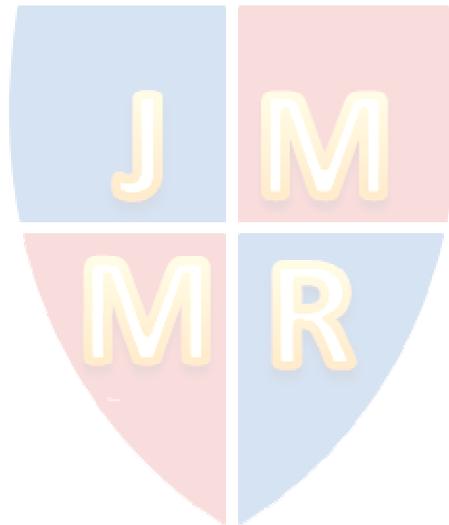


Table 2
Summary and Categorization of Empirical Articles

Year.; Author(s): <i>Journal*</i>	N: Sample composition	Core Component(s):	Investigatory Concepts**
1969 Mathews and Slocum: <i>JM</i>	1,896 consumers	B***, D	Repayment, Social class
1970 Slocum and Mathews: <i>JM</i>	2,032 credit card holders	B, D	Repayment, Social class
1971 Plummer: <i>JM</i>	1,845 consumers	B, D	Number, Usage, Income, Education, Age, and Occupation
1972 Etzel and Donnelly: <i>JR</i>	211 females	C	Beliefs
1974 Awh and Waters: <i>JF</i>	600 consumers	B, C	Usage, Beliefs/Attitude
1975 Blackwell, Hawes, and Talarzyk: <i>BBR</i>	1,000 households	C, D	Beliefs/Attitude, Gender
1975 White: <i>JCR</i>	649 households	B, D	Usage, Age, Gender, Race, Marital status
1977 Wise, Brown, and Cox: <i>JCCM</i>	395 consumers	B, D	Number, Usage, Gender, Age
1978 Hirschman and Goldstucker: <i>JR</i>	504 households	B, D	Number, Social class, Income, Education
1979 Bowers: <i>JCA</i>	48 consumers	B, C	Usage, CC Knowledge
1979 Hirschman: <i>JCR</i>	4,049 consumers	B	Usage
1980 Bowers and Crosby: <i>JCA</i>	48 consumers	B, D	Balance, Repayment, Income
1982 Ethridge; <i>HERJ</i>	875 households	B, D	Repayment, Income, Number of children, Race, Occupation
1986 Feinberg: <i>JCR</i>	135 consumers	B	Usage
1987 Danes and Hira: <i>JSFA</i>	323 college students	C, D	CC Knowledge, Age
1987 Hawes: <i>JAMS</i>	1,115 households	B	Number
1988 Faber and O'Guinn: <i>JCP</i>	387 adults	A, B	Compulsivity, Usage
1989 Handelsman and Munson: <i>IJR</i>	219 consumers	B, D	Usage, Ethnicity
1990 D'Astous: <i>JCP</i>	190 consumers	A, B	Compulsivity, Usage
1990 Danes and Hira: <i>FCSRJ</i>	198 consumers	B, C, D	Usage, Repayment, Knowledge, Education, Income, Age
1992 Feinberg, Westgate, and	150 students	C	Beliefs

Burroughs: <i>S</i>			
1992 Wasberg, Hira, and Fanslow: <i>JCSHE</i>	123 households	B	Number, Balance
1993 Makela, Punjavat, and Olson: <i>JCSHE</i>	263 graduate students	B, C, S	Beliefs/Attitude, CC Knowledge, Number, Repayment, Parents
1993 Tokunaga: <i>JEP</i>	131 consumers	A, B	Self-esteem, Locus of Control, Anxiety, Usage
1994 Mathur and Moschis: <i>JSM</i>	1,305 consumers	B, D	Number, Usage, Age
1995 Choi and DeVaney: <i>JCSHE</i>	3,376 households	C, D	Beliefs, Gender, Age, Occupation
1995 Davies and Lea: <i>JEP</i>	140 students	A, B, C, D	Locus of control, Number, Beliefs, Religion Gender, Age
1995 Xiao, Noring and Anderson: <i>JCSHE</i>	137 college students	B, C, S	Number, Usage, Beliefs/Attitude, Parents
1997 Politano: <i>PR</i>	41 college students	A, B	Self-Concept, Number
1998 Leach and Hayhoe: <i>JCA</i>	59 college students	A, B	Anxiety, Number, Repayment, Parents
1998 Medina and Chau: <i>HJBS</i>	1,132 consumers	B, D	Number, Ethnicity
1998 Munro and Hirt: <i>JCS D</i>	310 college students	B, D	Number, Repayment, Gender
1998 Roberts: <i>JCA</i>	300 college students	A, B, D, S	Compulsivity, Self-esteem, Number, Usage, Gender, Parents
1999 Danes and Hira: <i>HERJ</i>	198 households	B, C, D	Repayment, CC Knowledge, Age, Education, Income
1999 Hayhoe, Leach, and Turner: <i>JEP</i>	426 college students	B, C, D	Number, Beliefs/Attitude, Age, Gender
1999 O'Neill, Bristow, and Brennan: <i>JFCS</i>	248 consumers	B	Repayment
1999 Taylor and Overbey: <i>JFCS</i>	68 students and 83 non-students	B	Balance
2000 Drentea: <i>JHSB</i>	1,000 consumers	A, B, D	Anxiety, Balance, Age, Income, Education
2000 Drentea and Lavrakas: <i>SSM</i>	900 consumers	B, D	Balsgeance, Race
2000 Hayhoe, Leach, Turner, Bruin, and Lawrence: <i>JCA</i>	480 college students	B, C, D	Balance, Beliefs/Attitude, Gender
2000 Jamba-Joyner, Howard-Hamilton, and Mamarchev: <i>NASFAA</i>	217 college students	B, D	Number, Repayment, Gender
2000 Kidwell and	304 college students	B, C	Acquisition, Beliefs/Attitude

Turrisi: <i>JCS</i>			
2000 Pinto, Parente, and Palmer: <i>PR</i>	735 college students	A, B, C	Anxiety, Materialism, Number, Balance, Beliefs/Attitude
2000 Warwick and Mansfield: <i>JCM</i>	381 college students	B, C, D	Number, Usage, Acquisition, Balance, Beliefs/Attitude, CC Knowledge, Gender
2001 Austin and Phillips: <i>JSM</i>	225 college students	B, D	Number, Usage, Repayment, Age
2001 Chien and DeVaney: <i>JCA</i>	4,305 households	B, D	Balance, Repayment, Marital status, Education, Occupation, Income, Household size
2001 Hogarth, Hilgert, Kolodinsky, and Lee: <i>JCSDCB</i>	1,500 households	B	Number, Repayment
2001 Palmer, Pinto, and Parente: <i>JPPM</i>	355 college students	B, S	Number, Balance, Parents
2001(a) Pinto, Parente, and Palmer: <i>JCS</i>	735 college students	B	Number, Balance
2001(b) Pinto, Parente, and Palmer: <i>JCS</i>	1,022 college students	B, D	Number, Balance, Acquisition, Gender
2001 Roberts and Jones: <i>JCA</i>	406 college students	A, B	Anxiety, Compulsivity, Usage
2001 Yang and Lester: <i>PR</i>	186 college students	B, C, D	Number, Beliefs/Attitude, Gender
2002 Bianco and Bosco: <i>TBE</i>	574 college students	B, D	Number, Age
2002 Hayhoe: <i>JFCS</i>	480 college students	B, C, D	Number, Balance, Beliefs/Attitude, Age
2002 Lee and Kwon: <i>JCA</i>	4,309 households	B, C, D	Number, Balance, Usage, Beliefs/Attitude, Age, Income, Education
2003 Joo, Grable, and Bagwell: <i>CSJ</i>	242 college students	A, B, C, D	Locus of Control, Number, Balance, Repayment, Beliefs/Attitude, Age, Gender, Income, Parents
2003 Lyons and Hunt: <i>AFCPE</i>	45 college students	B, S	Number, Balance, Acquisition, Repayment, Parents
2003 Mansfield, Pinto, and Parente: <i>PR</i>	165 college students	A, B	Impulsivity, Self-control, Number, Balance, Acquisition, Repayment
2003 Norvilitis, Szablicki, and Wilson:	227 college students	A, B	Locus of control, Impulsivity, Number, Balance,

<i>JASP</i>			Acquisition
2004 Baek and Hong: <i>JFEI</i>	3,974 consumers	B, D	Balance, Repayment, Life cycle stage
2004 Braunsberger, Lucas and Roach	170 college students	B, C	Number, Knowledge
2004 Cunningham: <i>URJHS</i>	120 college students	B	Number, Balance, Acquisition
2004 Hogarth, Hilgert, and Kolodinsky: <i>JSM</i>	1,500 consumers	B	Number
2004 Lyons: <i>JCA</i>	835 college students	B	Number, Balance, Acquisition, Repayment
2004 Mattson, Sahlhoff, Blackstone, Peden, and Nahm: <i>NASFAA</i>	3,838 college students	B	Number, Balance, Repayment
2004 Pinto, Mansfield, and Parente: <i>PR</i>	589 college students	A, B, C	Locus of control, Number, Balance, Repayment, Beliefs/Attitude
2004 Spinella, Lester, and Yang: <i>PMS</i>	139 consumers	B, C	Balance, Beliefs/Attitude, Age
2004 Yang, Spinella, and Lester: <i>PR</i>	100 college students	B	Number, Balance
2005 Lester: <i>PR</i>	95 college students	C	Beliefs
2005 Hayhoe, Leach, Allen, and Edwards: <i>AFCPE</i>	1,293 college students	B, C, S	Number, Acquisition, Repayment, Beliefs/Attitude, Parents
2005 James, Lester, and Yang: <i>IJCS</i>	176 U.S. college students	B, C	Number, Beliefs/Attitude
2005 Lester, Forman, and Loyd: <i>SMQ</i>	782 college students	B	Number, Usage
2005 Pinto, Parente, and Mansfield: <i>FCSRJ</i>	589 college students	B, S	Number, Balance, Parents
2005 Spinella, Lester, and Yang: <i>PR</i>	139 consumers	B, C, D	Number, Beliefs, Age, Gender, Income
2005 Yang and Lester: <i>PR</i>	352 college students	B, D	Number, Gender
2005 Yilmazer and DeVaney: <i>FSR</i>	4,261 households	B, D	Repayment, Age, Income
2006 Bowen and Jones: <i>JFCS</i>	59 college students	B, C	Balance, Beliefs/Attitude
2006 McCall and Eckrich: <i>PR</i>	82 college students	B, D	Repayment, Gender
2006 Norvilitis, Merwin, Osberg,	448 college students	A, B, D	Materialism, Number, Balance, Age, Gender

Roehling, Young, and Kamas: <i>JASP</i>			
2006(a) Pinto and Mansfield: <i>NASFAA</i>	1,441 college students	B, D	Number, Balance, Usage, School type
2006(b) Pinto and Mansfield: <i>SMQ</i>	180 college students	B	Balance, Acquisition
2007 Adams and Moore: <i>JACH</i>	45,213 college students	A, B, D	Risk behavior, Usage, GPA
2007 Allen, Edwards, Hayhoe, and Leach: <i>JFEI</i>	1,293 college students	C, S	Beliefs/Attitude, Parents
2007 Mansfield and Pinto: <i>MMJ</i>	1,441 college students	B, S	Acquisition, Parents
2007 Pirog and Roberts: <i>JMTP</i>	254 college students	A, B, D	Impulsivity, Materialism, Usage, Age, Gender
2007 Reilly and Rudd: <i>IJCS</i>	213 gay men	A, B	Self-esteem, Balance
2007 Weiner, Holtje, Winter, Cantone, Gross, and Block-Lieb: <i>JEP</i>	83 consumers	A, B	Emotion, Usage, Repayment behavior
2008 Mansfield and Pinto: <i>JCA</i>	46 developmentally disabled adults	B, C	Number, CC Knowledge
2008 Nelson, Lust, Story, and Ehlinger: <i>AJHP</i>	3,206 college students	B	Balance
2008 Norum: <i>IJCS</i>	7,342 U.S. college students	A, B	Compulsivity, Number, Usage
2008 Norum; FCSRJ	4,688 students	A, B, C	Compulsivity, Impulsivity, Usage, Beliefs
2008 Spinella, Yang, and Lester: <i>JSE</i>	139 consumers	A, B, C	Psychological impairment, Number, Balance, Beliefs/Attitude
2008 Thums, Newman and Xiao: <i>JPF</i>	263 consumers with debt problems	A, B	Anxiety/Worry, Number, Balance, Age
2009 Robb and Sharpe: <i>JFCP</i>	3,884 college students	A, B, D, S	Anxiety, Number, Balance, Acquisition, Repayment, Gender, Parents
2009 Rutherford and DeVaney: <i>JFCP</i>	3,476 households	B, C	Repayment, Beliefs/Attitude
2009 Wang and Xiao: <i>IJCS</i>	272 U.S. college students	A, B, S	Compulsivity, Number, Balance, Repayment, Usage, Parents
2009 Watson: <i>CSJ</i>	126 college students	A, B	Locus of control, Usage
2010 Joireman, Kees,	249 college students	A, B	Compulsive buying, Balance

and Sprott: <i>JCA</i>			
2010 Norvilitis and MacLean: <i>JEP</i>	173 college students	B, S	Number, Balance, Usage, Parents
2010 Robb and Pinto: <i>CSJ</i>	2,197 college students	B	Number, Balance, Repayment
2010 Rutherford and Fox: <i>FCSRJ</i>	458 households	B	Number, Balance, Repayment
2010 Scott: <i>JFEI</i>	Multi-year study 18,910 high school seniors	B	Number
2010 Thorne: <i>JASP</i>	381 consumers age 65+	B	Usage
2011 Robb; <i>JFEI</i>	1,354 students	B	Usage

*See Appendix, Table 1 for full journal titles

**All findings were significant unless otherwise stated

***Key for Components:

A= Affect

B= Behavior

C= Cognition

D= Demographics

S= Socialization

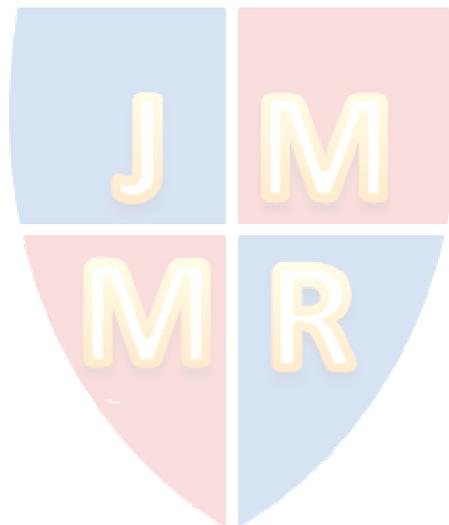


Table 3
Summary of Trends in Consumer Credit Card Research and Opportunities for Research

Research Trends	Research Opportunity
RT1: There has been a shift in research emphasis over time, with earlier studies focusing on demographics and observable characteristics like the number of cards held, whereas later studies emphasize a broader range of factors such as attitudes, external impacts (social, family, and environmental factors), and behavior.	RO1: A lack of longitudinal data in this area has left several areas of study open for exploration, including: The development of credit card attitudes over time, causal linkages between knowledge of cards and behavior, and card acquisition/debt accumulation decisions.
RT2: Use of college students as the sample population in a predominate number of studies.	RO2: Future research should consider broadening the sampling methods to include representation from cross sections of various generational groups.
RT3: Public opinion and legislation regarding card attainment changed dramatically between the early 1980's and 2009 (passage of the CARD Act).	RO3: Exploration of the impact of the CARD Act on different cohorts in the United States (those who were students prior to the act, during, and after); related to this, there is a need to understand the general perception of this time of legislation and the consumer financial protection agency.
RT4: Several studies have noted that credit cards are unique in the market as they may, at times, serve to stimulate spending behavior.	RO4: Examine the similarities and differences between credit cards and more recent technological developments such as instant purchases through a smart phone.
RT5: Many of the studies mixed the concepts or terminology when referring to credit in general, credit cards, money, and financial literacy.	RO5: Serious consideration to methodological issues that will impact the validity and reliability of the findings.
RT6: Studies are increasingly interested in examining the connection between specific knowledge and credit card use behavior.	RO6: Several studies indicate that knowledge of cards and consumer behaviors are related, but the specific nature of these connections is not entirely clear. Specifically, what types of knowledge are most influential, how is knowledge obtained, and are certain behaviors more difficult to change than others?
RT7: Most studies investigating consumer credit cards fall into: consumer sciences, sociology, psychology, and business-related disciplines.	RO7: The scarcity of articles published in marketing journals, specifically those that relate to consumer behavior, points to the opportunity for integrating credit card topics into mainstream consumer behavior research.