Debt Begets Debt: Examining Negative Credit Card Behaviors and Other Forms of Consumer Debt

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Disciplines

Comments
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Debt Begets Debt: Examining Negative Credit Card Behaviors and Other Forms of Consumer Debt

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Nathan Lambert, PhD

Abstract: The effect of negative credit card behaviors is examined for association with other forms of consumer debt (automobile debt, installment debt, and personal loan debt). Data were collected using a combination of random digit dialing and convenience sampling from two cities. Respondents’ median age is 48 years old, ranging from 20-87. Results indicate that despite controlling for income, not paying off the monthly balance and reaching the maximum limit on credit cards are associated with a variety of other debts. Although consumers can increase lifetime utility by borrowing, less educated consumers are more vulnerable to less favorable sources of credit. Negative credit card behaviors can be easily identifiable signals of larger lurking issues related to consumer behavior or lack of financial literacy. Controlling for income, younger adults accrue significantly more installment debt, possibly suggesting that younger generations perceive a larger number of required appliances and electronics as being necessary to run the household than previous generations.

Introduction

America has been referred to as the vanguard of consumption with a consumer culture that is bent on desiring, actively pursuing, consuming, and displaying goods and services to satisfy utilitarian as well as materialistic and hedonistic urges. Newer generations of Americans have purchased larger homes with more furnishings, but have fewer residents; they have more vehicles but have fewer passengers. It would appear that America’s habitual savers from the era of the Great Depression have given way to a new era of habitual spenders. It has been estimated that Americans, comprising approximately 5% of the world’s population, now consume nearly one quarter of its resources.

According to the life-cycle hypothesis it is rational for consumers to borrow early in the life cycle in order to smooth consumption across the life cycle. It is often advantageous for young consumers to incur debt in order to invest in human capital like education or job training, which will increase their expected overall lifetime income and consumption. However, an important caveat of the life-cycle hypothesis is that an increase in the level of early consumption is done at the expense of future consumption in the form of indebtedness. In their haste to consume more now, many Americans are accessing less than desirable forms of credit and engaging in poor financial management practices. Research supports the theoretical notion that an individual’s short-term discount rate is much greater than his or her long-term discount rate. In other words, individuals have shown that they have a strong preference to consume more
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now, even if it is at the expense of the lifestyle of their future selves, who must eventually pick up a much larger tab in the future.7

Based on this rationale, it is not surprising to discover that the indebtedness of families has grown in the last few years. Increasingly larger shares of family income are being dedicated to debt repayment and the proportion of debtors who were late with their payments by 60 days or more has also increased.9 Other studies confirm that in addition to economic variables, both social and psychological variables have independent associations with debt.10 These studies and their authors suggest that a rising “culture of debt” exists. Rather than viewing debt as a somewhat necessary but undesirable way of developing earning potential or meeting the basic needs of life, the culture of debt is marked by a sense of entitlement that is sweeping away concerns about avoiding unnecessary debt.

Although the rise in indebtedness has been well documented, the manner in which it develops is not well understood. Risky financial behaviors may have been identified, but the patterns in which risky behaviors are assumed are not well known.11 In the present study we theorize that negative credit card behaviors may associate with other forms of consumer debt in two ways. First, certain forms of consumer debt, specifically credit card debt, may serve as a “gateway” into other forms of debt. In our cross-sectional study we thus expect to find that credit card debt is a positive predictor of other forms of consumer indebtedness, such as debt incurred in the form of installment loans, auto loans, and other personal loans. Second, it is likely that consumers who exhibit risky credit card behaviors that increase credit card debt will also exhibit similar risky behaviors with other forms of consumer debt. Credit cards are aggressively marketed to developing consumers, liquidity-constrained consumers, and those who are making their earliest financial decisions. Open, revolving lines of credit are more fluid than more traditional loans made for bigger ticket items and once contracted can be more easily accessed and with less oversight on the part of others who could sway initial purchase decisions. Yet questions remain about the extent to which credit card use and misuse may be related to other forms of consumer debt.

Review of Literature

Financial Behaviors

The Nilson Report12 indicated that negative financial behaviors, like spending over the limit of the credit card and having an account 30 days past due, are signs individuals exhibit prior to bankruptcy or becoming delinquent on home, auto, and other loans.13 Despite recent revisions in bankruptcy laws, the subprime mortgage crisis appears to be making financial situations even worse. Consumer bankruptcy filings climbed 40% in 2007 (from 573,203 in 2006 to 801,840 in 2007) as the ongoing turmoil in the housing market, the declining value of the dollar, the credit crunch, and growing debt levels held by consumers led more individuals to use bankruptcy as a means of seeking protection from creditors.14

Previous studies have indicated that poor and less educated households are more likely to make mistakes with household finances,15 such as consistently carrying a revolving credit card balance.16 However, few studies have examined the relationship between such negative financial behaviors and the presence of a variety of other forms of consumer debt (i.e., automobile debt, installment debt, and personal loan debt like education or personal loans) with any groups of consumers other than college students.

Individuals who exhibit positive financial behaviors, such as paying credit card bills in full each month and comparison shopping for big-ticket items, also tend to report greater levels of financial satisfaction.17 Financial behaviors have also been shown to be associated with education, number of financial dependents, income, financial stressors, and risk tolerance.18 Specifically, exhibiting positive financial behaviors is positively associated with education, income, and risk tolerance.

Money Attitudes

Household financial problems are frequently a result of attitude or behavioral problems rather than money problems.19 Previous research has supported the notion that purchasing behavior is associated with how an individual views money. Some consumer spending is done for personal power, prestige, image, or other materialistic desires while other consumer actions are associated with
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anxiety and distrust. Therefore, in the present study it is hypothesized that specific behaviors in relation to one specific form of consumer debt (personal credit card use) will relate directly to other forms of consumer debt. The first aim of the present study is to examine what effect negative credit card behaviors (not paying off the balance monthly and reaching the maximum limit) have on the amount of (1) automobile debt, (2) installment debt, and (3) personal loan debt when you parcel out the effects of the respondent’s income level. The second aim of the study is to examine whether certain forms of consumer debt covary among different types of consumers.

Research Questions and Hypotheses

It is clear that respondents who report negative credit card behaviors (not paying off the balance each month and reaching the maximum limit) should also report the presence of credit card debt. Therefore, the present study will examine the three following research questions:

1. Are negative credit card behaviors associated with forms of debt other than credit card debt? Our hypothesis 1 is that negative credit card behaviors will positively predict the presence of other forms of consumer debt.

2. Is a respondent’s level of credit card debt predictive of the presence of forms of debt other than credit card debt? Our hypothesis 2 is that higher credit card balances will positively predict the presence of other forms of debt.

3. Can consumer debtors be classified into groups that are more likely to carry certain forms of debt and not others? Our hypothesis 3 is that consumer debtors can be classified according to differential patterns of debt. Respondents with negative credit card behaviors will report having more credit card debt than respondents who do not have negative credit card behaviors. Furthermore, because behavioral problems are believed to play some role in reports of financial problems, respondents with negative credit card behaviors will also be expected to have more automobile debt, installment debt, and personal loan debt than respondents who do not have negative credit card behaviors. If this first hypothesis is supported, it is expected that the level of credit card debt will also be associated with or predictive of having forms of debt other than credit card debt. Finally, because different types of debt are incurred for different reasons, it is hypothesized that certain forms of debt will be “companions” with other forms of debt.

Methods

Respondents answered 68 questions assessing a variety of financial behaviors and outcomes as well as basic demographic information including age, sex, ethnicity, education, income, marital status, and home ownership. Respondents were sent mail surveys, a reminder two weeks later, and then another copy of the survey two weeks later. Details about the methodology and the measurements used can be found in Appendix 1.

The demographics of the survey respondents are shown in Table 1. A total of 403 usable responses was received. The median age of the sample was 48 years old at the time of the survey, with ages in the sample ranging from 20 to 87. Approximately 55% of the sample was male. Respondents were primarily Caucasian (81%) but also included Hispanic (9%), African American (7%) and other ethnicities (3%). In general, the sample was fairly well educated. Thirty-eight percent of the sample had attended some form of college or vocational training school, 27 percent had a bachelor’s degree, and another 19 percent of the sample had some postgraduate education. However, the sample still includes a sizable proportion of respondents who had only a high school diploma or less (15 percent). The majority of respondents were married but the sample also included respondents who were single or divorced. The median gross household income of respondents was between $40,000 and $60,000.

Results

Credit card debt

A preliminary multinomial logistic regression was conducted to determine which demographic variables (age, sex, race, ethnicity, education, marital status, home ownership) and which credit card behaviors (paying off credit card balance, reaching the maximum limit) are predictors of having different levels of credit card debt (none, less than $2,000, or more than $2,000). Respondents who reported no credit card debt were used as the reference group.
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Regression results indicated the overall model was statistically reliable in distinguishing between levels of credit card debt (-2 Log Likelihood = 457.3; \(\chi^2[18] = 314.9, p < .001\)). The model correctly classified 69.4% of all cases (86.8% for “no credit card debt” group, 44.1% for the “less than $2,000” group, and 68.2% for the “more than $2,000” group). The Cox and Snell pseudo R\(^2\) was .577, the Nagelkerke pseudo R\(^2\) was .655. The amount of variance in credit card debt predicted by this model is inflated because based on the way the questionnaire was written, it was expected that individuals who have negative credit card behaviors would also report the presence of credit card debt. However, this preliminary logistic regression is still meaningful for (1) confirming that negative credit card behaviors are in fact predictive of the level of credit card debt, and (2) identifying which of the control variables are also significant in terms of predicting credit card debt.

Regression coefficients are presented in Table 2. Wald statistics indicated that paying off the credit card balance each month and marital status significantly predicted which respondents would report having credit card debt of less than $2,000. Each unit of increase on “paying off the credit card balance each month” increases the odds of having credit card debt of no more than $2,000 nearly fourfold (367%). This is the same as saying that respondents who “usually” pay off their credit card balance are 3.67 times more likely to have credit card debt of no more than $2,000 than respondents who “always” pay off their credit card balance. And respondents who “sometimes” pay off their credit card balance are 3.67 times more likely to have credit card debt of no more than $2,000 than respondents who “usually” pay off their credit card debt. And finally, respondents who “never” pay off their credit card balance are 3.67 times more likely to have credit card debt of no more than $2,000 than respondents who “always” pay off their credit card balance.

For the group that indicated having credit card debt of $2,000 or more, Wald statistics indicated that both negative credit card behaviors (not paying off the balance and reaching the maximum limit), along with marital status and level of education, were significant predictors of having credit card debt of more than $2,000. Each unit of increase on “paying off the credit card balance each month” increases the odds of having credit card debt of more than $2,000 by 21.03 times. This is the same as saying that respondents who “usually” pay off their credit card balance are 21.03 times more likely to have credit card debt of more than $2,000 than respondents who “always” pay off their credit card balance. Respondents who “sometimes” pay off their credit card balance are 21.03 times more likely to have credit card debt of more than $2,000 than respondents who “usually” pay off their credit card debt. And finally, respondents who “never” pay off their credit card balance are 21.03 times more likely to have credit card debt of more than $2,000 than respondents who “always” pay off their credit card balance.

### Table 1

<table>
<thead>
<tr>
<th>Demographics (n = 403)*</th>
<th>Valid Percent</th>
<th>M 48.8</th>
<th>SD 15.9</th>
<th>Range 20-87</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
<td><strong>n</strong></td>
<td><strong>Age</strong></td>
<td><strong>Sex</strong></td>
<td><strong>Ethnicity</strong></td>
</tr>
<tr>
<td>Age</td>
<td>n</td>
<td>20-29</td>
<td>68</td>
<td>13.3%</td>
</tr>
<tr>
<td></td>
<td>30-39</td>
<td>68</td>
<td>17.3%</td>
<td>Hispanic</td>
</tr>
<tr>
<td></td>
<td>40-49</td>
<td>91</td>
<td>23.2%</td>
<td>Black</td>
</tr>
<tr>
<td></td>
<td>50-59</td>
<td>75</td>
<td>19.1%</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>60-69</td>
<td>59</td>
<td>15.1%</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Due to missing data, the n on demographic variables ranges from 387-396.
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21.03 times more likely to have credit card debt of more than $2,000 than respondents who “sometimes” pay off their credit card balance.

Respondents who reach their maximum credit card limit are 4.29 times more likely to have credit card debt of $2,000 or more than respondents who do not reach their maximum credit card limits. Odds ratios also indicate that respondents who are married are 65.7% less likely to have credit card debt of $2,000 or more than respondents who are not married. For each unit of increase on reported education, respondents with more education are 70.5% more likely to have credit card debt of $2,000 or more than respondents who have less education.

Automobile debt

Regression results indicated the overall model fit was statistically reliable in distinguishing which respondents would have automobile debt (−2 Log Likelihood = 418.0; \( \chi^2[9] = 93.2, p < .001 \)) (see Table 3). The model correctly classified 69.9% of all cases (70.5% for “no auto debt” group, and 69.3% for the “some auto debt” group). The Cox and Snell \( R^2 \) was .223, the Nagelkerke \( R^2 \) was .298. Wald statistics indicated that paying off the credit card balance each month, age, and income significantly predicted which respondents would report having automobile debt. Each unit of increase on “paying off the credit card balance each month” increases the odds of having automobile debt by 1.665 times. This is the same as saying that respondents who “usually” pay off their credit card balance are 67% more likely to have automobile debt than respondents who “always” pay off their credit card balance. And respondents who “sometimes” pay off their credit card balance are 67% more likely to have automobile debt than respondents who “usually” pay off their credit card debt. Results also indicated that each unit of increase in age slightly decreases the odds of having automobile debt. Respondents who report higher levels of income are 30% more likely to have automobile debt than respondents who report lower levels of income.

### TABLE 2

<table>
<thead>
<tr>
<th>Group</th>
<th>Variable</th>
<th>B</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
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<tr>
<td></td>
<td>Less than $2,000 of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>credit card debt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reach maximum limit</td>
<td>.865</td>
<td>3.157</td>
<td>1</td>
<td>.076</td>
<td>2.374</td>
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<tr>
<td></td>
<td>Don’t pay off balance</td>
<td>1.541</td>
<td>54.812</td>
<td>1</td>
<td>.000</td>
<td>4.668</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>-.006</td>
<td>.290</td>
<td>1</td>
<td>—</td>
<td>.994</td>
</tr>
<tr>
<td></td>
<td>Sex</td>
<td>.270</td>
<td>.649</td>
<td>1</td>
<td>—</td>
<td>1.310</td>
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<tr>
<td></td>
<td>Race</td>
<td>-.272</td>
<td>.405</td>
<td>1</td>
<td>—</td>
<td>.762</td>
</tr>
<tr>
<td></td>
<td>Marital status</td>
<td>-1.070</td>
<td>5.268</td>
<td>1</td>
<td>.022</td>
<td>.343</td>
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<tr>
<td></td>
<td>Home ownership</td>
<td>-.152</td>
<td>.102</td>
<td>1</td>
<td>—</td>
<td>.859</td>
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<tr>
<td></td>
<td>Income</td>
<td>-.028</td>
<td>.090</td>
<td>1</td>
<td>—</td>
<td>.972</td>
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<tr>
<td></td>
<td>Education</td>
<td>.315</td>
<td>2.855</td>
<td>1</td>
<td>.091</td>
<td>1.370</td>
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<tr>
<td></td>
<td>More than $2,000 of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>credit card debt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reach maximum limit</td>
<td>1.667</td>
<td>8.907</td>
<td>1</td>
<td>.003</td>
<td>5.294</td>
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<tr>
<td></td>
<td>Don’t pay off balance</td>
<td>3.093</td>
<td>84.611</td>
<td>1</td>
<td>.000</td>
<td>22.033</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>.003</td>
<td>.024</td>
<td>1</td>
<td>—</td>
<td>.987</td>
</tr>
<tr>
<td></td>
<td>Sex</td>
<td>.261</td>
<td>.247</td>
<td>1</td>
<td>—</td>
<td>1.298</td>
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<tr>
<td></td>
<td>Race</td>
<td>.947</td>
<td>2.587</td>
<td>1</td>
<td>.108</td>
<td>2.578</td>
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<tr>
<td></td>
<td>Marital status</td>
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<td>.006</td>
<td>.170</td>
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<td></td>
<td>Home ownership</td>
<td>.494</td>
<td>.563</td>
<td>1</td>
<td>—</td>
<td>1.639</td>
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<tr>
<td></td>
<td>Income</td>
<td>.204</td>
<td>2.367</td>
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<td>—</td>
<td>1.226</td>
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<tr>
<td></td>
<td>Education</td>
<td>.546</td>
<td>4.412</td>
<td>1</td>
<td>.036</td>
<td>1.726</td>
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</tbody>
</table>

*Note: Consumers with no credit card debt are the reference category.
Installment debt

Regression results indicated the overall model fit was statistically reliable in distinguishing which respondents would have installment debt (-2 Log Likelihood = 334.0; $\chi^2(9) = 46.2, p < .001$) (see Table 4). The model correctly classified 66.8% of all cases (64.8% for “no installment debt” group, and 74.4% for the “some installment debt” group). The Cox and Snell $R^2$ was .118, the Nagelkerke $R^2$ was .183. Wald statistics indicated that reaching the maximum limit on credit cards was predictive of having installment debt. Results indicated that respondents who are older are less likely to have installment debt than respondents who are younger. Results also indicated that respondents who own a home are 146% more likely to have installment debt than respondents who do not own a home. Odds ratios suggest that each unit of increase on respondents’ level of education decreases installment debt by 38%. In other words, respondents who have “some college” education are likely to have 38% less installment debt than respondents who have a “high school or less” education.

Personal loan debt

Regression results indicated the overall model fit was statistically reliable in distinguishing which respondents would have personal loan debt (-2 Log Likelihood = 375.0; $\chi^2(9) = 115.8, p < .001$) (see Table 5). The model correctly classified 74.9% of all cases (77.2% for “no personal loan debt” group, and 71.3% for the “some personal loan debt” group). The Cox and Snell $R^2$ was .271, the Nagelkerke $R^2$ was .367. Wald statistics indicated that paying off the credit card balance each month, reaching the maximum credit card limit, and age significantly predicted which respondents would report having automobile debt. Each unit of increase on “paying off the credit card balance each month” increases personal loan debt 41%. This is the same as saying that respondents who “usually” pay off their credit card balance are likely to have 41% more personal loan debt than respondents who “always” pay off their credit card balance. And respondents who “sometimes” pay off their credit card balance are likely to have 41% more personal loan debt than respondents who “usually” pay off their credit card balance. Results also indicated that older respondents are less likely...
to have personal loan debt than respondents who are younger. Each increase of one year of age decreases the percentage of personal loan debt by 4.6%. This finding is not surprising since education loans are included in this personal loan debt category. Respondents who are older are less likely to have student loans to pay.

**Additional findings**

After examining all four forms of consumer debt, a few additional summary findings are worth pointing out. First, a respondent’s race and sex were not significant predictors of the presence of any form of consumer debt. Second, a respondent’s income level was not a significant predictor of the presence of credit card debt, installment debt, or personal loan debt. Perhaps even more surprising is the fact that when income was a significant predictor of automobile debt, higher levels of income actually predicted the presence of automobile debt, not the absence of it. Specifically, for each unit of increase in income, respondents have 30% more automobile debt. This is the same as saying that respondents who report income between $50,000 and $74,999 a year are likely to have 30% more automobile debt than respondents who report income between $25,000 and $49,999. And respondents who earn between $25,000 and $49,999 are likely to have 30% more automobile debt than respondents who report income of less than $24,999.

**Chi-Square Analysis**

Negative credit card behaviors predict the presence of other forms of debt, which gives support to our first hypothesis. Therefore, a chi-square analysis was done to determine if the level of credit card debt could predict the presence of forms of debt other than credit card debt (hypothesis 2). Results indicate that the presence of all forms of consumer debt (automobile, installment, and personal loan) could be accurately predicted by the respondent’s level of credit card debt. For automobile debt, 67% of respondents who had no credit card debt also reported having no automobile debt. Similarly, 67% of respondents who had more than $2,000 of credit card debt also reported having some automobile debt. Further examination of Table 6 suggests that the higher a respondent’s level of credit card debt, the higher the likelihood that he or she will report having some automobile debt also.

The level of credit card debt was significantly associated with the presence of installment debt. Eighty-seven percent of respondents who indicated having no credit card debt also indicated having no installment debt. This is not surprising, because credit card debt and installment debt are incurred or avoided in very similar ways. In general, very few respondents (21%) reported having any installment debt. Despite the low percentage of respondents who report having installment debt, chi-square results suggest that the higher a respondent’s level of credit card debt, the higher the likelihood that the respondent will report having some installment debt also.

Approximately 81% of respondents who have no credit card debt also report having no personal loan consumer debt. Approximately 63% of respondents who have more than $2,000 of credit card debt also report having some personal loan debt. Similar to the other chi-square analyses, these results suggest that the higher a respondent’s level of credit card debt, the greater the likelihood that the respondent will report having some personal loan debt also.

In summary, chi-square analyses indicate that the presence of all forms of consumer debt (automobile, installment, and personal loan) is significantly related to or predicted by the respondent’s level of credit card debt. For all three forms of consumer debt, between 67% and 87% of respondents who have no credit card debt also report having none of these forms of debt. Additionally, as the respondent’s level of debt increases, so does the likelihood that he or she will report having other forms of consumer debt.

**Cluster analysis**

Four distinct groups were discovered using cluster analysis (see Figure 1). Results indicate that respondents in the largest cluster were able to avoid, eliminate, or reduce all forms of debt (Cluster 1; n = 151, 39%). The second largest cluster includes respondents who reported a very large amount of credit card debt but were moderately successful at minimizing automobile, installment, and personal loan debt (Cluster 2; n = 114, 29%). The third largest cluster includes respondents who reported having all four forms of debt (Cluster 3; n = 93, 24%).
The last cluster includes respondents who reported no credit card debt, but high levels of automobile, installment, and personal loan debt (Cluster 4; n = 32, 8%).

The sample sizes of the clusters are surprising in light of the serious debt problems Americans experience, as outlined in the literature (see Table 7). Approximately 39% of the sample (Cluster 1) was successful at avoiding, eliminating, or reducing almost all forms of debt. Another 29% was successful at avoiding or minimizing automobile, installment, and personal loan debt despite reporting high credit card debt.

Descriptive statistics for the four clusters indicate that race is significantly associated with cluster membership (χ²[3] = 16.2, p ≤ .001). Specifically, a higher percentage of minorities than expected is present in the two clusters reporting the highest debt (Clusters 3 and 4). Fewer minorities than expected are present in the group reporting the lowest debt (Cluster 1). Marital status was not significantly associated with cluster membership.

An analysis of variance was conducted to determine if age, income, or education was significantly associated with cluster membership. Results indicated that income and education were not significantly associated with cluster membership (F[3] = .8, p = ns and F[3] = 1.8, p = ns). Age was significantly associated with cluster membership (F[3] = 20.3, p < .001). Specifically, respondents in the clusters reporting the highest debt (Clusters 3 and 4)

### Table 6

<table>
<thead>
<tr>
<th>Automated debt</th>
<th>No auto debt</th>
<th>Some auto debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit card debt</td>
<td>Count</td>
<td>% within</td>
</tr>
<tr>
<td>None</td>
<td>123</td>
<td>67.2%</td>
</tr>
<tr>
<td>Less than $2,000</td>
<td>56</td>
<td>45.9%</td>
</tr>
<tr>
<td>More than $2,000</td>
<td>29</td>
<td>32.2%</td>
</tr>
<tr>
<td>Total</td>
<td>208</td>
<td>52.7%</td>
</tr>
</tbody>
</table>

χ²(2) = 32.86, p < .001

<table>
<thead>
<tr>
<th>Installment debt</th>
<th>No installment debt</th>
<th>Some installment debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit card debt</td>
<td>Count</td>
<td>% within</td>
</tr>
<tr>
<td>None</td>
<td>160</td>
<td>87.4%</td>
</tr>
<tr>
<td>Less than $2,000</td>
<td>89</td>
<td>73.6%</td>
</tr>
<tr>
<td>More than $2,000</td>
<td>62</td>
<td>68.9%</td>
</tr>
<tr>
<td>Total</td>
<td>311</td>
<td>78.9%</td>
</tr>
</tbody>
</table>

χ²(2) = 15.52, p < .001

<table>
<thead>
<tr>
<th>Personal loan debt</th>
<th>No personal loan debt</th>
<th>Some personal loan debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit card debt</td>
<td>Count</td>
<td>% within</td>
</tr>
<tr>
<td>None</td>
<td>148</td>
<td>80.9%</td>
</tr>
<tr>
<td>Less than $2,000</td>
<td>59</td>
<td>48.8%</td>
</tr>
<tr>
<td>More than $2,000</td>
<td>33</td>
<td>37.1%</td>
</tr>
<tr>
<td>Total</td>
<td>240</td>
<td>61.1%</td>
</tr>
</tbody>
</table>

χ²(2) = 59.45, p < .001
also reported the youngest age ($M = 40.9$ and $41.3$). Respondents in the group reporting the lowest debt (Cluster 1) were on average 14 years older ($M = 55.3$) than respondents in the groups with the highest debt.

**Conclusions**

As outlined above, the results indicate support for our first hypothesis, that negative credit card behaviors are significantly associated with the presence of multiple forms of debt, specifically: automobile debt, installment debt, and personal loan debt. The findings also indicate support for our second hypothesis, that levels of credit card debt are significantly associated with the presence of other forms of debt. Results from the chi-square analyses support our hypothesis that a respondent’s level of credit card debt is a significant predictor of the presence of all other forms of consumer debt.

Taken as a whole, these results indicate that negative financial behaviors and current level of credit card debt are associated with the presence of other forms of consumer debt. Specifically, not paying off the monthly credit card balance is associated with the presence of (1) credit card debt, (2) automobile debt, and (3) personal loan debt such as educational costs. Reaching the maximum limit on a credit card is associated with (1) credit card debt, (2) installment debt, and (3) personal loan debt. Respondents who have no credit card debt are very likely to report not having other forms of consumer debt whereas respondents who report higher levels of credit debt have a higher likelihood of reporting other forms of consumer debt in addition to their credit card debt. This finding supports the notion that carrying a credit card balance is a strong predictor of a consumer’s overall financial well-being. Therefore, it is possible that whether or not a consumer carries a credit card balance can be used as a diagnostic measure for determining a consumer’s liquidity constraints, lack of financial education, presence of financial stress, or lack of self-discipline over financial behaviors.

It is worth noting that different forms of credit are associated with different characteristics. Individuals who borrow money for education or for an automobile may be doing so to increase human capital or for occupational purposes. Some consumers can increase lifetime utility by taking advantage of various sources of credit and some consumers might experience a decline in utility by having various creditors take advantage of them. Our results suggest that less educated consumers are significantly more likely to report having installment loans than more educated consumers. This might suggest the need for governments to step in and provide some “economic paternalism” or protection for less educated consumers in order to prevent some lenders from taking advantage of them.

**TABLE 7**

<table>
<thead>
<tr>
<th>Cluster</th>
<th>n</th>
<th>Age (Mean, SD)</th>
<th>Income (Mean, SD)</th>
<th>Education (Mean, SD)</th>
<th>Minority</th>
<th>Married</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Debt</td>
<td>151</td>
<td>55.3 (17.2)</td>
<td>1.9 (1.3)</td>
<td>1.6 (1.1)</td>
<td>9.5%</td>
<td>70.5%</td>
</tr>
<tr>
<td>High credit card, low debt</td>
<td>114</td>
<td>49.3 (13.9)</td>
<td>1.6 (1.3)</td>
<td>1.5 (0.9)</td>
<td>20.5%</td>
<td>73.2%</td>
</tr>
<tr>
<td>No credit card, high debt</td>
<td>32</td>
<td>40.9 (12.2)</td>
<td>2.0 (1.3)</td>
<td>1.3 (1.0)</td>
<td>28.1%</td>
<td>78.1%</td>
</tr>
<tr>
<td>High debt</td>
<td>93</td>
<td>41.3 (11.8)</td>
<td>1.8 (1.3)</td>
<td>1.4 (0.9)</td>
<td>28.6%</td>
<td>76.9%</td>
</tr>
</tbody>
</table>
Cluster analysis results suggest that there are four clusters or groups of consumer debtors. One group is successful at minimizing debt in all areas. The two clusters (Cluster 3 and Cluster 4) with the youngest average age ($M = 40.9$ and $41.3$) report having the highest levels of automobile debt, installment debt, and personal loan debt. The coexistence of these forms of debt is interesting and warrants further research to determine what might be the cause or explanation for this. It is possible that the younger respondents haven’t had as much time to pay off debt incurred in earlier years to acquire or augment human capital. A large number of individuals who incur loans for education and automobiles do so to increase their human capital. Therefore, although they report having these forms of debt, these debts might be used as leverage for generating future income. It is also possible that as Roberts suggested, these younger households have higher levels of debt not necessarily because of myopia, but possibly because the younger generation is aggressively targeted by lenders. Younger consumers appear to be more willing to access a number of credit sources (including those with high interest rates) and incur significant debts to achieve a desired lifestyle or to enjoy certain comforts that older adults appear to be able to purchase without incurring the same amount of debt. This is likely due to the latter group having deeper pockets and smaller eyes (less perceived need for consumer products). Generally, older households have more wealth, but they may also perceive fewer needs. The old adage that “yesterday’s luxuries are today’s necessities” is one possible explanation for our discovery that despite controlling for income, installment debt levels are higher among younger adults. Perhaps younger adults identify a greater number of electronics and appliances that they perceive as being necessary to run a household.

This study includes a variety of statistical analyses examining four types of consumer debt for approximately 400 respondents of varying age and income levels. Respondents from two different cities were selected using random systematic sampling. Results indicate that negative credit card behaviors are associated with a variety of debts, not just credit card debts. Furthermore, a respondent’s level of credit card debt is predictive of the presence of other forms of consumer debt (automobile, installment, and personal loan).

The findings of this study lend support to the notion that negative credit card behaviors are related not only to credit card debt but a number of other forms of debt like installment loans, automobile loans, and personal loans. This suggests that many consumers who have access to credit are often using as much of it as they can get either due to liquidity constraints or a strong preference for increasing current consumption, even when it’s at the cost of decreasing future consumption dramatically. This appears to support one researcher’s claim that for some potentially vulnerable consumers, like college students, credit cards might pose a greater threat than alcohol or sexually transmitted diseases.

Another interesting finding of this study is that a respondent’s level of income is not associated with the presence of credit card debt, installment debt, or personal loan debt. However, although income was a significant predictor for the presence of automobile debt, it is surprising to discover that higher levels of income are associated with the presence of automobile debt, not the absence thereof. This finding seems to suggest that when individuals make more income, they are not paying down their current debt, they are sometimes incurring more of it. This information might suggest that individuals are not as concerned with paying down debt as they are with maintaining or providing a desired lifestyle. As previous literature has suggested, America has developed a self-sustaining culture of debt and various forms of debt appear to be the way to acquire a desired lifestyle. Although a large number of individuals are apparently successfully operating households while minimizing debt, there is a large number of households that either because of borrowing constraints, insufficient financial education, children, or lack of self-control are carrying the burden of less than ideal forms of debt and large amounts of it. Households that are currently utilizing less than optimal forms of credit (like credit cards and installment debt) are likely doing so at the expense of their own future consumption and comfort. However, when households have little or no access to credit or a lack of education regarding personal finances, it might be rational for them to use less advantaged forms of credit in order to meet their current needs, but this is done at the expense of their own future needs and tends to perpetuate the circumstances that led them into consumer debt in the first place.
Implications for Professionals in Financial Services

Americans, regardless of income, seem to have a very strong preference for current consumption. Professionals in financial services can add value and mitigate this short-sighted, myopic behavior by helping clients to plan and prepare for the future and improve their lifestyles over the entire life cycle.

The results of this study suggest that professionals working with consumers can use the presence of credit card debt and “maxing out” credit cards as a predictor of other negative outcomes and a lack of financial literacy. For clients who exhibit these negative behaviors, professionals should increase the amount of monitoring and guidance they provide. This research demonstrates that consumer financial issues can’t be treated appropriately until underlying behavioral issues have been addressed. For some clients with severe behavioral issues like “maxing out” credit cards and carrying high interest rates, perhaps professionals should restrict the client’s access to certain forms of credit, and they may need to help increase the client’s savings through less opaque methods of savings like paying down the mortgage, increasing 401(k) contributions, or utilizing whole life insurance.

Americans are the vanguard of consumption in the world, and if clients are addicted to credit, professionals need to increase monitoring, or stage an intervention and implement some forced savings strategies to protect the clients from themselves.

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Debt Begets Debt: Examining Negative Credit Card Behaviors and Other Forms of Consumer Debt


(17) So-hyun Joo, “Personal financial wellness and worker job productivity.” (PhD diss., Virginia Polytechnic Institute and State University, Blacksburg, 1998).


APPENDIX 1

Survey Instrument, Measures, and Methodology

Survey Instrument

The survey instrument was developed based on Delphi research and pilot study findings and sponsored by the National Endowment for Financial Education. The instrument consisted of 68 questions that assessed a variety of financial behaviors, outcomes, and basic demographic information including age, sex, ethnicity, education, income, marital status, and home ownership.

Measures

Negative credit card behaviors. Two items assessed respondents’ credit card behaviors. The first item is whether or not respondents “pay off their credit cards in full each month and avoid finance charges.” Responses were given on a 4-point Likert-type scale with possible responses including always (36%), usually (19%), sometimes (21%), and never (24%). Higher scores reflect a lower frequency of paying off monthly credit card balances.

The second item is whether or not respondents “reach the maximum limit” on their credit cards. Responses were given on a 4-point Likert-type scale with possible responses including always (36%), usually (19%), sometimes (21%), and never (24%). Higher scores reflect a lower frequency of paying off monthly credit card balances.

Consumer debt. Four items assessed respondents’ levels of consumer debt. The first item (credit card debt) asks, “How much revolving credit card debt (debt that you don’t pay off at the end of each month) do you currently owe, if any?” Responses were given on a 3-point continuous Likert-type scale with 0 being no credit card debt (46%), 1 being less than $2,000 of credit card debt (31%), and 2 being over $2,000 of credit card debt (23%). The amount of $2,000 was selected because research suggested that according to data from the 1995 Survey of Consumer Finances, (conditional on borrowing) the median credit card account balance being carried is over $2,000.

The second item (automobile debt) asks about the presence of automobile debt. Responses were given on a dichotomous scale with 0 being no automobile debt (53%), and 1 being some automobile debt (47%).
APPENDIX 1 (cont’d)

The third item (installment debt) asks about the presence of installment loans (home appliances, electronics, and furniture, etc.). Responses were given on a dichotomous scale with 0 being no installment debt (79%), and 1 being some installment debt (21%).

The fourth item (personal loan debts) asks about the presence of other debts (such as education cost, personal loan, etc.). Responses were given on a dichotomous scale with 0 being no other debt (61%), and 1 being some other debt (39%).

Seven demographic items were used as control variables in the present study. Respondents indicated their age, sex, race, income, education level, marital status, and home ownership (see Table 1).

**Income.** Income was measured by having respondents report their households’ total gross incomes (including salaries, wages, dividends, interests, rent, and other earnings) before taxes for the year 2000. Responses were recorded with the following intervals coded from 0 to 4; less than $24,999 (20%), $25,000-$49,999 (25%), $50,000-$74,999 (27%), $75,000-$99,999 (14%), and $100,000 or more (14%).

**Education.** Respondents report the highest level of education they completed. Responses were coded on a scale from 0-3 with different levels of attainment; high school or less (15%), some college (38%), college graduate (27%), or postgraduate degree (19%).

**Marital status.** Marital status was coded 0 for married and widowed respondents (73%) and 1 for single, separated, or divorced respondents (27%).

**Home ownership.** Home ownership is a nominal variable coded 0 for respondents who own their home (77%), and 1 for those who are currently renting or have a different housing situation (23%).

Methodology

**Sample.** Respondents were selected from two cities. Research was conducted to find one U.S. city that was similar to the U.S. population in terms of ethnicity and income. Using data from the 1999 U.S. Census (data collected in year 2000), Aurora City, Colorado was selected. The second city, Lubbock, Texas, has a population that is more reflective of the southwestern U.S. and was selected based on accessibility and convenience.

The most recent telephone directories available were obtained from each area and were used for sample selection. Therefore, this study is limited to those who have a telephone number that is registered with the local telephone carriers (Pacific Bell and Southwestern Bell, respectively). One thousand names from each city (2,000 total names) were selected using random systematic sampling. Suggestions from Dillman1 regarding survey research were implemented to increase response rate. Surveys were mailed out, a reminder was mailed two weeks later, and a second copy of the survey was mailed out two weeks after the reminder. A total of 400 names was deleted from the original sample list due to the nondeliverable status of some respondents. One month after the second survey was mailed, approximately 404 surveys were returned. One survey respondent indicated that he was only 15 years old, and his data were excluded from the data set, resulting in a usable return rate of 25.2% (403/1600).

**Analytical strategies.** For step one, frequencies were used to examine mean, median, mode, and the interquartile range of the response items. Due to nonnormality (high skewness in particular), a number of the study variables were recoded either to scales that are dichotomous, or to scales that have a much more normal distribution. Step one also included crosstabulations using SPSS 14.0 to ensure that multicollinearity of the independent variables would not confound the results.

Because a number of dependent variables were transformed into categorical variables, step two of the analyses utilized logistic regression to identify if negative credit card behaviors could predict respondents’ credit card debt, as well as other forms of debt (hypotheses 1). Step three of the analyses utilized a chi-square analysis to determine if the level of credit card debt was predictive of the presence of other forms of debt also (hypothesis 2). Step four of the analyses utilized cluster analysis to explore if subgroups (clusters) of participants with differential patterns of debt could be identified. The primary goal of this cluster analysis was to classify individuals based on their consumer debt characteristics into relatively homogeneous subgroups (hypothesis 3). Accomplishing this task involved performing a hierarchical cluster analysis and examining the dendrogram (or icicle plot) to identify the number of distinct clusters present in the data set. After four distinct clusters were identified, a k-means cluster analysis was performed with three clusters. Internal validity of the cluster solutions was tested by correlating cluster means based on hierarchical and k-means cluster analyses.

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