Discriminating the number of credit cards held by college students using credit and money attitudes

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Abstract

Based on previous studies, a credit attitudes scale [Xiao, J. J., Noring, F. E., & Anderson, J. G. (1995). College students’ attitudes towards credit cards. Journal of Consumer Studies, 19, 155–174] and a modified version of Furnham’s [Furnham, A. (1984). Many sides of the coin: The psychology of money usage. Personality and Individual Differences, 5, 501–509] Money Beliefs and Behavior Scale [Hayhoe, C. R., Leach, L., Turner, P. R., Gross, P. E., Bass, B., & Xiao, J. J. (1997). College students’ use of credit cards: A descriptive study. In J. J. Xiao, Proceedings of Association for Financial Counseling and Planning Education (pp. 42–45), San Diego, CA, December 1997] were employed to examine college students’ use of credit cards. The money attitudes of obsession and retention and the affective credit attitude were shown to distinguish between students with credit cards and those without credit cards. The money attitude of effort/ability and the cognitive credit attitude distinguished between students with four or more credit cards and students with one to three credit cards. Ordered logistic regression was used to predict students with four or more credit cards. Nine variables were

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significant predictors: the affective credit attitude, age, the cognitive credit attitude, gender, having taken a course in personal finance, borrowing from friends or relatives, the retention money attitude, use of money as a reward, and preparing a list before shopping (listed in order of significance). © 1999 Elsevier Science B.V. All rights reserved.

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1. Introduction

Interest in the use of credit cards has received much attention in recent years from members of the financial community and policy makers. Financial planners are interested in understanding how money attitudes relate to investment and savings behaviors. Financial counselors seek to understand more about how and why individuals get themselves into debt. Policy makers want to know why consumer credit card debt and personal bankruptcies have been rising so rapidly. In 1996, the total revolving consumer debt in the United States was $463 billion and 1.2 million Americans filed for bankruptcy (Brobeck, 1997). There is increasing evidence that credit card debt has contributed to the rise in family financial problems and personal bankruptcies (Brobeck, 1997). In the quest to discover why consumer credit card use and debt are increasing it is important to understand an individual’s attitudes towards credit, money and debt.

2. Review of literature

2.1. Credit and debt attitudes research

College students’ attitudes toward credit were measured by Xiao, Noring and Anderson (1995). The researchers developed a Likert summated rating scale composed of a series of statements relating to credit cards. Fifteen of the statements related to feelings about credit cards (affective), ten statements dealt with knowledge (cognitive) and twelve statements related to usage of
credit cards (behavioral). Findings indicated that college students had favorable attitudes towards credit. Of those surveyed, 82% of the students had favorable affective attitudes and 67% had favorable cognitive attitudes.

Related research has been conducted on credit and the level of debt an individual is willing to carry. Tokunaga (1993) studied two groups of credit card users – those who had experienced severe financial problems and a control group who had not experienced such problems. Attitudes towards money were measured using a money scale similar to the one developed by Yamanchi and Templer (1982). The author found that heavy users of credit cards viewed money as a source of power/prestige, experienced more anxiety about financial matters than the control group, and were less concerned about retaining money. These individuals also had a lower level of self-worth and tended to feel less internal control over money. Similar findings in studies have found locus of control to be a significant factor in a person’s perception of their financial situation (Hayhoe, 1994; Dessart & Kuylen, 1986). Control is related to knowledge of credit. Individuals who feel a loss of control tend to have less knowledge of credit, such as knowledge of interest rates (Dessart & Kuylen, 1986).

Davies and Lea (1995) examined attitudes towards student debt (student loans, bank overdrafts, credit cards and money owed to family and friends) of college students who were in their final year at university in the United Kingdom. Their findings suggest that students with higher incomes tend to have higher debts. Other researchers have had similar findings among the general population (Prather & Huyer, 1996). A second significant finding in the Davies and Lea study was that students in their third year at University had much higher levels of debt than first or second year students and that their attitudes towards debt changed after their debt levels increased.

2.2. Money attitudes research

Several researchers have examined money attitudes and behaviors using different attitudinal and behavior measures. Yamanchi and Templer (1982) developed a psychometric Money Attitude Scale that measured five factors related to attitudes an individual holds towards money. These factors were power/prestige, retention time, distrust, quality and anxiety. The authors found money attitudes to be independent of a person’s income. However, the study did not account for demographic differences among individuals, such as age and sex.
The most widely used money attitude scale was developed by Furnham in 1984. Furnham’s Money Beliefs and Behaviors Scale (MBBS) was a more inclusive scale that was developed to measure money beliefs and behavior in Britain. The scale consisted of 60 items which were rated on a 7-point (agree–disagree) scale. The items were grouped into six factor areas: obsession, power/spending, retention, security, inadequacy and effort/ability. Furnham noted that money attitudes are multidimensional and that demographic variables influence a person’s money beliefs and behaviors. Obsession and power/spending were significantly related to a person’s sex, age, and education. Males and less educated people tended to be more obsessed with money than their counterparts. Younger people were more likely to use money as a means of power than older people.

The scales developed by Furnham have been modified and used by several researchers in the United States (Bailey & Gustafson, 1986; Bailey & Lown, 1993; Hanley & Wilhelm, 1992; Hayhoe & Wilhelm, 1998; Wilhelm & Varcoe, 1991). Wilhelm and Varcoe (1991) used a modified version of Furnham’s scale to study how money attitudes influence individuals’ perceptions of their economic well-being. They found the money attitudes of inadequacy and effort/ability were significant predictors of financial satisfaction for men and women. Women’s perceptions were also influenced by the money attitudes of power/spending and retention, whereas obsession was an influencing factor for men. Compulsive buyers were more likely to be obsessed with money. They see money as a solution to problems and as a symbol of power and status (Hanley & Wilhelm, 1992).

Lim and Teo (1997) combined the questions from the Furnham (1984), Yamanchi and Templer (1982), and Tang (1993) money attitude scales to form a new eight-factor scale. They studied undergraduate students in Singapore. The only gender difference they found was for the evaluation factor that showed males use money more as a standard for evaluation.

3. Purpose

The purpose of this study is to examine both credit and money attitudes held by college students to determine how these attitudes influence the number of credit cards students hold. As research has shown, credit and money attitudes are good indicators of an individual’s spending patterns, perceived economic well-being, and acceptable debt level (Davies & Lea,
The current study will contribute to the base of knowledge and research on an important sector of society—college students. College students of today were raised in a time of easy credit and living beyond one's means. This indicates that students may be more likely to view credit and debt with a favorable attitude. Understanding credit and money attitudes is an important step for individuals, financial counselors and educators in gaining control of financial well-being.

Since a student population has some unique characteristics, several demographic variables were included in the analysis: gender, student status, employment status, income and age. Davies and Lea (1995) showed that year in school made a difference in credit attitudes. Student status as well as age were included to determine if the difference carried over to the number of credit cards and to examine whether the difference was due to being in school longer or actual age since this study included non-traditional undergraduate students. Gender was included to examine whether male or female students, in general, had more credit cards. Being employed and income were included to show if students were using credit because they had no other source or not enough income to make the purchases or payments for services.

The five of the remaining variables (having taken a course in personal finance, borrowing from friends or relatives, preparing a list when shopping, writing a budget, and use of money as a reward in their family of origin) had been shown in the pilot study to differentiate between students with credit cards and those without (Hayhoe & Leach, 1997; Leach & Hayhoe, 1998) and were included to determine if the findings would hold in the larger sample.

4. Methods

4.1. Participants

The participants in this study were college students over the age of 18 who attended one of five state sponsored universities during the Spring 1997 semester. The universities participating in this study are the University of Kentucky, Kansas State University, State University of New York College at Oneonta, the University of Northern Iowa and the University of Rhode Island. Students at these universities come from all socioeconomic levels.
Five hundred students at each university were randomly selected to receive the questionnaire, which was mailed out during the Spring 1997 semester. Due to the sensitive nature of the information, surveys were anonymous. A total of 2500 surveys were mailed. The survey consisted of 13 pages containing 54 questions and took approximately 30 minutes to complete.

4.2. Sample

Responses were received from 426 students, a response rate of 17%. There may be several reasons for this low response rate. The primary reason, as mentioned earlier, may have been the sensitive nature of the data being collected. In addition, students move and do not always send change of address forms to the Registrar’s office. A few students e-mailed the researchers with the following comments: either they did not have the time to complete the survey or that they felt they were inappropriate subjects since they were international students. Since the questionnaires were completely anonymous and not numbered until returned the researchers had no way of knowing which students did not return questionnaires.

There were 183 male and 236 female respondents, with 8 students not answering this question. The respondents ranged in age from 18 to 57 with a mean age of 23. Most students had never been married (75%), 15% were married, 6% were living together as a couple, 2% were divorced, and 2% did not respond to this question. Most respondents were undergraduates (340) while 83 were graduate students and 389 were full-time while only 33 were part-time. They usually (300) resided in the state where the university was located. Only 5% of the respondents were students in a college or department similar to Family and Consumer Sciences; 13% were from the College of Business; and the remaining 82% were from other colleges across the campuses. Most respondents (332) were Caucasian, not of Spanish decent with the next largest group being Asian (52).

Eighty percent of the students had at least one credit card (339) with two students reporting 18 credit cards. At least one joint credit card with their parents was held by 15% of the students and 10% had a joint card with a spouse. The maximum number of joint cards reported was 12. At least one individually owned credit card was held by 62% of students. The maximum number of individual cards held was 13. The majority of the cards were multipurpose cards. Only 3% of the joint card holders and 16% of the indi-
Individual card holders had department store cards and only 3% of the joint card holders and 9% of the individual card holders had gasoline credit cards. Of those students holding (jointly or individually) at least one credit card, 75% reported carrying a balance on at least one card and 17% reported carrying the maximum balance on at least one card. Only 27% of the respondents to the survey reported having a personal finance class in high school or college. Due to missing data 359 surveys were employed in the logistic regression. Seventy students had no credit cards, 167 held one to three credit cards, and 122 held four or more credit cards.

4.3. Measurement of variables

Credit attitudes were measured by a modified version of the credit attitude scale (personal communication with J.J. Xiao, 18 March 1996, based on the scale presented in Xiao et al., 1995). The scales were formed from 12 questions rated with a 5-point Likert scale from Strongly disagree (1) to Strongly agree (5). Credit attitudes were measured on three dimensions: affective, cognitive and behavioral. Each scale consisted of four questions with a maximum score of 20. (Refer Appendix A for the questions that made up each scale.)

Money attitudes were measured using a modified version of Furnham’s (1984) Money Beliefs and Behavior Scale (Hayhoe & Leach, 1997). The scales were formed from 30 questions rated with a 5-point Likert scale from Strongly disagree (1) to Strongly agree (5). (Refer Appendix B for the questions that made up each scale.) Five of Furnham’s six original scales were employed in the study: obsession, retention, effort/ability, security and inadequacy. When the scales were tested during the pilot (Hayhoe & Leach, 1997) the sixth scale, power, was not significant and was not employed in this study. The obsession scale represents an emphasis on thinking about different aspects of money. This scale contained 12 items for a maximum score of 60. The retention scale represents not wanting to spend money even when it is available. This scale consisted of three items for a maximum score of 15. The effort/ability scale represents the concept that one does not deserve one’s income. This scale consisted of two items for a maximum score of 10. A high score on this money attitude implies that the respondents felt they should be paid more for their labor. The security scale represents being knowledgeable about one’s exact financial position and being willing to make difficult decisions where money is
concerned, including a reluctance to use credit. This scale consisted of five items for a maximum of 25. The final scale, inadequacy, represented worrying about not having enough money. The higher the score on this scale, the lower a person’s feeling of inadequacy. This scale consisted of eight items, for a maximum score of 40.

A scale was calculated for perceived economic well-being. Perceived economic well-being is the students’ view of their financial situation. The score was calculated by summing the answers to seven questions. The responses to six questions were based on a 5-point Likert scale with one being terrible and five being delighted. These six questions describe how the student feels about: (a) level of income, (b) money for necessities, (c) ability to handle financial emergencies, (d) level of debt, (e) level of saving and (f) money for future needs. The seventh question was a global question on the students’ feelings about their economic and financial security and was based on a 6-point scale with one being extremely insecure and six being extremely secure. Scores could range from a low of 7 to a high of 36 with a high score representing satisfaction with one’s economic well-being. The remaining ten predictor variables were from the responses to individual questions. Four of these predictors were descriptive in nature (age, gender, employment status and student status – undergraduate or graduate). Two of the variables described debt practices (having student loans and borrowing from friends or relatives when short of money). The last four predictor variables referred to financial planning practices (writing a budget, preparing a list when shopping, having taken a course in personal finance, and use of money as a reward in their family of origin).

5. Results

5.1. Descriptive statistics results

The results of the t-tests were as follows. Students who reported not having credit cards were more likely to score higher on the money attitudes of obsession (p < 0.03) and retention (p < 0.01) and lower on the affective credit attitude (p < 0.001) as compared with students with credit cards. Students with 4 or more credit cards were more likely to score higher on the effort/ability money attitude (p < 0.02) and the cognitive credit attitude (p < 0.01) than students with 1–3 credit cards. See Table 1 for two-tailed t-test results.
Ordered logistic regression was used instead of ordinary regression as the dependent variable was categorical. Logistic regression was used instead of discriminant analysis since some of the predictor variables were categorical in nature (Press & Wilson, 1978). A model was tested using all 19 predictors (affective, cognitive, and behavioral credit attitudes; obsession, retention, inadequacy, security, and effort/ability money attitudes; gender; perceived economic well-being; student status; employment status; having student loans; income; having taken a course in personal finance; borrowing from friends or relatives; preparing a list when shopping; writing a budget; age; and use of money as a reward in family of origin).

The model was ordered so that it described those respondents with four or more credit cards. Logistic regression examines variables individually to determine whether they are significant. Eleven variables were individually significant: the affective credit attitude, the behavioral credit attitude, the cognitive credit attitude, the obsession money attitude, the retention money attitude, gender, having taken a course in personal finance, borrowing from friends or relatives, preparing a list when shopping, writing a budget, age, and use of money as a reward in family of origin. (See Table 2 for results).

Then, as this was an exploratory analysis, stepwise selection was used to find the most parsimonious model. Nine of the 19 predictors, listed in order of significance, were retained in the final model: the affective credit attitude, age, the cognitive credit attitude, gender, having taken a course in personal finance, age, the retention money attitude, borrowing from friends or relatives, preparing a list when shopping, and use of money as a reward in family of origin. The behavioral credit attitude was the next to

<table>
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<tr>
<th>Attitude</th>
<th>Number (n)</th>
<th>Degrees of freedom</th>
<th>t-statistic</th>
<th>Probability (p &lt;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with no credit cards compared to students with credit cards</td>
<td></td>
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</tr>
<tr>
<td>Obsession</td>
<td>419</td>
<td>417</td>
<td>2.15</td>
<td>0.03</td>
</tr>
<tr>
<td>Retention</td>
<td>422</td>
<td>420</td>
<td>2.51</td>
<td>0.01</td>
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<tr>
<td>Affective</td>
<td>376</td>
<td>374</td>
<td>−6.53</td>
<td>0.00</td>
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<tr>
<td>Students with 4 or more cards compared to students with 1–3 cards</td>
<td></td>
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<tr>
<td>Effort/ability</td>
<td>331</td>
<td>329</td>
<td>−2.28</td>
<td>0.02</td>
</tr>
<tr>
<td>Cognitive</td>
<td>330</td>
<td>328</td>
<td>−2.57</td>
<td>0.01</td>
</tr>
</tbody>
</table>

5.2. Ordered logistic regression results
enter but it was removed as it did not significantly add to the explanatory ability of the model.

6. Discussion and implications

Results show that students with four or more credit cards scored higher on the affective credit attitude. Students without credit cards do not feel an emotional ‘high’ (affective) using credit cards. This supports the findings of
Xiao et al. (1995) that students with credit cards score higher on the affective credit attitudes. The cognitive credit attitude and the retention money attitude were also significant which is consistent with the hypothesis that money and credit attitudes do affect behavior.

It is interesting to note that students with 4 or more credit cards thought more about the consequences of using credit (cognitive credit attitude). Based on some of their comments, this may be because they are working to repay balances incurred at an earlier time. These students were also more likely to have taken a course in personal finance and in prior studies were more likely to have sought financial advice (Hayhoe & Leach, 1997; Hayhoe, Leach, Turner, Gross, Bass & Xiao, 1997). Students apparently seek financial education and advice in reaction to perceived or actual credit problems. Based on the descriptive statistics, these students also felt they deserved more money for the work they did (effort/ability). Again this may be brought on by the need for money to support current consumption and repay past credit.

The finding that students with four or more credit cards scored lower on the retention money attitude may partially confirm Hanley and Wilhelm’s (1992) findings that compulsive buyers also score lower on that money attitude. A longitudinal study also may detect among those with numerous credit cards higher scores on the obsession and power/spending money attitudes indicative of compulsive buyers (Hanley & Wilhelm, 1992).

Older students scored higher on the affective credit attitude and had more credit cards. This finding seems to support the findings of Davies and Lea (1995) that the affective attitude increases as students become used to having credit. Age appeared to be more important than student status. A longitudinal study needs to be done to see if students’ attitudes really do change over time and to assure that the findings are not just a cohort effect.

Students with four or more credit cards were less likely to borrow from friends or relatives to meet financial emergencies. They were more likely to prepare a list when shopping, and were more likely to have had money used as reward in their family of origin. They were also more likely to be female.

It appears that students use financial counseling and planning reactively rather than proactively. If counselors and educators can reach and educate students before they become accustomed to using credit, perhaps we can keep them from learning the effects of using too much credit the hard way. Further study is also needed to examine whether students who have received personal finance education have undergone any changes in their money and credit attitudes and whether education affects their attitudes and use of credit over a period of time.
Appendix A. Credit attitudes survey questions

Affective
My credit card makes me feel happy.
I like using credit cards.
The very thought of using credit cards disgusts me.\(^a\)
I love to have a credit card.

Cognitive
I think it is unwise to use any credit card(s).
Heavy use of credit cards results in heavy debt.
The cost of using credit cards is too high.
Because I use a credit card, my debt rises every day.

Behavioral
I would like to apply for more credit cards.
Even though I know it’s not easy for college students to acquire credit cards,
I always try to apply for one more.
I want to possess more credit cards than I now have.
I would like to try all kinds of credit cards.

\(^a\)Reverse scored.

Appendix B. Money attitudes survey questions obsession

Obsession
I often use money as a weapon to control and intimidate those who frustrate me.
I am proud of my financial victories – pay, riches, investments, etc. – and let my friends know about them.
I feel that money is the only thing I can count on.
I sometimes feel superior to those who have less money than I do regardless of their ability and achievement.
I would do practically anything legal for money if it were enough.
I firmly believe that money can solve all my problems.
I believe that time not spent on making money is wasted time.
Compared to most people I know, I believe I think about money much more than they do.
I sometimes buy friendship by being very generous with those I want to like me.
I put money ahead of pleasure.
I often buy things that I don’t want to impress people because they are the right things to have at the right time.
I feel compelled to argue or bargain about the cost of everything I buy.

Retention
I often buy things that I don’t want because they are on sale or reduced in price.
I often say ‘I can’t afford it’ whether I can or cannot.
I often feel disdain for money and look downed on those who have it.

Effort/Ability
I believe my present income is about what I deserve, given the job I do.\(^a\)
I believe that my present income is far less than I deserve given the job I do.

Security
I always know exactly how much money I have in my bank, saving account, or credit union.
I prefer to use money rather than credit cards.\(^a\)
I often have difficulty in making decisions about spending money regardless of the amount.\(^a\)
I prefer not to lend money.
I often feel anxious and defensive when asked about my personal finances.

Inadequacy
I am proud of my ability to save money.
I am better off than most of my friends think.
I rarely give money to beggars or drunks when they ask for it.
I always pay bills (telephone, water, electricity, etc.) promptly.
I am worse off than my friends think.\(^a\)
Most of my friends have more money than I do.\(^a\)
I worry about my finances much of the time and what I could do with it.\(^a\)
I often give large tips to waiters/waitresses I like.

\(^a\) Reverse scored.

References


