

Financial Knowledge and Credit Card Behavior of College Students

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Abstract This study examined the relationship between financial knowledge and credit card behavior of college students. The widespread availability of credit cards has raised concerns over how college students might use those cards given the negative consequences (both immediate and long-term) associated with credit abuse and mismanagement. Using a sample of 1,354 students from a major southeastern university, results suggest that financial knowledge is a significant factor in the credit card decisions of college students. Students with higher scores on a measure of personal financial knowledge are more likely to engage in more responsible credit card use. Specific behaviors chosen have been associated with greater costs of borrowing and adverse economic consequences in the past.

Keywords College students · Credit cards · Financial knowledge

Introduction

Deregulation of the banking industry and the need of lenders for more profitable market instruments have resulted in increased availability of consumer credit in the form of credit cards, particularly among younger consumers (those aged 18–25) (Manning and Kirshak 2005). Credit card companies find college students attractive because, although their current income is low, they have

potential to earn much higher incomes in the near future. Also, the college student lifestyle offers many opportunities to use credit cards—both as a convenience and as a short term loan—for things such as emergency car repair, a weekend trip, and internet purchases. Expansion of the credit card market to college students has led to credit cards becoming a way of life for today's college students. Recent data from Sallie Mae (2009) indicate that 84% of undergraduates have a credit card and the average number of cards carried per cardholder is 4.6. This supports a general trend of increasing credit card ownership, as roughly 67% of undergraduates had cards in 1998, and 83% had cards in 2001 (Nellie Mae 2002). In addition, the average undergraduate carries over three thousand dollars in credit card debt, the highest level since the company began collecting data in 1998 (when average debt was \$1,879) (Nellie Mae 2002; Sallie Mae 2009).

Credit cards offer college students numerous advantages such as convenience, and the establishment of credit. However, misuse of cards can have many negative consequences, ranging from higher cost of debt to difficulty persisting. Some consequences are more long term, as students may be penalized in later borrowing decisions based on their credit score. As a result, it is important to understand what factors influence credit card use among college students. Behaviors might be improved if students are made aware of the numerous costs of credit card misuse prior to or at the point of attainment. Recent attempts to address concerns over credit card misuse among naïve consumers have emphasized restricting access (Credit Card Accountability Responsibility and Disclosure (CARD) Act of 2009), though the actual impact of this legislation remains to be seen.

Analyzing the ownership and use of credit cards among college students is complicated further by the increasing

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costs associated with obtaining a college degree. Evidence suggests that growth in the areas of family income, grant aid, and federal loans has not kept pace with the rising costs of college (College Board 2009; Heller and Marin 2002). These costs are borne by students and their families, and one method of covering excess debt costs that has become all too common is the use of a credit card (or cards) (Baum and Sanders 1998). This increased reliance on debt has raised concerns that students will be faced with a greater debt burden in the long run. According to Draut (2005), “The rise in credit card debt combined with massive student loan debt means that 25 cents of every dollar of income goes to paying off debt...The explosion in credit card debt is linked to the earnings crisis hitting young adults” (p. 12).

A common response to these concerns over increasing debt and credit card misuse among college students has been the prescription of financial education. There has been significant debate among researchers over the role and effectiveness of financial education in recent years, with some arguing that providing financial education has been largely ineffective (Willis 2008) and others arguing that education has many positive outcomes (Fox et al. 2005; Scott 2010). Using a sample of college students, the present study asks the question of whether or not more knowledgeable students differ in their overall credit card use behaviors when compared with less knowledgeable students. Previous studies have indicated differences in overall debt load and balance behavior based on financial knowledge (Robb and Sharpe 2009). The analysis builds on this work by examining different credit card behaviors beyond debt level and the decision to revolve, and places specific emphasis on credit card behaviors that have been linked with future financial difficulties and financial well-being in previous studies (Gutter and Copur 2011).

Declines in the US saving rate (reaching near zero and negative levels in recent years) have raised concern over Americans’ willingness to rely on debt instruments as a means of financing unrealistically high levels of living (Bureau of Economic Analysis 2008). College students are in a unique economic position because they are typically faced with a modest current income stream with significantly higher expected earnings after graduation. The present research should provide unique insight into the potential relationship between credit card use and financial knowledge. Such findings may serve to justify or inform organized financial education programs at the college level.

Literature Review

The development of the credit card market for college students has been well documented (Kara et al. 1994;

Lyons 2004; Manning and Kirshak 2005; Nellie Mae 2002, 2005; Sallie Mae 2009). Whereas statistics from Nellie Mae (2005) had been suggestive of declining credit card use among undergraduates (rates had fallen from 83% in 2001 to 76% in 2004), recent data show an increasing reliance on credit cards by college students, with roughly 84% of all undergraduates reported holding at least one credit card and an average balance level of \$3,176 (Sallie Mae 2009). It is unclear whether these trends are the result of recent economic troubles or whether they are more suggestive of a continuing shift towards a culture of credit card ownership and acceptance of debt (Pinto et al. 2001a, b).

College Student Credit Card Use

Given the high rates of credit card possession among college students, many researchers have sought to understand more about how students use their cards. Roberts and Jones (2001) developed a 12-item scale of credit card use that indicated the degree to which students use their cards responsibly. These authors used the scale to analyze compulsive buying behavior among college students, with the idea that credit card use might have a moderating effect on the relationship between money attitudes and compulsive buying.

Earlier research suggested that credit cards may serve as spending stimuli, encouraging individuals to spend more than they would if a credit card was not available (Feinberg 1986; Ritzer 1995). Research by Roberts and Jones (2001) supported these findings, suggesting that credit card usage served as a mediator in many cases. Specifically, the research indicated that greater credit card use was associated with a stronger relationship between money attitudes and compulsive buying behavior, demonstrating a facilitating effect on the part of credit cards (Roberts and Jones 2001).

College students are a unique population in a sense. Worthy et al. (2010) found that how students handled credit cards and other financial responsibilities was related to their adult status (the degree to which students may be defined as adolescents, emerging adults, or adults) and sensation seeking, among other variables. Research has indicated that individuals between the ages of 18 and 25 are often in a state of transition between adolescence and adulthood, and many may be considered emerging adults. Worthy et al. (2010) indicated that emerging adults tend to take greater risks, and display less stability in terms of their finances, emotions, relationships, and cognitive development, and accordingly, such students were more likely to misuse credit cards.

Despite these characteristics, research suggests that college students tend to use credit cards responsibly

(Kidwell and Turrisi 2000; Lyons 2004; Norvilitis and Santa Maria 2002). However, a significant portion of students engages in risky credit card behaviors that can have long-term implications for their financial well-being (Gutter and Copur 2011; Lyons 2004).

Financial Knowledge

Evidence from previous research suggests that college students do not possess a high degree of personal financial knowledge, regardless of how knowledge is operationalized for the analysis (i.e. whether students are tested on general knowledge of topics in personal finance or knowledge pertaining to their own credit cards) (Avard et al. 2005; Chen and Volpe 1998; Jones 2005; Markovich and DeVaney 1997; Warwick and Mansfield 2000). In almost every previous study, college students earn what would be considered a failing grade (less than 60% correct). However, despite this clear lack of financial knowledge, the majority of college students appear to behave responsibly when it comes to credit card use (Lyons 2004). Specifically, Lyons noted that more than half of the students sampled in the analysis reported paying off the balance in full each month (i.e. over half were convenience users), with relatively small percentages reporting significant revolving balances of over \$1,000 (14–16%) and \$3,000 (5%). Further, whereas college students are lacking in financial literacy, findings suggest that they are roughly as knowledgeable as the rest of the adult population (Braunsberger et al. 2004).

This general lack of financial knowledge prompted a virtual explosion of financial education programs in the US throughout the 1990s, though specific issues covered and target audiences have varied significantly (Fox et al. 2005). While these programs have assisted researchers in developing a better understanding of the relationship between financial education and financial knowledge scores, the initial proliferation of education programs has been criticized for failing to collect data that are more outcome-specific in nature (Fox et al. 2005; Lyons 2005; Peng et al. 2007). Specifically, questions remain as to the degree to which knowledge actually influences behavior. Braunstein and Welch (2002) cautioned that whereas research suggests that greater financial knowledge may result in more positive behaviors, simply providing education does not ensure improvements. It is not enough for programs to improve financial knowledge if the influence of increased financial knowledge on consumer behavior is not fully understood.

Knowledge and Behavior

Evidence regarding the link between personal financial knowledge and observed behaviors has been inconsistent,

and different findings are noted depending on the topic or population of interest. Among the general population, there is evidence that financial knowledge and financial behavior are positively related. Hilgert et al. (2003) noted significant correlations between credit management scores and scores on a composite measure of financial knowledge. Robb and Woodyard (2011) found that greater objective and subjective financial knowledge were associated with improved financial behaviors among a sample of 1,488 adults, though the relative impact of subjective (self-assessed) knowledge was greater than that of objective knowledge.

Research by Chen and Volpe (1998) was among the first to provide evidence of a link between knowledge and decisions among college students, though the link is tenuous at best, as it is reliant on hypothetical financial decisions. Students were divided into more knowledgeable and less knowledgeable categories based on a 36 question survey dealing with various aspects of personal finance. More knowledgeable students achieved higher scores on hypothetical spending, investment, and insurance decisions when compared with less knowledgeable students. More knowledgeable students were also more likely to keep financial records. Similar evidence has been noted in terms of credit card use. Focus group data suggested that more financially literate students were more likely to report paying their balance in full each month, and were less likely to own a credit card when compared with students who had lower financial literacy scores (Cude et al. 2006).

Conflicting evidence has been noted, however. An exploratory analysis of roughly 216 freshmen enrolled in a university in the Southeast indicated that there was no association between credit card debt behavior and knowledge based on a 6-question measure of financial knowledge (Jones 2005). Borden et al. (2008) presented similar results in their pilot study ($N = 93$) of the Credit Wise Cats education program. While their findings suggested that the program increased both financial knowledge and responsible attitudes toward credit, they did not indicate any significant relationship between financial knowledge and effective or risky financial behaviors (Borden et al. 2008). While this provides evidence that financial education and enhanced knowledge may improve student intentions towards more responsible behavior, it does not necessarily indicate whether or not students follow through with their plans.

Recent research by Robb and Sharpe (2009) suggested that personal financial knowledge and credit card balance behavior are related. Using a six-question measure of financial knowledge, they found that more knowledgeable individuals reported greater balances, contrary to their initial hypothesis (Robb and Sharpe 2009). However, these findings are limited as they are based on an analysis of balance behavior alone and rely on cross-sectional data.

Xiao et al. (2011) extend the research significantly by analyzing the relationship between knowledge (both objective and subjective) and risky credit behavior among a sample of college students using the Theory of Planned Behavior. They found that subjective financial knowledge may be more important than objective financial knowledge in terms of actions taken by students, and indicate that behavioral intention is the single most important factor in whether students make responsible credit decisions (Xiao et al. 2011).

Summary of the Literature

Credit cards have become an established tool for college students in the United States, but the degree to which these instruments are understood and how that impacts their use remains uncertain. Although students generally use credit responsibly, a significant portion of students engages in risky credit card behaviors, and such behaviors can have long-term implications for their financial health. Understanding how knowledge and behavior are related may lead to improved education programs and more positive credit outcomes. The available research provides evidence of strong links between financial knowledge and financial behavior among this population. The current study builds upon this existing knowledge by considering a detailed array of credit card use behaviors, emphasizing those behaviors associated with future financial difficulties and overall financial well-being.

Methods

Theoretical Framework:

Theoretically, knowledge of how credit card markets (and financial markets in general) operate should result in individuals making more effective borrowing decisions (Liebermann and Flint-Goor 1996). This is generally supported by the available literature as numerous studies indicate that well developed financial skills are necessary for effective money management (Carswell 2009; Collins 2007; Haynes-Bordas et al. 2008; Scott 2010). Scott (2010) provided evidence of a relationship between credit card ownership and financial knowledge among high school students, but was unable to address how credit card use varied based on financial knowledge.

The provision of education is commonly viewed as the most effective means of improving financial knowledge (Scott 2010), with the further assumption that improved knowledge will result in more effective decision-making. Research has shown, however, that the acquisition of additional information can result in improved behavior, but

this relationship is by no means automatic (Braunstein and Welch 2002).

Credit cards play on the assumptions of naïve consumers in regards to their future income and their ability to make effective financial decisions. Ausubel (1991) argued that many consumers may be naïve or irrational in their attainment of credit cards (those who are less knowledgeable or less experienced), as they may intend to use cards for convenience or only in the case of emergencies at the point of acquisition. Soman and Cheema (2002) found that among naïve consumers (younger, less experienced, or less educated) the impact of credit limits on spending were significant relative to more experienced consumers. In effect, credit limits may serve as a signal of future earnings to naïve consumers such as college students. These findings indicate that college students may be more likely to misuse credit cards when compared with more experienced consumers. It is possible that intentions (how students believe they will use credit cards) and reality (students actual card use) may be more closely aligned through improved knowledge or experience. Evidence from Xiao et al. (2011) suggests that knowledge has a significant influence of subjective perceptions, which in turn appear to have a strong influence on behavioral outcomes.

Empirical Model and Analysis:

The empirical model for the present analysis places an emphasis on knowledge as a predictor variable, and may be expressed as follows:

$$CCU = a + b_1K + b_2F + b_3X + e,$$

where CCU is the credit card use behavior; K the knowledge composite score; F the select financial factors; X the selected demographic variables; select financial factors; A the intercept; b_i the regression coefficient ($i = 1, \dots, n$) and e the error term

Each credit card use behavior is analyzed using three-level multinomial regression based on the three potential response categories; agree, disagree, or neutral. Multinomial regression allows each of the response options to be compared to some reference group, indicating the probability of individuals differing from that reference group. As the present analysis is interested in differentiating individuals based on risky versus non-risky behaviors, risky behaviors were chosen as the reference category in each of the five models.

Data

An online survey was conducted in the spring of 2007 to examine the credit use and personal financial management of undergraduate and graduate students at a major

university in the southeast. All currently enrolled students (25,580 students) were invited to participate via a mass e-mail, and a link to the online survey was included after a brief disclaimer and description of the research project. A drawing for three \$150 gift certificates to the local mall was included as a participation incentive. A total of 2,723 responses were received for a response rate of roughly 11%. Of those, 1,721 (63%) students reported holding a credit card. After those students with missing values were removed from the credit card sample, a total of 1,354 student surveys were retained for analysis (usable response rate of 5%).

Dependent Variables

Five separate dependent variables are used for the present analysis based on the credit card use scale developed by Roberts and Jones (2001). Table 1 presents those credit card use behaviors taken from Roberts and Jones. These selected behaviors indicate what might be defined as risky credit card behavior, and previous analyses have associated such behaviors with late fees, interest rate increases, higher borrowing costs, an increased probability of dropping out of school, and reduced financial well-being (Gutter and Copur 2011; Lyons 2007, 2008; Robb et al. 2011).

Items measured by the scale are scored on a 5-point Likert-type scale, ranging from strongly agree (1) to strongly disagree (5). Lower scores (1, 2) indicate riskier behaviors for items 1 and 3, whereas higher scores (4, 5) indicate riskier behaviors for items 2, 4, and 5. For each of the selected credit card behaviors, individuals are coded as reporting risky, neutral (3), or non-risky behavior. Risky responses to each question serve as the reference group for the analyses.

Independent Variables

Financial knowledge is measured using six questions dealing with general financial practices. Each question was

selected to measure a different aspect of personal financial knowledge, and to address the type of general financial information that would be covered in an introductory class on personal finance. For example, the first question addresses the costs associated with making only the minimum payments on credit cards (see Robb and Sharpe 2009 for the full questions). Selected questions were taken from the 2006 Jump\$tart Survey and research conducted by Chen and Volpe (1998). Potential scores range from 0 to 6, depending on the number of correct responses that a participant provided. Based on the number of correct responses, students are categorized as having a low (0–2 correct), medium (3 or 4 correct), or high (5 or 6 correct) knowledge score. A number of other independent variables are included in the present analysis, and may be broken into sociodemographic and financial categories. Selected sociodemographics include sex, race, year in school, parent's income, employment, and whether students have taken a course in personal finance. Financial variables include general debt, financial aid, and whether students are financially independent. Variable selection is based on evidence from the previous literature.

Table 2 Descriptive statistics for the entire sample ($N = 1,354$)

Variable	Frequency (%)
Female	68.61
Financial aid	57.09
Other debt	16.77
You pay CC	51
Parent's income	
Low	19.94
Medium	34.42
High	31.31
Don't know	14.33
Knowledge score	
Low	31.02
Medium	48.37
High	20.61
White	82.79
Employed	59.23
Independent	33.31
Course experience ^a	22.28
Year in school	
Freshman	15.58
Sophomore	16.17
Junior	25.11
Senior	23.41
Graduate ^b	19.72

^a N reduced due to neutral responses

^b Graduate student category includes professional, medical, and law students

Table 1 Credit card use scale (modified from Roberts and Jones 2001)

Question	Strongly agree	Strongly disagree
My credit cards are usually at their maximum credit limit	1	5
I always pay off my credit cards at the end of each month	1	5
I often make only the minimum payment on my credit cards	1	5
I am seldom delinquent in making payments on my credit cards	1	5
I seldom take cash advances on my credit cards	1	5

Results and Discussion

Descriptive Statistics of the Sample

Descriptive statistics for the entire sample are reported in Table 2. The sample roughly mirrors the university's ethnic makeup of 81.2% white, with the remaining 18.8% consisting of minority students. However, there appears to be an over-sampling of female students (68.6%) as compared with campus statistics of 2006 that indicate that 53.5% were female. Roughly a third (31.02%) of the sample answered less than three of the financial knowledge variables correctly (low financial knowledge), with nearly half of the respondents answering between three and four of the questions correctly (medium financial knowledge).

Results of Regression Analyses

Results from the five regression analyses are presented in Table 3. Two distinct sets of models (two distinct intercepts and sets of estimates for each of the five models) were generated for the present analysis. The first set of

models (Table 3) examines the probability of students engaging in risky behaviors relative to non-risky behaviors. The second set of models was generated to estimate the probability of individuals engaging in risky behaviors relative to neutral behaviors. Emphasis is placed on analysis of the extremes, so only results from the first set of models are presented in Table 3 (results from the second set of models are available upon request).

Knowledge level was a significant predictor variable in all five of the models. In each case, greater personal financial knowledge is associated with more responsible credit card use behavior. In the first model, individuals with low scores are more likely to have a card at the maximum limit whereas individuals with high scores are less likely to have a card at the maximum limit, relative to those with median scores on the knowledge measure. For model two, students with low scores are less likely than those with median scores to report always paying off their credit card. Students with high scores on the knowledge measure are less likely to report making only the minimum payment relative to students with mid-level scores (model 3). The probability that a student agrees with the statement, "I am

Table 3 Multinomial regression; comparison of risky credit card use behavior to non-risky behavior ($N = 1,354$)

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	Estimate	Odds	Estimate	Odds	Estimate	Odds	Estimate	Odds	Estimate	Odds
Female	0.064	1.06	−0.292 [†]	0.75	0.469 [†]	1.60	0.181	1.19	0.098	1.10
White	−1.068***	0.34	0.624***	1.87	−0.613**	0.54	0.693***	2.00	0.522**	1.69
<i>Year in school</i>										
Freshman	−0.602	0.54	−0.530 [†]	0.59	−1.031 [†]	0.36	−1.130***	0.32	−0.454	0.64
Sophomore	0.721 [†]	2.06	−0.303	0.74	−0.023	0.98	−0.905**	0.41	−0.878**	0.42
Junior	0.909 [†]	2.48	−0.291	0.75	0.508 [†]	1.66	−1.077***	0.34	−0.840**	0.43
Senior	1.276***	3.58	−0.612**	0.54	0.726**	2.07	−0.910***	0.40	−0.658 [†]	0.52
Financial aid	0.383	1.47	−0.441**	0.64	0.442 [†]	1.56	−0.075	0.93	0.012	1.01
Other debt	0.721**	2.06	−0.578**	0.56	0.625**	1.87	−0.154	0.86	−0.388 [†]	0.68
Employed	−0.131	0.88	−0.644***	0.53	−0.148	0.86	−0.256 [†]	0.77	−0.118	0.89
Independent	0.594 [†]	1.81	−0.458 [†]	0.63	0.294	1.34	−0.077	0.93	0.037	1.04
You pay	1.016***	2.76	−0.225	0.80	0.999***	2.72	0.631***	1.88	0.914***	2.49
Course	0.675**	1.96	0.315 [†]	1.37	0.484 [†]	1.62	−0.109	0.89	−0.007	0.99
<i>HH income</i>										
Low	0.428	1.53	−0.180	0.84	0.405 [†]	1.50	0.195	1.22	0.105	1.11
High	0.088	1.09	0.353 [†]	1.42	−0.129	0.88	−0.025	0.98	−0.038	0.96
<i>Knowledge</i>										
Low	0.723**	2.06	−0.295 [†]	0.75	0.333	1.40	−0.794***	0.45	−0.625***	0.54
High	−0.541 [†]	0.58	0.297	1.35	−0.702**	0.51	0.442 [†]	1.56	0.335 [†]	1.39
Intercept	−4.03***		1.524***		−3.102***		0.893 [†]		0.875 [†]	
χ^2	184.24***		256.29***		250.78***		329.39***		300.40***	

Note: Model 1 dependent variable is maximum credit limit, model 2 dependent variable is whether students always pay off their cards, model 3 dependent variable is minimum payment, model 4 dependent variable is seldom delinquent, Model 5 dependent variable is seldom take cash advances

[†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

seldom delinquent in making credit card payments” increases as knowledge score increases (model 4). Students with higher knowledge scores are more likely to agree with the statement whereas those with lower scores are less likely to agree relative to those with mid-level scores. For model five, individuals with higher scores on the knowledge measure are less likely to take cash advances relative to those with mid-level scores, whereas those with lower scores were more likely to do so.

Other financial variables prove to be significant in many of the models. Each of the selected financial variables, receiving financial aid, being financially independent, or holding other forms of debt, is associated with less responsible credit card behavior. For example, in the first model, holding other debts, being financially independent, and making one’s own payments are associated with an increased probability of individuals having at least one credit card at the maximum limit. Findings regarding the receipt of financial aid are supportive of the previous literature which suggests that recipients engage in riskier financial behaviors (Lyons 2004). The measure of who makes payments varied in its impact, as it is associated with more responsible financial behavior in models 4 (whether students are delinquent) and 5 (whether students take cash advances). These findings suggest that students who have to monitor their own credit card accounts and make their own payments are more responsible in general, though they were more likely to make only the minimum payment. However, making only the minimum payment may be more a factor of resource constraints.

Discussion

In general, many of the present findings are supportive of the previous research dealing with various demographic and financial variables. Previous research has suggested that females are more likely to engage in risky credit card behavior (Lyons 2004), and the present study suggests that females are more likely to make only the minimum payments and less likely to always pay off their cards. Minorities appear to engage in less financially responsible behaviors based on research by Munro and Hirt (1998). These findings are supported in the present analysis, as minorities were more likely to engage in more risky credit card use behaviors or report greater financial distress in all five of the models.

Contradictory to expectations, results regarding course experience were mixed. Whereas students who reported having had a course are more likely to always pay off their cards, as expected, course experience was also associated with a greater probability of students having a credit card at the maximum limit or making only the minimum payments. These findings indicate that either personal finance

courses are not as effective as educators would like, which may be a result of inconsistent standards and practices, or the variable itself is not an effective measure. It is important to address the general weakness of this variable in light of the findings. The survey only asked students whether or not they had attended a course in personal finance before. Thus, the measure lacks detail regarding the timing and general make-up of the course attended. Future analysis of course experience should consider collecting more detailed information as to when the course was taken, and the general nature and content of the course.

Further limitations have to do with the nature of the sample and data collection itself. The present analysis uses cross-sectional data, thus it is not possible to draw any conclusions regarding causality. We can only assert that financial knowledge and credit card behavior are related for the present sample. Data are taken from a single campus at a single point in time, thus, it is difficult to generalize results to students at other institutions. It is highly possible that respondents have been exposed to many of the same personal finance courses or financial education opportunities. Given the small number of complete responses (5%), it is possible that the present results are indicative of a sub-sample of the student population, specifically, a sub-sample that is more attuned to personal financial matters since they chose to respond to the e-mail invitation. Overall, the sample does appear to be quite representative of the campus in all observable aspects aside from gender and class rank. A significant proportion of respondents were females, and a greater proportion of respondents were upperclassmen or graduate students.

Implications and Extensions

Based on the complicated nature of human decision-making, combined with research regarding heuristics, biases, and emotional coping mechanisms, some researchers have suggested that further education will be largely ineffective at improving personal financial behavior (Willis 2008). The present analysis is not entirely supportive of this notion, however, as strong correlations are noted between knowledge and a variety of credit card use behaviors. The present results provide evidence in favor of the assertion that a positive relationship exists between knowledge and personal financial behavior, but it is important to recognize that such a relationship may be conditional on the specific behaviors being analyzed.

The data highlight a number of findings relevant to university administrators, and to student affairs and student aid offices in particular. Findings regarding the associations between financial knowledge and more responsible credit card use behavior indicate an opportunity for student

affairs offices to improve the college experience in a tangible way. If improved financial behaviors are the result of greater financial knowledge, then increasing financial knowledge might be viewed as part of a holistic approach to a healthy campus (though questions remain as to how to effectively increase knowledge). In general, financial health (which may be enhanced through more responsible credit card use behaviors among other things) may be viewed as a key component of student well-being measurements. Improved financial health could go a long way towards reducing a primary source of stress for college students who are increasingly faced with difficult decisions in a complex financial market.

The recent CARD act of 2009 (H.R. 627) was designed to improve the financial outlook of college students by restricting access to credit cards (under the CARD act, no cards may be issued to individuals under the age of 21 unless they have a parental co-signer or proof of the means to repay their debts). This act may improve some of the more troubling statistics (such as number of cards held and average balances), but it does not fully address the main issue of concern, nor does it provide any assurance that students will be “ready” to use their cards responsibly at the age of 21. Some researchers suggest that it will not even restrict access effectively, as the final version of the bill is vague and only requires a statement from applicants regarding their ability to repay their debt obligations (no actual proof of income required) (Scott 2010).

Conclusions

The current study adds new depth to our understanding of how personal financial knowledge impacts the credit card use behavior of college students by analyzing a variety of credit card behaviors that have been associated with future financial difficulties in the past (making only the minimum payments, being delinquent, taking cash advances, carrying a balance, and charging cards to the limit). Most significantly, the present findings suggest that college students do benefit greatly from enhanced financial knowledge in the form of generally more responsible credit card behavior. However, it is important to note that these findings may be limited due to the nature of the specific financial knowledge measure utilized. The six-question measure exhibits strong face validity, but further research is necessary before any clear implications are discussed. Emphasis should be placed on the development of a consistent, universal measure of financial knowledge that can be used for this type of analysis in the future. Future research might consider the use of longitudinal data to further explore the relationship between knowledge and behavior, and might also consider testing a variety of different types of financial

behaviors, including savings, investment, and budgeting behavior. Research must also be extended to multiple universities to ensure that the results from the present analysis are not unique to the present sample.

The present study provides evidence that financial knowledge is associated with more positive credit card use among college students. What is missing from this study is a clear understanding of how financial knowledge is obtained or developed. It is generally accepted that financial education programs can improve knowledge, but the measure of financial education (course exposure) did not behave as predicted. However, as noted in the discussion, this may have more to do with the weakness of the variable than it does with financial education. Future research should aim to develop a better understanding of what improves financial knowledge given that knowledge is associated with improved behaviors (relative to credit cards). Current research incorporating Social Learning Theory and the Theory of Planned Behavior into an understanding of college student financial behavior and knowledge development looks promising.

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