

Credit Card Behavior as a Function of Impulsivity and Mother's Socialization Factors

Justin M. Henegar, Kristy Archuleta, John Grable, Sonya Britt, NaRita Anderson, and Anita Dale

The current paper, using data from the National Longitudinal Survey of Youth 1979 (NLSY) and the NLSY Child Survey, reports results from a test designed to determine if impulsiveness is associated with credit card behavior, and whether a mother's time preference, socioeconomic status, and risk attitude transmit to her children in shaping credit card behavior. In addition to certain demographic factors, individuals who exhibited self-control/low impulsivity were more likely to possess a credit card, as were those whose mothers had a high socioeconomic status. Men, those with higher income, and those who were raised by mothers with high financial impatience were more likely to hold a credit card balance.

Key Words: credit cards, impulsivity, socialization theory, socioeconomic status

Introduction

Personal finance experts commonly recommend that individuals and families limit their use of credit in favor of cash in difficult economic times. This strategy can be recommended as a way to control spending. Kates-Smith (2011) suggested that some Americans have taken this advice and replaced the use of credit cards with cash. However, the possibility that a majority of Americans will change their purchasing behavior is improbable.

According to the Bankrate Online Network (2011), there are approximately 177 million credit cardholders in the United States. These cardholders possess nearly 610 million cards and revolve month-to-month consumer debt of close to \$800 billion. The use of credit cards and the pervasiveness of credit usage in the economy indicate reverting to a cash-dominated society is not a realistic policy outcome. Those who are interested in advancing the financial well-being of households should focus their intention on documentation and explanation of how credit

cards are adopted and used. This is a necessary step in trying to change financial behavior.

The notion of gaining a better understanding of credit card usage is not a new phenomenon. Researchers and financial counseling and planning practitioners alike have had an ongoing interest in studying the credit card behavior of individuals. Recent legislative reforms, such as the Credit Card Act of 2009 and the Dodd Frank Act, indicated regulators and policy makers are becoming increasingly aware of the role consumers play in shaping economic events through open-ended, revolving credit usage. Without understanding the consumers' credit usage, researchers and policy makers may be unable to provide adequate solutions that address the credit balances faced by individuals in the United States.

The current research project had two purposes. The first objective was to test the hypothesis that a mother's time preference, socioeconomic status, and attitude toward risk

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transmit to her children in shaping their credit card behavior. A secondary purpose was to determine if a person's overall impulsiveness is associated specifically with credit card behavior. Results from the current study add to the existing literature by documenting learned socialization from mother to child as it relates to credit card usage, and attempt to provide an explanation for credit card behavior. The results from this research help move the financial counseling and planning profession closer to developing theory to help researchers, practitioners, consumers, and policy makers better navigate the ever increasing complex household finance marketplace by attempting to explain and predict consumer choice behavior.

Review of Literature

Credit Attitudes

Credit, specifically credit derived from credit cards, has been studied in terms of one's attitude toward credit (Canner & Cynak 1985; Godwin, 1998; Norton, 1993) as well as the correlation between one's attitude toward credit and their usage of credit (Chien & DeVaney, 2001). Kim and DeVaney (2001) linked various factors, such as education, credit card interest rates, credit limits, and attitudes, as positively correlated to having outstanding balances on credit cards. With the exception of Kim and DeVaney, little emphasis has been applied to a theoretical foundation of credit card usage. Rutherford and DeVaney (2009) utilized and emphasized the use of the Theory of Planned Behavior to explain the use of credit cards. The Theory of Planned Behavior suggests an outcome can be predicted by one's intention based on specific attitudes. Rutherford and DeVaney (2009) found convenience credit card users, those who had a card but did not revolve their line, felt credit card usage was bad (i.e., had a negative perception of credit use). Alternatively, revolving credit card users had a positive attitude toward credit and felt it acceptable to use their cards for things like vacations. However, the literature lacks depth in determining how credit card attitudes were formulated.

Life Course and Socialization Theories

This study was designed to utilize life course theory and socialization theories to explain credit card use based on the social developments over one's life, specifically by one's parents. Life course theory (Elder, 1998) may explain how a person's attitudes and behaviors are shaped over the course of the lifespan. The theory has been used to describe a wide variety of feelings and positions ranging from early research on poverty (Atkinson, Maynard, & Trinder, 1983; Erikson & Fritzell, 1988) to the development of social interactions or friendships (Crosnoe,

2000). The theory suggests that a person's life perspective can be comprised of historical, sociological, developmental, biological, and economic forces. In this study, the primary interest was in the developmental aspect of the theory. A key concept within the theory is programming on the part of parents, particularly mothers, and how mothers can influence a child's current and future attitudes and behaviors.

Bengston and Allen (1993) evaluated how life course theory can be applied to families over time. They explored "issues of transition and transmission in families over periods of time and the socially constructed meanings that result from transitions and transmissions" (p. 469). Gudmunson and Danes (2011) suggested behavioral modeling may create a pathway to socialization, which is developed over time in the parent-child relationship. Financial socialization, according to Danes (1994), is the "process of acquiring and developing values, attitudes, standards, norms, knowledge, and behaviors that contribute to the financial viability and well-being of the individual" (p. 128). Gudmunson and Danes (2011) have used demographic variables in models attempting to predict financial behaviors; however little research has looked to explain the reasons these demographics influence behavior. The current study was designed to examine behaviors of parents, specifically mothers, associated with credit card usage to determine if children can be "socialized" to use credit. Studies (Haveman, Wolfe, & Spaulding, 1991; Ribar, 1993) have shown that mothers have a significant, positive influence on their children's education, perhaps more so than that of fathers.

Two aspects of credit were measured for mothers; time preference, a measure of instant gratification, and risk attitude. These credit associations can both be transitioned and transmitted to the financial behavior of her children. Specifically, four hypotheses were developed based on the life course theory to determine both owning a credit card as well as whether or not the child carried a balance. The hypotheses include:

- H₁: A child's possession of a credit card is positively associated with a mother's time preference.
- H₂: A child's credit card balance is positively associated with a mother's time preference.
- H₃: A child's possession of a credit card is positively associated with a mother's risk attitude.
- H₄: A child's credit card balance is positively associated with a mother's risk attitude.

Associations have been designed to explain the effect of mother's health and lifestyle behaviors on their children (Fine & Kotelchuck, 2010) similar to credit behaviors passed down to children from their parents. Life Course Theory also suggests a person's perspective can be influenced by non-parental factors, such as biological and psychological transitions, as well as social transitions (Mayer & Muller, 1986). Biological factors might include one's tendency to be impatient or impulsive, while psychological factors can be one's risk attitude. Social factors could be tied to income levels, education, and marital status.

Traditional socialization theory indicates women and men receive different cues from friends, family, and social norms in forming personal customs in accordance with family and societal frameworks (Gudmunson & Danes, 2011). Socialization begins at an early age within the family unit and continues throughout the lifespan. The role of parent-child socialization has been widely examined in the literature (Pratt, Turner, & Piquero, 2004; Smetana, 1999), with less emphasis from a household and personal finance perspective. Two recent studies provided insight into the important role a parent plays in shaping financial attitudes and behavior. Gouskova, Chiteji, and Stafford (2010) used data from the Panel Study of Income Dynamics (PSID) to document parents' socialization of their children to be patient (or impatient), and how this socialization impacted a child's current and future household finance decisions. In a working paper, Knowles and Postlewaite (2004) also used the PSID to test the presence of socialization factors in household finance decisions. They proposed that differences in financial planning processes may be a function of trait adoption. Specifically, parents and children should share the same savings behavior, with a parent's behavior predicting both savings and investment decisions of their children.

Although life course theory has not previously been used to explain household financial attitudes and behaviors, there is evidence to suggest the possibility that a mother plays a key role in shaping her children's behavior. For example, Wight (2008), in her doctoral thesis, used aspects of life course theory to determine whether a parent's gender-role attitude and behavior can shape a child's subsequent gender-role attitude. Wight found the transmission of attitudes from parent to child to be stable across generations. Others have also noted a significant relationship between a mother's ideology and her children's social ideology (Moen, Erickson, & Dempster-McClain, 1997; Thornton, Alwin, & Camburn, 1983).

Individual perceptions and use of credit can have social and economic implications. Collett and Lizardo (2009) illustrated a potential link between socially structured power relations in the household and variations in the attitudes of sons and daughters. This socially structured power can be proxied using a mother's socioeconomic status (SES). Babcock, Waltz, Jacobson, and Gottman (1992) outline how power is influenced by in the marital relationship to include SES. The role of a mother's SES in determining family behavior has been recognized in the literature for quite some time (Green, 1970; Kalmijn, 1994). To illustrate, McCarthy, Hagan, and Woodward (1999) reported girls raised in homes with a high SES mother were more willing to take risks. They also noted an association between mothers' SES and boys' preference for risk. Although fathers also play a role in shaping the behavior of children (Allen & Daly, 2002; Ball, Moselle, & Pedersen, 2007), the role of the mother in socializing her children is generally more significant than the role played by fathers (Clarke, Heaton, Israelsen, & Eggett, 2005).

Mothers with high educational attainment and prestigious occupational employment are considered to exhibit high SES. Collett and Lizardo (2009) demonstrated that a mother's SES influences her children's attitudes and behavior. In this study, it was hypothesized that a mother's SES may be transmitted to children as a mechanism shaping credit behavior, in the same manner as gender-role attitudes are shaped by a mother's perceptions:

H₅: A child's possession of a credit card is positively associated with a mother's SES.

H₆: A child's credit card balance is positively associated with a mother's SES.

Although the study was specifically focused on a mother's SES as a predictive variable, both the mother's and father's SES was evaluated based on Barret's Simplified Measure of Social Status (BSMSS, 2011).

Impulsivity and Control

A central focus of this study was how impulsivity shapes credit card behaviors. The first element of this focus was whether or not a mother's level of impulsivity transfers to her children. There is evidence, as described by life course theory, to support this idea. The second focus was whether a child's own level of impulsiveness is associated with credit card choices. Impulsivity or lack of control, is defined as a person's "predisposition to make choices favoring immediate, hedonic benefits over rewards that are

more desirable but somewhat remote” (Pirog & Roberts, 2007, p. 67). Lack of control is known to be associated with a wide variety of behaviors and behavioral outcomes. Specifically related to household financial behaviors, Donkers and van Soest (1999) showed impatience is related to not owning a home, whereas Brining and Buckley (1998), DellaVigna and Paserman (2005), and Drago (2006) noted those exhibiting lack of control and impatience are less likely to own life insurance. Impatience has also been linked with low income (Gruber, 2004; Lawrence, 1991), job displacement (Charles & Stephens, 2001), low education (Fersterer & Winter-Ebmer, 2000; Lawrence, 1991), and even divorce (Booth & Amato, 2001; Corak, 2001; Gruber, 2004),

The role of impulsivity has been explored in the context of credit card behavior as well (Rutherford & DeVaney, 2009). Credit cards are, by their very nature, a tool of impulsivity (Rook & Fisher, 1995). Because transactions are abstract, the future value of credit card payments can be easily discounted (Pirog & Roberts, 2007). This means that people with a predisposition toward impulsivity may be more likely to obtain (possess) a credit card and carry a balance. Baumeister (2002) found those who exhibit self-control manage their money more prudently, save more, and on average, spend less than others. Brashear, Kashyap, Musante, and Donthu (2009) noted a similar relationship between impulsivity and being an Internet shopper, which can involve the use of credit cards for making purchases. Wang and Xiao (2009) found that college students who showed signs of impulsivity and low self-control were more likely to hold credit cards. Based on the body of extant literature, it is reasonable to hypothesize that impulsivity and control, transmitted by a mother and exhibited by a child, have an association with credit card behavior. This creates two additional hypotheses:

H₇: A child’s impulsivity is positively associated with possessing a credit card.

H₈: A child’s impulsivity is positively associated with carrying a credit card balance.

Risk Attitudes

A cursory exploration of the risk-attitude literature, as it relates to credit card choice and behavior, showed very few studies on the topic. Tokunaga (1993) offered a glimpse into the predicted association between risk attitudes and credit card use. He found that those who had trouble managing their credit cards exhibited lower risk-taking propensities. His research, based on a relatively

small sample ($N = 131$), suggested that a person’s aversion to risk may influence how credit cards are managed, but there was no evidence from his study to indicate whether or not risk attitudes shape the decision to obtain a credit card. The tendency to look only at how consumers behave when they possess a credit card is not unique to Tokunaga. Much of the literature linking risk attitudes and credit card behavior deals with differentiating between users who retain a month-to-month revolving balance from those who do not carry a balance (Crook, 2001). The latter group is sometimes referred to as convenience users. Rutherford and DeVaney (2009) reported revolving credit users differ from convenience users by exhibiting low or no tolerance for financial risk. Their results mirrored findings reported by Hazembuller, Lombardi, and Hogarth (2007) who argued those with low risk tolerance view credit cards as the default option when needing quick, hassle free access to cash. That is, “consumers who do not take any financial risks are likely to perceive credit card debt as low-risk, not necessarily because of their competitive interest rates with other forms of credit, but because they face lower risk of being turned down for credit and do not have to commit themselves to a large installment loan” (Rutherford & DeVaney, 2009, p. 59).

Lacking in the literature are indicators linking credit card possession and risk attitudes. An area within the literature absent, but important, is the role of parental risk attitudes in shaping the credit card choices of children. If life course theory and theories of parent-child socialization are accurate, there could be an association between a parent’s risk attitude and a child’s credit card behavior. There is some indirect evidence providing insight into whom might be more prone to obtain a credit card. Anecdotally, Forsythe and Shi (2003) found perceived financial risk was the most consistent predictor of Internet consumer behavior. They noted a negative relationship between the perceived risk of using the Internet and online shopping behavior. Forsythe and Shi concluded increased uncertainty about the outcome of a purchase (i.e., greater risk aversion) leads to a reluctance to purchase products and services online requiring the use of credit. That is, those with a risk-seeking attitude may be more likely to choose credit as a mechanism for consumer purchases. These findings lead to the final hypotheses of the current study:

H₉: A child’s attitude toward risk is positively associated with credit card possession.

H₁₀: A child’s attitude toward risk is positively associated with a credit card balance.

Methods

Data

Data from the National Longitudinal Survey of Youth 1979 cohort (NLSY79) and the NLSY Child Survey were used to test the research hypotheses. The NLSY is sponsored by the U.S. Department of Labor. Data were collected using a multi-purpose panel survey that originally included a nationally representative sample of 12,686 men and women who were 14 to 21 years of age on December 31, 1978. From 1978 through 1993 participants were interviewed annually; in 1994, participants were interviewed biennially. Beginning in 1986, the children of NLSY '79 female respondents were interviewed and assessed every two years. Children age 10 and over (since 1988) have completed personal interviews about a wide range of personal, social, and economic attitudes and behaviors. Children who reach the age of 15 by the end of the survey year are not assessed as children. Rather, these respondents complete personal interviews similar to those given to their mothers during late adolescence and into adulthood. Only those 18 years and older were used in this study. In 2008, the period of analysis used in this paper with the exception of risk attitude variables in which we used data from 2006, the NLSY women for the 1979 cohort (labeled mothers in this study) had reached the ages of 43 to 51. As of 2008, the child's age ranged from 18 to 38 with the average age of 23.15 years ($SD = 4.86$ years). These data were reported for descriptive purposes only. According to the Department of Labor, the children of these female respondents were estimated to represent over 90% of all the children ever to be born to this cohort of women. A total of 11,466 children have been identified as having been born to the original 6,283 NLSY female respondents.

Two analyses were conducted for this study. Both tests included data from 2008 for mothers and their children. The first analysis used data to predict credit card possession by the children. The second test used the same data and variables to determine which children owed money on their credit cards (e.g., from those answering yes to possessing a credit card in the first analysis). Complete data were available for 2,618 respondents in the first test. This dropped to 1,006 in the second test. As previously suggested above, mothers' data were considered to be nationally representative. Presumably, results obtained from the child data were also nationally generalizable for young adults in the age range of 18 to 35. For interpretation purposes, it is important to note the nomenclature used in this study. Even though the children of mothers in the study reached 15 years of age or older, only those respondents age 18 or older were used in this study due to age requirements for obtaining a credit card.

Outcome Variables

Child respondents were asked two questions to measure their possession and use of credit cards. The first question asked, "Do you, your spouse, or partner have any credit cards of your own that you pay the bills for?" Those who answered yes were coded 1, otherwise 0. Slightly more than 36% of child respondents indicated having a credit card, whereas 64% reported not having a credit card. The useable sample size for this analysis was 2,618 (see Table 1).

The child respondents who answered "yes" to having a credit card were then asked if they owed any money on

Table 1. Descriptive Statistics

	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Child gender	5,378	1	2	1.51	.50
Child income (log10)	4,641	.00	5.08	3.38	1.58
Child age	5,378	18	38	24.37	4.17
Child education (years)	5,377	0	20	12.44	1.94
Child's marital status	5,377	.00	1.00	.16	.37
Child risk tolerance	5,313	3.00	12.00	7.00	1.59
Child impulsivity	5,347	3.00	12.00	6.45	1.71
Mother's time preference	4,075	.00	4.00	2.54	.65
Mother's SES	3,928	8.00	66.00	39.66	15.98
Mother's risk tolerance	4,685	1.00	4.00	1.93	1.19

these credit cards. Those who owed money were coded 1, whereas those who had a 0 credit balance were coded 0. Almost three quarters of those with a credit card (75%) reported owing money. Only 25% reported not owing money. Given the delimited number of cases, the sample size for this analysis was 1,006.

Child Variables

Demographic control variables

Five child control variables were included in the study. The sex of respondents was coded dichotomously. Sons (men) were coded 1, whereas daughters (women) were coded 2. The sample was split 51% female and 49% male. It was anticipated that sex differences in credit card behavior would be present in the data (Hayhoe, Leach, Turner, Bruin, & Lawrence, 2000; Lyons, 2004; Xiao, Noring, & Anderson, 1995). Although the dependent variable question above contains spousal information and appears to negate the use of gender in our analysis, gender is kept in the analysis due to the low level of married respondents in the child cohort. Each respondent was asked to report their total individual income from wages, salary, tips, and commissions in 2008. Reported incomes ranged from \$0 to \$119,116, with a mean and standard deviation of \$14,215 and \$17,889, respectively. The log10 of income was calculated primarily to make an interpretation of the regression coefficient easier. The mean and standard deviation of the log income variable was \$3.05 and \$1.74, respectively. The income variable was controlled in this study because previous research has shown a connection between income and credit card behavior, with high income associated with holding a credit card balance (Davies & Lea, 1995). Respondents with no income were subsequently dropped from the analyses. The educational status of the child respondents was measured in actual years of completion up to 20 years. On average, those in the study reported 11.93 years of education ($SD = 2.22$ years). As a measure of socioeconomic status, it was anticipated that a positive relationship between education and credit card behavior might exist (Rutherford & DeVaney, 2009; Wang & Xiao, 2009). Marital status, as a measure of social support (Wang & Xiao, 2009), was coded dichotomously with 1 = married and 0 = single. Approximately 17% of those in the children's sample were currently married. Finally, age ranged from 18 to 38, with a mean of 24.37 and standard deviation of 4.18.

Risk attitude

A child's risk attitude was hypothesized to be comprised of the following three items: (a) enjoys taking risks, (b) enjoys new and exciting experiences even if they are frightening, and (c) feels life without danger is dull. Each item was scored as follows: 1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree. The mean and standard deviation score for each item was 2.53 ($SD = 0.71$), 2.97 ($SD = 0.63$), and 2.42 ($SD = 0.74$), respectively. Due to the low variation and somewhat synonymous scores, a principal components factor analysis, using varimax rotation, was used to confirm that the three items could be combined into a summated variable. One factor was obtained, with the following factor scores: 0.81, 0.79, and 0.74, respectively. When summed, scores on the measure ranged from 3 to 12, with higher scores representing elevated risk tolerance (i.e., low risk aversion). Cronbach's alpha for the summated measure was $\alpha = .68$ ($M = 7.06$; $M = 1.59$).

Impulsivity

Impulsivity was measured by asking child respondents to indicate their level of agreement with the following statement: "I have to use a lot of self-control to keep out of trouble." Response categories (and coding) included (1) strongly disagree, (2) disagree, (3) agree, and (4) strongly agree. The mean response was 2.17 ($SD = 0.84$). Higher scores indicated higher impulsivity tendencies.

Mother Variables

Risk attitude

Attitude toward risk was measured in the 2006 NLSY with a risk preference measure originally used in the Health and Retirement Survey (see Barsky, Juster, Kimball, & Shapiro, 1997). Answers to the following three risk preference questions were used to categorize respondents into one of four risk groups:

Suppose that you are the only income earner in the family, and you have a good job guaranteed to give you your current (family) income every year for life. You are given the opportunity to take a new and equally good job, with a 50-50 chance it will double your (family) income and a 50-50 chance that it will cut your (family) income by a third. Would you take the new job?

If the respondent answered yes they were then asked question B; if the answer was no, they were then asked question C.

Suppose the chances were 50-50 that it would double your (family) income, and 50-50 that it would cut it in half. Would you still take the new job?

If the respondent answered no they were asked question C. If the answer was yes, the questioning ended.

Suppose the chances were 50-50 that it would double your (family) income and 50-50 that it would cut it by 20 percent. Would you then take the new job?

Scores were calculated as follows:

Those who answered no to A and C were coded as having a very low risk preference.

Those who answered no to A and yes to C were coded as having a low risk preference.

Those who answered yes to A and no to B were coded as having a moderate risk preference.

Those who answered yes to A and yes to B were coded as having a high-risk preference.

The mean risk preference score was 1.93 ($SD = 1.09$). Approximately 56.7% of respondents exhibited a very low risk preference, while 10.9%, 14.6%, and 17.9% were categorized as having low, moderate, and high-risk preference, respectively.

Socioeconomic status (SES)

A two-factor measure of social status, based on Barratt's (2011) Simplified Measure of Social Status (BSMSS), was calculated for each mother. This measure of SES was conceptualized from Hollingshead's (1975) original social status measure. In order to create a SES score for each

mother, the reported education level was recoded from 20 to 7 categories, with each new category receiving an index score. Higher scores corresponded with higher levels of school completed. The categories and scores for education are shown in Table 1.

Beginning in 2004, all occupations and industries in the NLSY were coded using Census 4-digit NAICS-based codes. These industry and occupational codes are extensive, with each primary occupational activity in the U.S. coded. Codes ranged from 10 to 9990; however, the numbers are not necessarily ranked in terms of prestige, income, or social status. Since the 1940s, sociologists have taken steps to convert the Census Bureau occupational codes into ordinal prestige scores. The approach employed in this paper follows standard coding procedures. Each occupational code was recoded to match the occupational prestige rankings used by Barratt (2011) (see Table 2).

The SES measure was created by adding the mother's educational and occupational prestige score. Scores ranged from 8 to 66, with a mean and standard deviation of 40.85 and 16.08, respectively. Mothers with the highest SES were denoted with high scores on the summated variable.

Time preference

A mother's time preference was measured with the following impatience variable: "Suppose you have won a prize of \$1,000, which you can claim immediately. However, you can choose to wait one month to claim the prize. If you do wait, you will receive more than \$1,000. What is the smallest amount of money in addition to the \$1,000 you would have to receive one month from now to convince you to wait rather than claim the prize now?" This item has been used widely in the literature to estimate self-control tendencies. Those who reported needing more than \$1,000 were thought to have a high discount rate and short-run impatience. The actual dollar amount reported ranged from \$0 to more than \$10,000. Responses in excess of \$10,000 were removed from the analysis. Given the distribution of the variable, and for ease of coefficient interpretation, the log10 of the variable was calculated. Scores ranged from 0.0 to 4.0, with a mean and standard deviation of 2.52 and 0.66, respectively.

Method of Analysis

Given that the outcome variables of interest in this study were dichotomously coded, a binary logistic regression approach was used to test the eight research hypotheses. SPSS 17.0 was used to calculate all coefficient estimates.

Table 2. Recoded Education of Mothers

Level of school completed	Score
Less than 7 th grade	3
Junior high/middle school (9 th grade)	6
Partial high school (10 th or 11 th grade)	9
High school graduate	12
Partial college (at least one year)	15
College education	18
Graduate degree	21

Table 3. Barratt Occupational Prestige Scores of Mothers

Occupation	Score
Day laborer, janitor, house cleaner, farm worker, food counter sales, food preparation worker, busboy.	5
Garbage collector, short-order cook, cab driver, shoe sales, assembly line worker, mason, baggage porter.	10
Painter, skilled construction trade, sales clerk, truck driver, cook, sales counter or general office clerk.	15
Automobile mechanic, typist, locksmith, farmer, carpenter, receptionist, construction laborer, hairdresser.	20
Machinist, musician, bookkeeper, secretary, insurance sales, cabinet maker, personnel specialist, welder.	25
Supervisor, librarian, aircraft mechanic, artist and artisan, electrician, administrator, military enlisted personnel, buyer.	30
Nurse, skilled technician, medical technician, counselor, manager, police and fire personnel, financial manager, physical, occupational, speech therapist.	35
Mechanical, nuclear, and electrical engineer, educational administrator, veterinarian, military officer, elementary, high school and special education teacher.	40
Physician, attorney, professor, chemical and aerospace engineer, judge, CEO, senior manager, public official, psychologist, pharmacist, accountant.	45

Table 4. Logistic Regression Analysis of Credit Card Behavior as a Function of Mother's Time Preference and SES

Predictor	Model 1 Possess a credit card				Model 2 Carry a credit card balance			
	β	SE β	Wald's X^2	e^β	β	SE β	Wald's X^2	e^β
Child's gender (1 = son, 0 = daughter)	-0.221	0.092	5.743	0.801*	-0.229	0.151	2.300	0.795
Child's income (log10)	0.360	0.038	91.630	1.430***	0.159	0.059	7.185	1.170**
Child age	0.004	0.013	0.121	1.004	0.075	0.024	9.800	1.078**
Child's education (years)	0.388	0.026	220.140	1.470***	-0.180	0.038	0.232	1.020
Child's marital status (1 = married, 0 = single)	-0.918	0.119	59.830	0.399***	-0.153	0.164	0.879	0.858
Child's risk attitude	0.067	0.033	4.060	1.070*	-0.011	0.054	0.043	0.989
Child's impulsivity	-0.090	0.032	8.060	0.914*	0.111	0.052	4.500	1.120*
Mother's time preference	-0.115	0.067	2.900	0.891	0.304	0.103	8.680	1.360**
Mother's SES	0.006	0.003	3.617	1.00	-0.004	0.005	0.645	1.000
Mother's risk attitude	-0.005	0.039	0.027	0.995	-0.033	0.061	0.286	0.968
Constant	-5.740	0.481	142.490	0.003***	-0.788	0.755	1.090	0.460

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

Note. Model 1: .23 (Cox & Snell), .34 (Nagelkerke). Model $\chi^2 = 878.67$, $p < .001$.

Note. Model 2: .03 (Cox & Snell), .04 (Nagelkerke). Model $\chi^2 = 1150.08$, $p < .05$.

The logistic regression approach was chosen over alternatives (e.g., discriminant analysis) because a key element of the study involved the assessment of probabilities associated with the independent variables as predictors of credit card possession and carrying a credit card balance. Given the sample sizes used in the two tests, issues related to the possible over-estimation of odds ratios was reduced, resulting in generalizable findings.

Results

Results from the two tests are shown in Table 4. Information from Model 1 can be used to address the first five research hypotheses. Findings from Model 2 can be used to respond to the remaining hypotheses. The sample indicated that 64% carried a credit card and of those 75% revolved their balance. Without any predictor variables, the first model's classification accuracy was 61.6%, with the model specifying that 100% of respondents would not possess a credit card. When all of the variables were entered, the model was significant ($\chi^2 = 878.67, p < .001$), with approximately 34% (Nagelkerke R^2) of the variance in credit reporting explained by the model. The level of classification prediction increased from 61.6% to 70.9%. Of the child control variables, sex, income, education, and marital status were significantly associated with possession of a credit card. Women were more likely to have a credit card than men. Income and education were positively associated with credit card possession, whereas single individuals were less likely to report having a credit card.

Data in Table 4 provide support for the hypotheses regarding credit card possession and impulsivity. A child's impulsivity was found to be associated with possession of a credit card. The negative coefficient suggests that those children with greater self-control/lower impulsivity were more likely to possess a credit card. Additionally, support was found for the second hypothesis, which stated a child's attitude toward risk was positively associated with credit card possession. A mother's SES was found to be associated with her child's possession of a credit card. As such, no support was shown for the hypotheses that a child's possession of a credit card was associated with a mother's time preference or risk attitude.

The second model was used to evaluate who, among the children, carried a credit card balance. Information presented in the last four columns of Table 4 can be used to address the remaining research hypotheses. The base model, excluding predictor variables, had 72.7% classification accuracy, with the model specifying that 100% of

respondents would carry a balance on their credit card. When all of the variables were entered, the model was significant ($\chi^2 = 1150.08, p < .05$). Among the control variables, those with high income were more likely to report a revolving credit card balance. Impulsivity and a mother's time preference both had positive relationships and were significant in predicting revolving credit card balances. The other child control variables were not significant.

In the first model, those who exhibited impulsivity (i.e., low self-control) were less likely to possess a credit card while those with a higher risk tolerance were more likely to carry a credit card. The second model indicated that those who were impulsive were predicted to carry a credit card balance, confirming our hypotheses. Every one-point increase in impulsivity was associated with an approximate 10% increase in the likelihood of carrying a balance. The analysis also suggested that as a mother's time preference increased (i.e., became more patient) the more likely the child was to carry a balance on his or her credit card. All other hypotheses were found to not be supported.

Discussion

This paper adds to the existing literature in two important ways. First, a comparison of the determinants of credit card possession and usage was presented using a nationally representative sample. This study is among the first to engage in this type of analysis using a generalizable sample. Second, this paper moves beyond simply describing differences between credit users and non-users and convenience versus balance revolvers. There is ample existing evidence to provide descriptive evidence that differences exist. This paper helps explain these differences.

Data can be used to describe who is likely to possess a credit card. Specifically, those who are married, female, and those with high income and more education were predicted to possess credit cards. Age, however, was not significant in predicting credit card possession. Individuals who exhibit self-control (i.e., low impulsivity) were more likely to possess a credit card, as were those who were more risk tolerant. These findings provide a unique explanation as to why individuals choose to possess a credit card. Holding the control factors constant, this research shows that individuals who are in control of their daily situation are likely to possess credit cards. It is possible that those who are more impulsive understand that credit card possession is a potential recipe for financial disaster, and as such, elect to forgo credit card ownership. Findings did indicate, however, those that were impulsive were more

likely to carry a balance on their credit card. It may also be true that tendencies towards impulsiveness influence other financial behaviors that negatively impact a person's credit score. If true, this would limit the extension of credit to highly impulsive individuals. Of particular importance, however, is the finding that a mother's SES influences the credit card usage of her children. Individuals raised in a household where the mother's SES is high, as represented by the combination of educational achievement and occupational prestige, were predicted to be more likely to possess a credit card. It is possible that a mother's SES plays a role in shaping a child's future behavior through transmission of values and norms. That is, highly educated mothers may better understand both the advantages and risks associated with the use of credit, determine that the benefits outweigh the costs, transmitting this financial norm to her children.

The research reported in this paper can be used to answer another important question. Among those individuals who possess a credit card, who is more likely to carry a credit card balance month-to-month? Among the control variables, only income was found to be associated with holding a revolving credit card balance. Those with higher income were found to be revolvers. Holding the control variables constant, two variables were identified that help explain why some hold a credit card balance and others do not. As in the first analysis, a person's level of self-control was found to be associated with credit card behavior, but in this analysis the effect was reversed. Individuals who showed signs of impulsiveness were more likely to report holding a credit card balance. In other words, low impulsiveness (i.e., greater self-control) was associated with credit card possession, but once a credit card was chosen, those who are impulsive were predicted to carry a revolving balance. Another unique finding was that age was significant in predicting those that revolved their credit card balance. This finding might suggest that as one ages into their peak earning years, their consumption today will increase to match that of future earnings (Becker, 1964) and in this case might result in higher debt levels. The role of a mother's socialization influence was also noted. Individuals who were raised by mothers with high financial patience were found to be more likely to hold a credit card balance.

The later results in the two analyses provide support for the theoretical frameworks used in this study: life course theory and socialization theory. It does appear that the role of a mother as a socialization force is important when developing the credit card attitudes and behaviors of her

children. Mothers who exhibit a high SES will establish norms of credit card acceptance among her children. Further, mothers who are impatient when making household finance decisions appear to socialize their children to believe that carrying a monthly credit card balance is an acceptable norm.

The one variable that was not found to be significantly associated with revolving credit card usage was risk attitude. Although a child's risk preference was significant in the decision to carry a credit card, it was not found to be significant in carrying a balance on their card.

Study Limitations

This study looked to evaluate socialization of mothers and their children in reference to their credit card behavior. One area that was not accounted for in the current study was that of the influence a father has on his child's credit card behaviors. Another limitation in the present study is that of the data collected for mother's risk attitude was taken from a different survey year because the data was not available in the same year as the other variables (2006 versus 2008). This could be important since the economic recession had begun in 2008 and thus risk attitudes could have been different just two years prior.

Practitioner Implications

While a mother's risk tolerance was not significantly associated with either credit card possession or repayment strategy, financial counseling and planning practitioners should not discount the potential influence family of origin dynamics have on the financial behaviors of clients. In the most severe cases, family attitudes and the emotional environment around money may contribute to destructive and dysfunctional money behaviors through the development of money disorders (Klontz & Klontz, 2009). In many cases, according to Klontz (2011), simply asking clients who may seem to have difficulty taking positive steps toward achieving their financial goals some basic family-of-origin questions may provide enough insight to help the client move from being stalled to implementation. For more severe cases, partnering with therapists who can assist clients in overcoming behaviors which may be rooted in family attitudes or dysfunction about money may enable the practitioner to help the client not only achieve their financial goals but also develop their financial health overall. For most practitioners, diagnosing and treating money disorders is beyond the scope of their professional training, just as developing financial plans is beyond the scope of most therapists' training. In such complex cases,

a partnership between a therapist and a financial planner could facilitate both the financial and emotional health and well-being of the client.

Future Directions

As noted previously, this study helps move the study of credit card usage from a descriptive methodology to one of explaining credit card decisions. The importance of socialization factors suggests that social norms, values, and ideals may play a much more important role in determining a person's behavior than has been previously assumed. Future studies ought to consider incorporating measures of historical, sociological, developmental, biological, and economic forces into explanations of consumer credit behavior. Both life course and general socialization theories can help shape the conceptual frameworks for the inclusion of such factors in future studies. Additionally, researchers in the field should consider testing interactions among certain variables. For example, it is possible that a mother's SES, impulsiveness, and risk attitude are inter-related, and as such, these factors may interact in shaping a child's self-control and risk attitude. If true, this may explain in greater detail the role of socialization factors in determining a person's credit card behavior.

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