Journal of Economic Psychology 31 (2010) 55–63

Contents lists available at ScienceDirect

Journal of Economic Psychology

journal homepage: www.elsevier.com/locate/joep

The role of parents in college students' financial behaviors and attitudes

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ARTICLE INFO

Article history:
Received 10 March 2008
Received in revised form 3 September 2009
Accepted 16 October 2009
Available online 22 October 2009

JEL classification:
D120
D830

PsycINFO classification:
3920

Keywords:
College students
Consumer attitudes
Knowledge level
Childrearing practices

ABSTRACT

This study examined how parents' teaching and modeling of financial concepts affects college student credit card debt (n = 173). Parental hands-on mentoring of financial skills was most strongly related to lower levels of credit card debt and this relationship was partially mediated by it leading to greater financial delay of gratification and less impulsive credit card purchasing which in turn were related to less problematic credit card use. Having parents who struggled with debt was not significantly related to debt although having parents who avoided talking about finances predicted problematic credit card use. Students' beliefs that their parents would bail them out of debt were related to lower levels of debt. Financial knowledge and parental verbal instruction appear to have complex relationships to credit card debt.

1. Introduction

As concern about credit card debt among college students has risen on campuses and among policy makers, researchers have striven to understand the factors that increase the risk of debt. Several predictors have emerged, including situational variables, personality characteristics, and financial education. However, the role of parents in preparing their children to handle finances wisely has yet to be fully explored. The present study sought to examine the relative contribution of a number of predictors of credit card debt, including parental influences, financial knowledge and behavior, and delay of gratification in a group of American college students.

Credit cards have become a way of life for many college students. According to Sallie Mae (2009), 84% of American college students have at least one credit card, a number that has increased from 76% just five years ago (Nellie Mae, 2005). Further, the average credit card debt for college students has increased to $3173. This is strikingly high relative to student income, the average of which is just under $8000 per year in the United States (Norvilitis et al., 2006).

Despite the high average balance, many students manage credit well. Indeed, 22% report paying off their credit cards monthly and 67% reported having a balance of less than $3000 (Sallie Mae, 2009). Others have reported similar trends. In a study of American college students, Norvilitis, Szablicki, and Wilson (2003) found that 32% of the college students they surveyed paid off their debts monthly, and The Education Resources Institute's (TERI) Credit Risk or Credit Worthy study

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doi:10.1016/j.joep.2009.10.003

found that 59% of American students regularly pay off their credit cards (The Educational Resources Institute (TERI), 1998). Furthermore, most students appear to have realistic attitudes toward credit cards and the repayment of money (Warwick, Mansfield, & Cook, 2000).

However, among those with high balances, there are consequences to credit card debt. Students with high debt levels report a decreased sense of financial well-being and higher overall levels of stress (Norvilitis et al., 2003; Norvilitis et al., 2006). In a study of British adults, nonsecured debt was found to have negative consequences on psychological well-being, but secured debt (i.e. a mortgage) did not, suggesting that credit card debt may be particularly stressful (Brown, Taylor, & Price, 2005).

Given that most students do not have difficulty with credit, the task for researchers is to identify characteristics of those most likely to be in debt. Such characteristics fall into three general categories: situational and demographic variables, financial education, and personality characteristics.

1.1. Situational and demographic variables

Several situational and demographic variables have been examined. Among those related to credit card debt are year in college, with debt increasing with each year in college in a study of New Zealand students (Boddington & Kemp, 1999). Further, in studies in both the United States and England, as students age, they appear to become more tolerant of debt and acquire more credit cards (Davies & Lea, 1995; Hayhoe, Leach, & Turner, 1999), a factor that appears to be statistically independent of academic year in college when both are included in analyses (Davies & Lea, 1995). The number of credit cards held has been found to be predictive of debt, although this relationship may be circular such that those with more debt acquire more cards and those with more cards may acquire more debt. Finally, the frequency of use also has been found to be predictive of debt (Davies & Lea, 1995). Conversely, neither gender nor grade point average appear to be related to college student credit card debt (Norvilitis et al., 2006; Pinto, Parente, & Palmer, 2001), though Pinto and colleagues noted that those with higher academic performance were more anxious about their debt.

1.2. Financial education

Students' financial education also plays a role in predicting debt. College students know little more about finances than high school students do, but have much more freedom to make their own choices about money. The JumpStart Coalition for Financial Literacy surveys American 12th graders every five years to assess knowledge of financial topics, including credit. In the most recent administration, just 50.2% of questions were answered correctly (JumpStart Coalition for Personal Financial Literacy, 2002). When this same survey was given to college students, students averaged just 60% correct. Further, a lack of financial knowledge was related to increased levels of debt (Norvilitis et al., 2006).

Other studies report a similar lack of knowledge. Warwick et al. (2000) found that few American students were able to report the current interest rate of their credit cards, though most were able to report their current balance. In addition, research in the United Kingdom and New Zealand indicates that students without debt underestimate the length of time that it would take to repay debt with interest, although there is some evidence to suggest that this can be improved with education (Lewis & van Venrooij, 1995; Seaward & Kemp, 2000), suggesting that they might not understand the implications of acquiring debt.

Further, there is some evidence that increased education may have positive effects. In a study in the United States, Compton and Pfau (2004) reported that inoculation to increase resistance to credit solicitations had the desired effect such that students expressed greater concern about getting credit cards. Other research suggests that from whom the message comes may have an impact. Pinto, Parente, and Mansfield (2005) found that only information from parents and not peers, media, and the schools, was related to decreased credit card debt.

1.3. Personality characteristics

Compounding the problem, prior research in England has found that those with more liberal attitudes toward credit use are more likely to be in debt (Livingstone & Lunt, 1992). Furthermore, in another study from the United Kingdom, tolerant attitudes toward debt appear to increase after students become indebted (Davies & Lea, 1995), indicating that there may be a cyclical relationship between debt and pro-debt attitudes related to the accumulation of debt. The importance of attitudes toward credit card use was replicated in the United States by Norvilitis et al. (2006). Related traits that have been identified as predictors of debt in the United Kingdom, New Zealand, and the United States include poor delay of gratification and compulsive spending (Livingstone & Lunt, 1992; Lunt & Livingstone, 1991; Norvilitis et al., 2006; O'Guinn and Faber, 1989; Watson, 2003). On the other hand, in studies in the United States, those with high levels of self-control are more likely to save money and to spend less money (Baumeister, 2002; Romal & Kaplan, 1995) and are less likely to engage in impulsive spending (Strayhorn, 2002).

1.4. Parental influences

Although work has been conducted establishing the importance of parents in children's and adolescents' socialization about money in a variety of countries, including Malta and the United States (e.g. Caruana & Vassallo, 2003; Churchill &

Moschis, 1979; Grossbart, Carlson, & Walsh, 1991; Mascarenhas & Higby, 1993), relatively little research has been done on the role of parents in helping their college-age children to avoid debt. Research among children supports the influence of consumer socialization indicating that behaviors such as co-shopping help children develop as consumers (Grossbart et al., 1991). Among college students, research completed in the United States has indicated that students report learning more about credit cards from their parents than from any other source (Pinto et al., 2005), although about one-third of college students report that their parents rarely discussed credit cards with them (Sallie Mae, 2009). Further, Palmer, Pinto, and Parente (2001) reported that parental involvement when their children acquired credit cards was related to lower balances in the future. This supports the findings of Hayhoe, Leach, Allen, and Edwards (2005) who examined the relationship between students' imagined conversations with their parents about money and the number of credit cards that students' held. Students with more credit cards reported fewer imagined conversations with their parents about money, perhaps indicating that they had fewer actual conversations about money with their parents. These students may be among the 18% of students reported by Hirt and Nick (1999) to have poor financial relationships with their families.

As important as it is to consider debt, current debt load is only one portion of financial health. College students who are not yet in trouble with debt may be establishing patterns that will create trouble down the road. Although college-aged adults represent a small fraction of those who declare bankruptcy in the United States, this rate increases dramatically in the years after graduation from college. Those 18–24 represent 5.4% of debtors, but 13.0% of the population. However, those 25–29 represent 15.2% of debtors, but 8.6% of the population (Flynn & Bermant, 2001/2002). Thus, it is important to examine the relationship between parental education about finances and risk factors for debt such as delay of gratification and financial knowledge, as well as the relationship to debt itself.

The goal of the present study was exploratory with the intent to examine whether any particular parent attitudes or behaviors, such as talking about family finances or helping children to budget, increase or decrease the likelihood of students' debt or any of several risk factors. Given prior research with children indicating that parental socialization affects consumer development (Caruana & Vassallo, 2003), it is likely that socialization plays a role with college students as well. Such correlates, as noted above, include financial well-being, financial knowledge, delay of gratification, number of credit cards held, and credit card use disinhibition. Although exploratory, it was expected that parents who engaged in more hands-on financial education would have college students who reported lower levels of debt and problematic credit card use.

To examine this, students completed a questionnaire with measures of parental financial education, financial well-being, financial knowledge, financial delay of gratification, number of credit cards held, and credit card use. Factor analyses were planned to identify various types of parental financial education. Once the factors were identified, path models were planned to examine the relationship of the parenting factors with other predictors of college student credit card debt.

2. Method

2.1. Participants

A total of 173 college students at a medium-sized state university in the United States completed the survey. The campus on which the study was conducted is located in an urban environment and most students (approximately 58%) are from the county in which the college is located. The annual cost of tuition, room, board, and fees is approximately $14,400.

The sample was composed of 33 (19.1%) males and 134 (77.5%) females; 6 (3.5%) failed to answer the gender question. Of these, 16 (9.2%) were freshmen, 32 (18.5%) were sophomores, 65 (37.6%) were juniors, 40 (23.1%) were seniors, 17 (9.8%) were fifth year seniors or beyond, and 3 (1.7%) did not report their status. Ethnicity generally mirrored the college, and consisted of 127 (73.4%) Caucasian, 20 (11.6%) African American, 8 (4.6%) Hispanic, 2 (1.2%) Asian, 1 (.6%) Native American, 5 (2.9%) other or biracial, and 10 (5.8%) did not report their ethnicity.

Students ranged in age from 19 to 26 ($M = 23.08$, $SD = 3.58$). Grade point average was collected only from sophomores and above because data were collected in the fall and freshmen did not yet have a grade point average and ranged from 1.23 to 4.00 ($M = 3.09$, $SD = .54$).

2.2. Materials and procedure

Participants were approached in their classes and asked to participate in a research study of college students' attitudes and beliefs on a number of personal topics, including credit cards and credit card debt. Following written consent, participants were given a 199-item omnibus questionnaire, containing the scales described below, to be completed outside of class and returned at the next session. Faculty members awarded extra credit for participation in accordance with the policy of the individual class. The refusal rate is impossible to know because students in the classes were not required to take a questionnaire. Thus, we cannot confidently report a response rate.

2.2.1. Parental education about finances

The Parent Financial Education Scale was created for the present study and was comprised of 25 statements about how participants' parents taught them about money, either directly or indirectly. Items were scored on a five-point Likert scale from 1 (strongly agree) to 5 (strongly disagree). To further develop the PFES, an exploratory factor analysis was conducted on

the 25 items. Maximum likelihood was used to extract the factors (see Fabrigar, Wegener, MacCallum, & Strahan, 1999, on its advantages) and the varimax rotation method was used to ease interpretation. To test the robustness of the resulting solution, alternative methods were tried and the results were quite similar. The number of factors to be retained was determined using parallel analysis (Horn, 1965), which indicated four substantial factors being measured by the PFES. *Parent Instruction* (seven items) assesses parents providing instruction on financial matters (e.g. "My parents considered it important to teach me about money", and "My parents talked to me about budgeting"). *Parent Facilitation* (three items) assesses parental hands-on assistance in handling money (e.g. "My parents helped me budget my allowance", and "My parents helped me save money"). *Parent Worries* (four items) assesses having witnessed parents struggling and feeling anxious about money (e.g. "My parents worried about money often", and "My parents were often in debt (beyond a home mortgage or car payment)"). Finally, *Parent Reticence* (three items) assesses parents avoiding addressing financial matters with their child (e.g. "My parents avoided talking about money with me", and "I rarely saw my parents paying the bills"). Eight items of the original items did not load substantially on one of these four scales. The four subscales demonstrated good to fair internal reliability, particularly given most had a small number of items, with Cronbach's alphas of .86, .79, .77, and .69, respectively. The intercorrelations among the four subscales can be found in Table 1.

2.2.2. Parent bailout

Students' belief that their parents would help them out if they found themselves in debt was assessed with a single item ("If you found yourself in a great deal of debt (over $10,000 of credit card debt), how likely is it that your parents would help you out?"). Responses were scored on a 1 (*Very Likely*) to 5 (*Very Unlikely*) scale.

2.2.3. Financial status and credit card use

Students answered questions about their credit card use and financial status. Questions included information such as number of major and store credit cards held (e.g. Visa and Mastercard or Sears and Mobil, respectively), whether credit cards are used to pay for tuition, and how long it will take to pay off their credit cards. Students were provided a place to report current credit card debt and current yearly income. Students were also asked to identify how they are paying for college (e.g. parents, loans, etc.). Because the amount of credit card debt severely violated normal distribution assumptions, it was transformed into an ordinal variable ($0 debt, $1–249, $250–750, $751–2500, and over $2500).

2.2.4. Perceived financial well-being

The Financial Well-Being Scale (Norvilitis et al., 2003) assessed students' perceived financial health. This eight-item measure is completed on a five-point scale from 1 (strongly agree) to 5 (strongly disagree). Higher scores indicate greater perceived well-being. Questions include "I think a lot about the debt I am in", and "I think I am in good financial shape". In the initial article, Cronbach's alpha was found to be acceptable ($\alpha = .74$). In the present study, Cronbach's alpha was .82.

2.2.5. Behaviors related to credit cards

The Credit Card Use Scale (Roberts & Jones, 2001) is a 12-item measure used to assess credit card behavior, such as going over the credit limit, paying off the card each month, and making only the minimum payment on the card. Responses are recorded on a five-point Likert scale. Because inter-item correlations varied considerably and several different theoretical concepts appear to be captured by the CCU items, these items were subjected to an exploratory factor analysis. Using a similar strategy as with the PFES, a robust three-factor solution emerged. *Credit Card Problem Use* (five items) assesses problematic credit card use (e.g. "I have too many credit cards", and "I often make only the minimum payment on my credit card bills"). Cronbach's alpha for this subscale was .81. *Credit Card Disinhibition* (three items) assesses greater impulsivity when

Table 1
Correlations among variables.

	1	2	3	4	5	6	7	8	9	10	11
1. Parent Instruction	–										
2. Parent Facilitation	.65**	–									
3. Parent Worries	−.23**	−.09	–								
4. Parent Reticence	−.28**	.03	.43**	–							
5. Parent Bailout	.29**	.31**	−.22**	−.14	–						
6. CC Problems	−.04	−.14	.23**	.21**	−.19*	–					
7. CC Disinhibition	.01	.01	.04	.04	.05	.35**	–				
8. F. Delay of Gratif.	.05	.05	−.14	−.21**	−.26**	−.37**	−.21**	–			
9. Fin. Knowledge	−.07	−.14	−.05	−.26**	−.23**	−.06	−.09	.26**	–		
10. Fin. Well-Being	.11	.13	−.28**	−.21**	.22**	−.73**	−.31**	.33**	.13	–	
11. CC Debt	−.08	−.25**	.04	.02	−.29**	.58**	.24**	−.10	.20*	−.55**	–

CC Problems = Credit Card Problem Use; CC Disinhibition = Credit Card Disinhibition, F. Delay of Gratif. = Financial Delay of Gratification, Fin. Knowledge = Financial knowledge, Fin. Well-Being = financial well-being, CC Debt = credit card debt.

* $p < .05$.

** $p < .01$.

using credit cards than other methods of payment (e.g. "I spend more when I use a credit card", and "I am more impulsive when I shop with credit cards"). Cronbach's alpha for this subscale was .84. Finally, *Credit Card Conscientiousness* (three items) assesses wise decisions regarding credit card use, with the three items pertaining to not making delinquent payments, going over their credit limit, and taking cash advances. Unfortunately, the Cronbach's alpha for this subscale was only .64, which is less than ideal.

2.2.6. Financial delay of gratification

The Delay of Gratification Scale (Ray & Najman, 2001) is a 12-item measure that is scored yes, no, or unsure. Higher scores indicate more ability to delay gratification. It covers deferment of gratification in purchases (e.g. "Are you good at saving your money rather than spending it right away?") as well as in other areas (e.g. "Would you describe yourself as often being too impulsive for your own good?"). The authors report acceptable internal consistency of the scale ($\alpha = .72$), however in the present study, it was somewhat lower ($\alpha = .67$). Three variables in particular, assessing enjoying things more if you wait for them, having difficulty not blowing your top when angry, and easily tolerating being kept waiting, had especially low correlations with the total scale score ($r < .20$). Given these low correlations and their tenuous theoretical relationship with being able to delay gratification, these three items were dropped ($\alpha = .71$).

2.2.7. Financial knowledge

The JumpStart (2002) periodically surveys high school seniors to assess their knowledge of credit cards, insurance, and other personal finance topics. This is a broad-based 33-item multiple-choice instrument, developed by Lewis Mandell of the University at Buffalo, that assesses overall financial knowledge. Nine of the items specifically address debt or credit. Scores are simply the number correct, thus, higher scores indicate greater financial knowledge.

3. Results

3.1. Debt

Most students reported having at least one major credit card. Only 48 students (27.7%) reported not holding a card. Of the rest, 68 (39.3%) carried one, 28 (16.2%) carried two, 12 (6.9%) had three or more, and 14 (8.1%) had four or more major credit cards. Three (1.7%) failed to respond to the item.

Overall, participants, regardless of current credit card ownership, reported an average of \$1136 ($SD = 2383$) in debt, with debt ranging from \$0 to \$15,000. However, 58 participants had no debt at all. With those students removed, the average debt rose to \$1801 ($SD = 2798$). Annual income ranged from \$0 to \$100,000 ($M = \$9758$; $SD = 11{,}090$). A credit card debt to income ratio was calculated. Several students ($n = 8$) reported credit card debt but no income. Because this ratio is incalculable, these students were excluded. For all remaining participants, the mean debt to income ratio was .12 ($SD = .21$). With those students who had no debt excluded, the mean debt to income ratio rose ($M = .18$; $SD = .24$).

In addition to credit cards, most students (90.2%) reported having a debit card, a card that can be used like a credit card to purchased items but that withdraws money directly from a bank account. Of the 123 participants with both a debit and a credit card, 46.8% reported using the debit card more frequently, 15.0% reported using the credit card more often and 9.2% reported using them equally. There was no difference in debt by debit card use [$F(3, 149) = 1.15$, $p = .33$, $\eta^2 = .02$].

3.2. Relations among dependent variables

To examine the relations among the dependent variables, a series of correlations was conducted (See Table 1). Credit card debt was most strongly associated with Credit Card Problem Use ($r = .58$) and financial well-being ($r = -.55$). Problem Credit Card Use was strongly negatively associated with financial well-being ($r = -.73$). As expected, Financial knowledge was negatively related to Parent Reticence ($r = -.26$) and Parent Bailout ($r = -.23$) and positively related to Financial Delay of Gratification ($r = .26$). However, it was not significantly related to Credit Card Problem Use ($r = -.06$, n.s.) and it was positively related to credit card debt ($r = .20$).

3.3. The role of parents in financial understanding and behaviors

Students were asked where they learned the most about managing their finances. The greatest number reported learning about money from their parents (46.8%). Other choices were at school (7.5%), from friends (4.6%), from the media (5.8%), and from their own personal experience (32.9%). Four (2.3%) declined to answer the question. There was no difference in debt by source of knowledge [$F(4, 149) = 1.25$, $p = .30$, $\eta^2 = .03$].

Students were asked whether or not their parents would help them if they were in a great deal of credit card debt (Parent Bailout). Nearly half of the participants ($n = 78$, 45.1%) thought that it was very likely or likely that their parents would help them out. An additional 35 (20.2%) said that it was possible. Only 58 (33.5%) said that was unlikely or very unlikely that their parents would help.

3.4. How parenting factors are associated with credit card outcomes: Regression models

To assess how well the parenting variables predict credit card debt, a two-step hierarchical regression analysis was conducted. In Step 1, the four PFES parenting subscales and the parent bailout variable were entered as predictors of credit card debt. Collinearity was a concern because of the intercorrelations among the predictors, but the collinearity diagnostics indicated little effect on the results (e.g. VIFs were all below 2.1). The overall model was significant, with the parenting variables accounting for 12% of the variance in credit card debt (see Table 2). Parent Facilitation and Parent Bailout were significantly negatively related to credit card debt, while Parent Instruction was significantly positively related. In Step 2 of the model, additional variables thought to be related to credit card debt, financial delay of gratification, financial knowledge, Credit Card Disinhibition, and Credit Card Problem Use, were entered in addition to the parenting variables. This model accounted for 43% of the variance and Credit Card Problem Use and financial knowledge were both significant predictors of credit card debt. It is notable that with the new variables entered, all of the parenting variables were no longer significant predictors.

A similar regression analysis was run predicting Credit Card Problem Use (see Table 2). In Step 1, the parenting variables accounted for 13% of the variance, with Parent Facilitation (negative), Parent Instruction, and Parent Reticence all significant predictors. When the other variables were added in Step 2, the model accounted for 32% of the variance. financial delay of gratification and Parent Bailout were negatively related to Credit Card Problem Use, while Credit Card Disinhibition was positively related. Once again, the parenting variables were no longer significant predictors once the other variables were added to the model.

3.5. How parenting factors are associated with credit card outcomes: Mediation models

That the parenting variables stopped being significant predictors of the credit card outcomes once the other variable were added suggested their effects were being mediated by one or more of the added variables. A mediational path model was developed in which the parenting variables predicted Financial Delay of Gratification, financial knowledge, and Credit Card Disinhibition, which in turn predicted Credit Card Problem Use, which subsequently predicted level of credit card debt. This resulted in a multi-path mediational chain from each parenting variable to credit card debt.

The results of the path modeling can be seen in Fig. 1. Financial knowledge was not a significant mediator for any parenting variable when included in the model, so it was omitted for the sake of parsimony. Bootstrapping (using 2000 bootstrap samples in AMOS 17.0) was used to test the statistical significance of the parenting variables' indirect (mediated) effects (Cheung & Lau, 2008). Bias-corrected bootstrapping was used because it has been shown to have the most statistical power of the available methods (Cheung & Lau, 2008; Preacher & Hayes, 2008). The results of these analyses indicate that all of the parenting variables except Parent Worries had a significant indirect effect on problematic credit card use (see Table 3). Parent Reticence (standardized indirect effect = .12) and Parent Bailout (.14) effects were mediated by Financial Delay of Gratification, while Parent Instruction (.11) effects were mediated by Credit Card Disinhibition. Parent Facilitation (−.12) effects were mediated by both mediators. A similar pattern emerged in the prediction of credit card debt, with the exception that Parent Bailout did not have a significant indirect effect. Parent Bailout in general showed a noteworthy pattern of effects. It had a significant *negative* direct effect on Problematic Credit Card Use but a significant *positive* indirect effect, resulting in a

Table 2
Multiple regression analyses with parenting and individual variables predicting credit card debt (Model 1) and problematic credit card use (Model 2).

	CC Debt				CC Problems			
	R^2	β	SE	β	R^2	β	SE	β
Step 1	.12**				.13**			
Parent Facilitation		−.42	.14	−.31**		−.22	.09	−.25*
Parent Instruction		.35	.17	.22*		.25	.11	.24*
Parent Reticence		.15	.13	.10		.22	.09	.22*
Parent Worries		−.03	.12	−.02		.14	.08	.14
Parent Bailout		−.28	.10	−.23**		−.09	.07	−.11
Step 2	.43**				.32**			
Parent Facilitation		−.21	.12	−.16		−.12	.08	−.13
Parent Instruction		.12	.14	.08		.14	.10	.13
Parent Reticence		.04	.11	.03		.10	.08	.10
Parent Worries		−.15	.10	−.10		.08	.07	.08
Parent Bailout		−.15	.09	−.12		−.21	.06	−.25**
F. Delay of Gratif.		.07	.22	.02		−.69	.15	−.35**
Fin. Knowledge		.04	.02	.16*		−.00	.01	−.01
CC Disinhibition		.11	.10	.08		.23	.07	.25**
CC Problems		.84	.11	.56**		–	–	–

CC Disinhibition = Credit Card Disinhibition, F. Delay of Gratif. = Financial Delay of Gratification, Fin. Knowledge = Financial knowledge, CC Debt = credit card debt; CC Problems = Credit Card Problem Use.

* $p < .05$.

** $p < .01$.

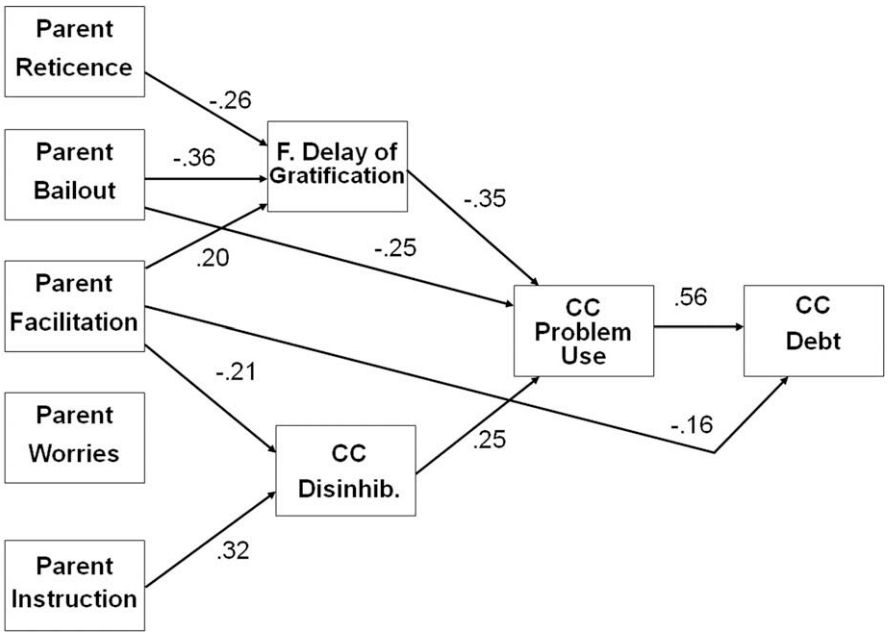

Fig. 1. Results of the path model. Only significant standardized effects are shown. Covariances among the parenting variables and between Delay of Gratification and Credit Card Disinhibition were estimated in the model but excluded from the figure for the clarity of presentation (see Table 1 for correlations). Proportion of variance accounted for by the model (R^2) in the outcome variables: Financial Delay of Gratification = .18, Credit Card Disinhibition = .06, Credit Card Problem Use = .32, and credit card debt = .41.

Table 3
The direct, indirect and total effects of the predictors on problem credit card use and credit card debt.

	Credit Card Problem Use			Credit card debt		
	Direct	Indirect	Total	Direct	Indirect	Total
Parent Instruction	.13	.11*	.24*	.07	.16*	.22
Parent Facilitation	−.13	−.12**	−.25	−.16*	−.15*	−.31**
Parent Bailout	−.25**	.14**	−.11	−.15	−.08	−.23*
Parent Reticence	.10	.12**	.22*	−.02	.12*	.10
Parent Worries	.08	.05	.14	−.10	.08	−.02
F. Delay of Gratif.	−.35**	–	−.35**	.05	−.20**	−.15
CC Disinhibition	.25**	–	.25**	.07	.14**	.22**

F. Delay of Gratif. = Financial Delay of Gratification, CC Disinhibition = Credit Card Disinhibition.
* $p < .05$.
** $p < .01$.

non-significant total effect. Its total effect on credit card debt was a significant and negative (−.23). Financial Delay of Gratification (indirect effects = −.20) and Credit Card Disinhibition (.14) both had significant indirect effects mediated by Problematic Credit Card Use. Overall, in predicting credit card debt, Parent Facilitation (standardized total effect = −.31), Parent Bailout (−.23), Parent Instruction (.22), and Credit Card Disinhibition had significant total effects.

4. Discussion

It is clear from the present study that parenting variables are significantly related to college students' credit card problems and credit card debt and are worthy of additional investigation. However, these effects appear to be largely mediated by more proximal variables, such as financial delay of gratification and buying more impulsively with credit cards. The parenting variable that had the largest effect on credit card debt was Parental Facilitation. This suggests that parents who engage in a hands-on approach to teaching children to handle money through such actions as teaching them how to manage an allowance and how to manage bank accounts have children who report lower levels of credit card debt in college. This is consistent with prior work on consumer socialization in younger kids that found that parental behaviors such as co-shopping and evaluating alternatives strongly influence children's perceptions of purchases (Caruana & Vassallo, 2003). It is notable that Parent Facilitation appears to have its effect on credit card debt in several different ways. In addition to having a direct

negative effect on debt, it also is associated with greater Financial Delay of Gratification and less impulsive buying with credit cards, both of which predict level of problematic credit card use (negatively and positively, respectively) which in turn predicts level of debt. Given these multiple pathways, it is perhaps not surprising that Parent Facilitation had the largest total effect on credit card debt of any of the parenting variables considered.

On the other hand, Parent Instruction, that is, *talking* about how to handle money, was unexpectedly related to higher levels of credit card debt. There are a few potential explanations for this finding. First, it is possible that the parental instruction occurred in response to their children accumulating debt. In this cross-sectional data set, there is no way to know whether the debt or the instruction came first. A second possible explanation may be that certain personal characteristics of some children (e.g. a tendency toward impulsivity or poor judgment) may lead parents to be especially concerned about their children's ability to handle money and to therefore have more financial discussions with them. In this way, the child's personal characteristics would affect their financial behavior and their parents' financial instruction behavior. This is consistent with the relationship between Parental Instruction and Credit Card Disinhibition found in the present study. Perhaps parents are actively trying to dissuade their children from credit card use because they see a risk for debt. Despite the relationship that was found, it appears that actively avoiding discussing household finances from children may foster the development of debt as Parent Reticence had a significant overall effect on debt.

In a similar vein, general financial knowledge was positively related to credit card debt, although this relationship was not mediated by any of the variables in the model and it was not significantly related to problematic credit card use. This is in contrast to prior research (Norvilitis et al., 2006) that found that increased knowledge was related to lower levels of debt. This is perplexing, but three possibilities seem likely. First, the financial knowledge measure was a general one and perhaps a measure targeted specifically to credit cards would yield different results. A second possibility is that the type of knowledge reflected on tests is not protective from debt, in the same way that the parental instruction variable was not protective from debt and as found in the Hirt and Nick (1999) study. A third possibility is that financial knowledge is related to debt in different ways for different subgroups of students. For example, for some high levels of knowledge helps them avoid debt (a negative relationship) while for a perhaps larger group acquiring high levels of debt leads to forced indoctrination as to how the financial system works. Such complex relationships would not be detected in correlations or regression models and cluster analyses to identify subgroups may prove helpful in the future.

Parental willingness to bailout their children has an interesting and complex relationship to the credit card outcomes. The overall effect on problematic credit card use was non-significant, but this was because its direct effect and indirect effect were in different directions. Parental bailout had a negative direct effect on problematic credit card use even though it was also related to significantly lower levels of delaying gratification which in turn leads to greater problematic credit card use. Overall, however, college students who report that their parents would be willing to bail them out financially reported lower levels of debt. One likely explanation for this result is that these parents have already helped their children out of debt which would also help them avoid some types of problematic credit card use (e.g. making only minimum payments). Given that this variable has not been examined in prior research, greater exploration of this factor is warranted.

Despite the intriguing results, there are limitations to the present study. A major limitation is the use of cross-sectional data. Inferring causality from cross-sectional data is always problematic, but especially so when the causal link could go either way or when reciprocal relationships might exist. Clearly, longitudinal data would help clarify such relationships. Further, there are possible third variables, such as personality factors and peer influences, that were not included in the study but could influence parental behavior and credit card outcomes.

Another concern is the level of debt reported by the students. The level of debt reported in this study was quite a bit lower than that reported in other studies completed in the United States (e.g. Nellie Mae, 2005; Norvilitis et al., 2003; Norvilitis et al., 2006; Sallie Mae 2009). It is possible that students underreported debt either intentionally or because they are unaware of their current debt. This possibility is supported by Flynn and Bermant (2001/2002) who compared self-reported debt with that reported by credit agencies and found that people underreport. Indeed, 60% of students in the recent Sallie Mae (2009) study reported being sometimes or frequently surprised by their credit card balances. It is also possible that, for some unknown reason, this sample simply had a lower level of debt than might be expected. Such a low level of debt may limit the generalizability of the results from this sample and highlights the need for replication of these results. Related to this, the present study considered only credit card debt and not other debt that students might incur, such as student loans or car loans. Future research should examine the role of parents in these other types of debts and the interaction of other debt and credit card debt.

Although there are limitations, the present study has implications for the education of college students about credit card debt and for future research. It may be that the most important thing that parents can do to help their children avoid debt is to provide hands-on mentoring in developing their financial skills. Calls for parents to talk to their children about finances would appear to be less effective although avoiding such discussions may prove detrimental. Given the unexpected findings regarding financial knowledge and debt, it is not clear that purely educational programming that aims to increase financial knowledge will help most students avoid debt. It may be that more individually-based hands-on mentoring could prove more effective for many.

Acknowledgements

The authors wish to thank Francisco Alvarez for his assistance with data collection.

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