

THE “NEGATIVE” CREDIT CARD EFFECT: CREDIT CARDS AS SPENDING-LIMITING STIMULI IN NEW ZEALAND

Celia Lie and Maree Hunt

Victoria University of Wellington, Wellington, New Zealand

Heather L. Peters

Open Polytechnic, Wellington, New Zealand

Bahrie Velu and David Harper

Victoria University of Wellington, Wellington, New Zealand

The “credit card effect” describes a finding where greater value is given to consumer items if credit card logos are present. One explanation for the effect is that credit cards elicit spending behavior through associative learning. If this is true, social, economic and historical contexts should alter this effect. In Experiment 1, Year 1 New Zealand university students valued consumer items less in the presence of credit card logos. Experiment 2 replicated this effect. These findings support the idea that New Zealand students’ negative conditioning history with credit card stimuli results in a “negative” credit card effect, whereby credit cards limit rather than facilitate spending. This “negative” effect suggests that the presence or absence of a “positive” effect in previous studies depends on previous associations with credit card stimuli.

Key words: credit cards, perceived value, credit card effect, conditioning

Credit cards are a convenient and widely accepted method of payment for goods and services. In New Zealand, estimates indicate that there are more than 2.1 million VISA cards and 900,000 MasterCards in use (Commerce Commission, 2006). Credit card usage is increasing and is accompanied by an overall increase in credit card debt. Total credit card debt owed nationally in New Zealand grew over the past decade from NZ\$1.7 billion (September 1997) to NZ\$5.2 billion (October 2008; Reserve Bank of New Zealand, 2008). As credit card usage and subsequent debt escalates, it is becoming increasingly important to understand the effects of credit cards on consumer spending behavior.

A limited body of research exists that suggests that credit cards (and credit card symbols) act as “spending-facilitating stimuli,” and, as such, can affect the purchasing behavior of consumers. In a series of four experiments,

Feinberg (1986) systematically studied the effects of credit card presence versus absence on the perceived value of consumer items. In Feinberg's first experiment, undergraduate students were presented with a booklet containing seven consumer items and were asked how much they were willing to spend on each item. For half the students, the MasterCard symbol was presented on the table with the booklet (credit card present, or CCP, condition), while no symbol was presented for the other half (credit card absent, or CCA, condition). Although participants in the CCP condition were told that the MasterCard symbol was from another experiment, Feinberg found that those in the CCP condition placed consistently higher value on items compared to those in the CCA condition. Feinberg replicated this effect in his second experiment and also demonstrated that participants' decision times were faster in the presence of the credit card symbol. In two further experiments, Feinberg investigated how much people were willing to donate to charity in the presence or absence of a credit card symbol. He found that participants estimated greater donation values (Experiment 3) and donated more money (Experiment 4) when a credit card symbol was present. Thus, Feinberg concluded that credit cards were spending-facilitating stimuli (i.e., stimuli that facilitate a spending response). This phenomenon of increased expenditure (or likelihood to spend) in the presence of credit card symbols has become known as the "credit card effect."

Subsequent attempts to replicate Feinberg's (1986) credit card effect have been mixed. Hunt, Florsheim, Chatterjee, and Kernan (1990) attempted to replicate the effect while also taking into account a measure of materialism, based on the assumption that materialistic individuals would be more influenced by the credit card symbols. However, they found no effect of the credit card symbol on price evaluations, irrespective of materialism levels. Shimp and Moody (2000) also conducted two experiments using procedures similar to Feinberg's and tested two possible explanations for the credit card effect. They reported no support for either of the explanations they investigated and replicated the credit card effect in only one of the two studies.

Other experimenters have replicated Feinberg's (1986) credit card effect. McCall and Belmont (1996) found that diners in two different restaurants gave higher tips on tip trays containing credit card symbols when compared to diners who received blank tip trays. McCall, Trombetta, and Gipe (2004) found that credit card symbols had a similar effect on estimated tip sizes in a laboratory setting. In another laboratory-based experiment, Monger and Feinberg (1997) found that participants estimated higher fair and maximum prices that they would pay for products when they were informed that the mode of payment was credit card compared to participants who were told that the mode of payment was cash or check. Similarly, Prelec and Simester (2001) found that participants who were instructed to pay via credit card in an actual auction placed higher bids than those who were instructed to pay by cash. Finally, Raghubir and Srivastava (2008) replicated Feinberg's original credit card effect when they asked participants how much they were willing to spend on various menu items for a hypothetical restaurant either in the presence or in the absence of a credit card symbol.

There is currently no consensus about the theoretical mechanism behind the credit card effect. Feinberg (1990), for example, proposed that the credit card effect reflects associative conditioning and is therefore likely to be influenced by broader social, economic, and historical contexts. In other

words, an individual's learning or conditioning history depends on his or her social and/or economic environment. For example, in times of economic prosperity, credit cards may be viewed as useful tools to facilitate easier access to goods. In such circumstances, credit cards will be associated with the acquisition of material goods and gain positive connotations. In contrast, during recessions, credit cards may be associated with difficulties with repaying debt and thus, through conditioning, gain negative connotations. In contrast, others (e.g., Prelec & Loewenstein, 1998; Raghurir & Srivastava, 2008) have argued that the credit card effect relates to the lack of coupling between "pain of payment" and consumption that is inherent in this form of payment. If this theory were correct, variations in social, economic, or historical context would not influence the credit card effect.

In recent years, New Zealand credit card use and debt has risen sharply, and the government has instigated a national campaign aimed at reducing personal debt ("Get Sorted") to highlight this issue. Being in debt is generally viewed as something to be avoided and has negative connotations for most people (e.g., Lea, Webley, & Levin, 1993; Tatzel, 2002). Credit cards generally function by placing people in debt until the balance is paid off. This negative association with credit cards was confirmed in an informal survey of undergraduates using a paired associates task. We found that 58% of students associated credit cards with debt and only 43% associated them with spending. This contrasts with Feinberg's (1986) results from a similar survey, wherein 87% of respondents associated credit cards with spending. If a credit card effect relies on associative learning, then it is possible that the negative connotations that credit cards have in New Zealand will lead to a "negative" credit card effect. That is, credit cards could potentially act as spending-limiting stimuli and reduce expenditure.

This article presents two systematic attempts, conducted in New Zealand in 2006 and 2007, to replicate Feinberg's (1986) experiment. Both studies used the same task as Feinberg (price evaluations for consumer products). The first study arranged the same two conditions as Feinberg did (credit card present vs. credit card absent) with a paper catalogue task and a computer-based version of the paper task. Experiment 2 was a replication that used the same computer-based task as Experiment 1, but was conducted with a different sample of participants.

Experiment 1

Experiment 1 was conducted to replicate Feinberg's (1986) original experiment. If a coupling hypothesis is correct, then context should not influence the credit card effect and price evaluations should be consistent with Feinberg's findings. That is, the perceived value of consumer products would be higher for participants who viewed and evaluated items in the presence of a credit card symbol (CCP conditions) than for those who viewed and evaluated the items in the absence of such a symbol (CCA conditions). In contrast, if the associative learning hypothesis is correct and the credit card effect is influenced by social and economic context, the opposite finding might be expected for our New Zealand sample and participants should place less value on consumer products when credit card symbols are present. In the present study, half of the participants completed a paper version of the task (Task A) while the other half completed a computer-based version

(Task B). No differences were expected between the evaluations made with the two task types; however, the computer-based version allowed an accurate measure of response (i.e., decision) times.

Method

Participants. Eighty undergraduate students at Victoria University of Wellington participated to receive credit for their first-year psychology course. These participants were randomly assigned to either Task A ($n = 40$) or Task B ($n = 40$). Participants in each task were randomly assigned to either the credit card present (CCP) condition or the credit card absent (CCA) condition.

Apparatus

Task A. A paper catalogue with photos of 12 consumer items labeled “Consumer Products” was used for Task A. The items were a sweatshirt, bag, digital camera, toaster, DVD player, watch, lamp, dress, Walkman, stereo, Monopoly game, and painting. All items were brand-neutral and were selected because they were similar to those used by Feinberg (1986), with some updated items (e.g., DVD player, digital camera) to reflect the technological advances since Feinberg’s experiment. Each photo was presented in the middle of a white sheet of paper, with two questions written beneath the photos. The first question asked what the most distinctive feature of the item was (a distracter question) while the second question asked how much money the participant was willing to spend on the item. For participants in the CCP condition, a laminated picture of the VISA and MasterCard logos was also used.

Task B. A computer-based version of the price-evaluation task was written in VisualBasic.NET for Task B. The task consisted of 12 trials, with each trial presenting one of the consumer items in the center of the screen—the same items presented to participants in Task A. A question-and-answer box was presented beneath each picture, with an “Accept” button located beneath the answer box. In the CCP condition, a picture of four credit card logos (VISA, MasterCard, Diners Club, and American Express) was presented on the bottom left-hand corner of the screen. In the CCA condition, the bottom left-hand corner of the screen remained blank.

Questionnaires regarding prior credit card use (Appendix A) and awareness (Appendix B) were presented to all participants in Task A and Task B.

Procedure

Task A. Participants were tested individually and were led to an experimental room and seated at a table with a “Consumer Products” catalogue placed in front of them. For participants in the CCP condition, the laminated VISA and MasterCard picture was located on the upper left corner of the table. These participants were told that the credit card picture was left over from another experiment. For participants in the CCA condition, the credit card picture was absent from the desk. All participants were told that the experiment was looking at consumer attitudes towards catalogue purchasing. They read an information sheet and signed an informed consent form. Participants were instructed to view each of the catalogue items and answer

the two questions for each item. Upon completion of the catalogue task, participants were given the prior-credit-card-use questionnaire (Appendix A), followed by the awareness questionnaire (Appendix B).

Task B. Participants were tested either individually or in groups of up to 12 people, depending on the availability of participants. Participants were presented with the following instructions on the computer screen:

You will see 12 consumer items one at a time in the following catalogue. There are TWO questions to answer about each item (questions are shown at the bottom of each picture displaying the item). After you have viewed the picture, type your answer in the box beside the question. The first question asks you to identify the most distinctive feature of the item (use no more than 2 words to answer this question). The second question requires you to state how much you would be prepared to pay for the item (in dollars). Press the "ACCEPT" button once you have entered your answer. Complete the task at your own pace. Please ask now if you have any questions ... otherwise press "START" to begin.

Participants began the task by pressing the "Start" button. They were then presented with each of the 12 trials (i.e., items). For each item, participants were first asked, "What is the most distinctive feature of the product?", followed by, "Enter amount you would spend (\$)" (only enter a single amount, not a range)." Participants typed their answer into the answer box located beside the question and pressed the "Accept" button to move on to the next question or trial. The time taken between pressing the "Accept" button for the first (distracter) question and pressing the "Accept" button for the second question was recorded as a measure of response time for the price estimation.

Following the completion of the price evaluation task, participants started on the prior-credit-card-use questionnaire and the awareness questionnaire.

Results and Discussion

Means and standard deviations of the perceived values (\$) of the 12 items were calculated separately for each item across all participants for the two condition types (CCP vs. CCA) for Tasks A and B. Table 1 shows that for Task A, lower mean values were obtained on all 12 items ($M = \$108.69$) when the credit card was presented compared to when it was absent ($M = \$130.40$). Similarly, in Task B, when the credit card was present, 10 out of the 12 items had lower mean values ($M = \$113.74$) compared to when the credit card was absent ($M = \$144.94$). These effects were confirmed by paired sample t tests on the mean value of the perceived value of the items, Task A: $t(11) = 4.23, p < .05$; Task B: $t(11) = 2.23, p < .05$. In other words, price evaluations were significantly lower for participants who viewed the items in the presence of the credit card symbols compared to participants who viewed the items without credit card symbols. Furthermore, this effect was present regardless of the method of item presentation. This finding was the opposite effect to what has been reported by previous researchers (Feinberg, 1986; McCall & Belmont, 1996; McCall et al., 2004; Monger & Feinberg, 1997; Prelec & Simester, 2001; Raghubir & Srivastava, 2008), where credit cards acted as

Table 1
Perceived Mean Values and Standard Deviations for the 12 Items in Tasks A and B for Credit Card Absent (CCA) and Credit Card Present (CCP) Conditions

Item #	Item	Task A				Task B			
		CCA		CCP		CCA		CCP	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1	Sweatshirt	24.05	12.42	22.00	11.63	32.40	24.94	15.75	12.90
2	Bag	32.05	15.06	27.50	10.70	35.50	14.04	32.70	14.94
3	Camera	268.50	148.16	251.50	119.95	304.25	178.63	223.50	143.06
4	Toaster	121.05	78.27	101.25	38.93	103.25	72.73	66.45	43.84
5	DVD player	206.95	192.41	161.45	120.08	332.00	283.71	175.50	88.52
6	Watch	82.75	105.96	55.75	37.60	82.90	67.94	51.50	37.56
7	Lamp	32.10	15.70	27.75	17.51	27.60	13.19	25.70	16.02
8	Dress	25.25	14.64	21.35	11.95	16.95	8.02	25.60	25.09
9	Walkman	109.75	66.40	74.75	48.63	113.75	68.94	90.80	71.46
10	Stereo	282.70	223.92	229.00	107.65	352.88	236.99	376.00	309.40
11	Monopoly	41.50	15.48	30.75	12.49	42.35	24.87	42.90	25.54
12	Painting	338.20	434.82	301.25	651.78	295.50	287.80	238.42	203.22
	Mean (<i>SD</i>)	130.40	114.30	108.69	101.40	144.94	51.68	113.74	55.03

spending-facilitating stimuli. However, the results are still consistent with an associative learning hypothesis. That is, the negative association of credit cards with debt in New Zealand may cause credit cards to act as spending-inhibiting stimuli.

The use of a computer-based evaluation task for Task B allowed for an analysis of the speed of the participants' price-evaluation responses. Table 2 presents the means and standard deviations of the response times (in seconds) for the 12 items calculated across all Task B participants for the two condition types. Contrary to Feinberg's (1986) results, mean response times for the items were not consistently affected by the presence or absence of the credit card stimuli (8.22 s CCA vs. 7.87 s CCP). A *t* test confirmed that there was no significant effect of condition. It is not clear why reaction time was not sensitive to the experimental manipulation.

Price-evaluation data in both tasks in this study show that the effect of credit cards on spending behavior with this New Zealand student sample was different from the effect of credit cards in previous studies set in the United States. This is consistent with the associative learning hypothesis, in that credit cards may have negative associations due to the social or economic environment in New Zealand. Such associations may be formed through reports from others and in the media about increasing levels of consumer debt and difficulty repaying debt, but may also be influenced by

Table 2
*Mean Response Times and Standard Deviations (in Seconds)
 for the 12 Items for Credit Card Absent (CCA) and Credit Card
 Present (CCP) Conditions in Task B*

Item #	Item	CCA		CCP	
		M	SD	M	SD
1	Sweatshirt	10.58	5.29	10.84	5.57
2	Bag	7.73	4.28	8.02	4.13
3	Camera	12.04	7.81	9.26	5.15
4	Toaster	9.09	3.76	8.28	4.31
5	DVD player	9.26	4.87	7.88	3.90
6	Watch	10.71	8.28	6.74	4.39
7	Lamp	4.98	1.64	5.05	2.14
8	Dress	5.81	2.55	5.65	2.83
9	Walkman	7.71	2.36	7.71	3.26
10	Stereo	6.96	3.48	8.61	4.33
11	Monopoly	5.02	1.34	6.04	3.57
12	Painting	8.76	5.72	10.35	8.48
	Mean	8.22	3.25	7.87	2.70

personal experience. Analysis of the questionnaire data on credit card use indicated that 67% of the students reported owning or having owned a credit card. To determine whether personal experience had an impact on the negative credit card effect, data from all participants (Task A and Task B) were combined. The mean amount paid per item by those who had experience with credit cards was compared to the amount paid by those without personal experience. Figure 1 shows the mean value of these price estimates for each condition (credit card present vs. absent).

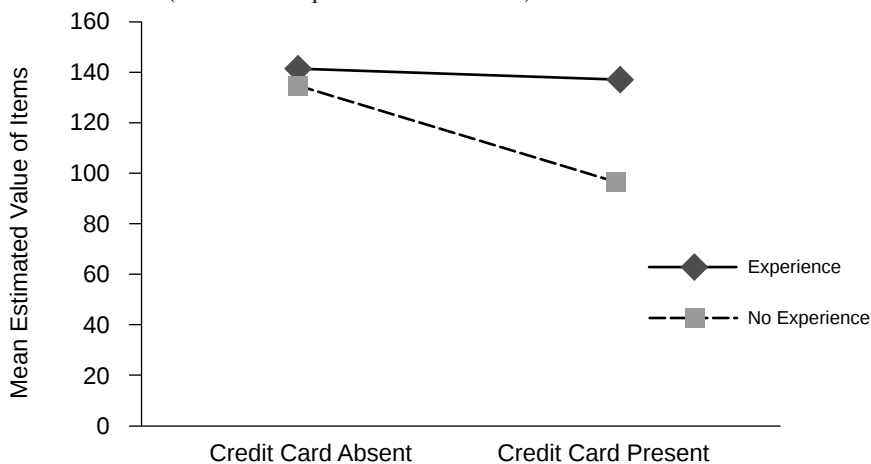


Figure 1. Mean price estimates for items obtained for participants with and without personal experience of credit cards in the credit card absent and the credit card present conditions.

As seen in Figure 1, there was little effect of experience when the credit card stimulus was not present. However, there was a notable effect when the credit card was present, participants who did not have experience perceived items as having lower value. This effect was confirmed with a *t* test, $t(11) = 2.24$, $p < .05$. This suggests a possible explanation for the negative credit card effect obtained in this study. In the absence of any personal experience where credit cards are associated with consumption, the negative connotations associated with credit cards in the media lead to negative associations with credit cards. This negative association, however, is attenuated with personal experience. It is possible that with further experience with credit card use (and, thus, positive associations with spending), the "positive" credit card effect found by Feinberg (1986) would be replicated.

Experiment 2

Researchers in both New Zealand (Boddington & Kemp, 1999) and overseas (Davies & Lea, 1995) have found that debt tolerance increases in university students with greater time spent at university. For example, Davies and Lea found increases in both the level of debt and tolerance to debt across 3 years of university study in England, with the greatest increase in tolerance from Year 2 to Year 3. Similarly, Boddington and Kemp found a positive correlation between debt and tolerance levels with New Zealand university students. Tolerance to debt increased from Year 1 to postgraduate level, with a slight decrease in tolerance after the students had left university. It is likely that students at a higher level of university study may have more personal experience with using credit cards to obtain consumer goods. The resulting positive associations could therefore attenuate any previous negative associations formed between credit cards and debt.

Task B of Experiment 1 (computer-based price evaluation task) was used in Experiment 2. It was predicted that Year 4 university students would also be willing to pay more for the consumer items when credit card symbols were present than when they were absent.

Method

Participants. Sixteen Year 4 (Honors) students were recruited with A4 posters placed on notice boards at Victoria University of Wellington and received a movie voucher for their participation. Participants were randomly assigned to either the credit card present (CCP) condition ($n = 8$) or the credit card absent (CCA) condition ($n = 8$).

Apparatus. The price evaluation task used for Task B of Experiment 1 was used in the present study. Two changes were made to the items: Item 8 (the dress) was changed to a hooded sweatshirt, and Item 12 (the painting) was changed to a coffee machine. Participants also used the questionnaire of prior credit card use (Appendix A) and the awareness questionnaire (Appendix B) that participants completed in Experiment 1.

Procedure. Participants were tested either individually or in groups of up to four. The procedure was identical to that of Task B of Experiment 1.

Results and Discussion

Table 3 presents the means and standard deviations of the perceived item values (\$) and response times (in seconds) for the 12 items calculated

across all participants for the two condition types (CCP vs. CCA). The mean perceived value for 10 of the 12 items was lower when the credit card was present ($M = \$103.02$) than when the credit card was absent ($M = \$130.02$). This was consistent with the findings from Experiment 1. A paired-sample t test performed on the means for the 12 items (see Table 3) found a significant effect of condition type on mean perceived values, $t(11) = 2.31, p < .05$. That is, Experiment 2 replicated the findings from Experiment 1 where participants who viewed and evaluated the items in the presence of credit card stimuli estimated lower values when compared to participants who viewed the items in the absence of such stimuli. As in Experiment 1, no significant differences were found in response times between the CCP and CCA conditions.

Table 3
Mean Perceived Values (\$) and Response Times(s) with Standard Deviations of the 12 Items for Participants in the Credit Card Absent (CCA) and Credit Card Present (CCP) Conditions in Experiment 2

Item #	Item	CCA				CCP			
		Value (\$)		Time (s)		Value (\$)		Time (s)	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1	Sweatshirt	18.38	12.41	15.63	6.48	13.75	5.18	14.22	5.69
2	Bag	41.25	12.46	13.42	9.34	29.38	13.74	8.53	5.35
3	Digital camera	171.25	77.72	11.64	8.87	221.25	162.26	9.35	3.89
4	Toaster	141.88	117.11	9.25	3.27	60.63	25.13	8.49	2.81
5	DVD player	212.50	91.61	9.26	4.61	226.25	171.79	6.67	3.61
6	Watch	85.00	72.31	5.72	2.52	36.25	14.82	8.48	4.40
7	Lamp	36.88	14.62	10.02	6.49	20.00	10.00	4.43	1.53
8	Hooded shirt	41.25	21.51	11.42	9.74	33.13	19.99	12.48	9.65
9	Walkman	130.00	52.10	8.07	2.87	99.38	71.64	8.98	4.70
10	Stereo	392.50	232.43	8.92	2.87	318.75	234.43	10.84	4.26
11	Monopoly	51.88	16.02	7.74	2.52	27.50	14.64	6.31	2.67
12	Coffee-maker	237.50	99.10	10.04	5.06	150.00	69.49	8.10	3.46
	Mean	130.02	68.28	10.04	5.06	103.02	67.76	8.91	4.33

Contrary to our prediction, the number of years of university study per se appeared to have little effect on the difference in price evaluations between the CCP and CCA conditions. Experiment 1 found that a lack of personal experience with credit cards resulted in a decrease in the amount paid for items in the presence of credit card stimuli. We assumed that Year 4 university students would be more likely to have personal experience with credit cards and thus might have acquired positive associations with them. Examination of the data indicated that there was a modest increase in the percentage of participants who had owned a credit card (75% in the current study compared with 67% in Experiment 1). However, despite random assignment to each condition, credit card experience was confounded with experimental condition: All participants in the CCA condition had credit card experience, but only 50% of those in the CCP condition did. Unfortunately,

asking about credit card experience prior to the experimental conditions was considered undesirable, as it may have alerted the participants to the purpose of the study. None of the 16 participants in Experiment 2 guessed the real intention of the study; thus the results did not appear to be due to any demand characteristics.

Given the confound between experience and condition, we replicated the analysis conducted in Experiment 1 to look at the effect of experience on perceived item value in the presence of the credit card. As in Experiment 1, the mean amount paid per item was compared when price estimates were obtained from those who had experience with credit cards, with the amount obtained from participants without personal experience. Table 4 shows the mean value of these price estimates for each condition (credit card present vs. absent) in the CCP condition. Also shown is the mean price estimate for the CCA condition. Again, when the credit card was present, participants without credit card experience perceived items as having lower value. This effect was confirmed with a *t* test, $t(11) = 2.48, p < .05$.

Table 4

Mean Price Estimates for Items Obtained for Participants With and Without Personal Experience of Credit Cards in the Credit Card Present and in the Credit Card Absent Conditions

Personal experience	Credit card absent ^a	Credit card present
Yes	130.02	123.12
No		82.91

^aThere were no participants present in the CCA condition who did not have personal experience with credit cards.

Overall, Experiment 2 replicated the results found in Experiment 1 and did not find the same spending-facilitating effects as Feinberg (1986) and others (McCall & Belmont, 1996; McCall et al., 2004; Monger & Feinberg, 1997; Prelec & Simester, 2001; Raghurib & Srivastava, 2008) found. Instead, we found a negative credit card effect. When combined with the findings from Experiment 1, this spending-inhibiting effect appears to be robust across two levels of university study.

General Discussion

The results from both studies demonstrated that the presence of credit card symbols affected individuals' price estimations of everyday consumer items when compared to those of individuals who performed the estimates in the absence of credit card symbols. This difference in price estimations was in the opposite direction of that found in previous research; that is, a negative credit card effect was found and credit card symbols inhibited spending. Post hoc examinations of the data in both studies indicate that this effect was present only when people did not have personal experience with credit cards.

The current results can be interpreted as supporting a classical conditioning (i.e., an associative) explanation of the credit card effect (Feinberg, 1986). In New Zealand, the classical conditioning hypothesis would predict that credit cards have acquired negative valence through repeated pairings with negative emotions portrayed in media reports and advertising campaigns. Hence, credit card logos may function as

second-order conditioned stimuli, with cautious or limited spending as the conditioned response. The finding that the presence of credit card stimuli produced significantly lower price estimations in participants who did not have personal experience with credit cards as compared to experienced participants might also be predicted from a classical conditioning explanation of the credit card effect. That is, people who have never used credit cards form negative associations through media portrayal, but subsequent personal experience with credit cards creates positive associations with consumption of goods and extinguishes those preexisting negative associations.

These ideas are consistent with the unpublished findings mentioned by Feinberg (1990). In a commentary on Hunt et al.'s (1990) paper, Feinberg reported a conference presentation by Feinberg and Meoli (as cited in Feinberg, 1990) wherein credit card stimuli were either negatively or positively conditioned. They found that negative conditioning led to reduced spending while positive conditioning resulted in increased spending (although it is unclear what the "spending response" was for this particular study). Feinberg also mentioned another unpublished study, in which students participated in the standard credit card effect experiment (Feinberg, 1986) but were also asked whether they had experienced positive or negative credit card histories. The positive credit card effect ($CCP > CCA$) was found for those who reported positive credit card histories, and the negative credit card effect ($CCA > CCP$) was found for those with negative conditioning histories.

In addition to differences in estimated values, Feinberg (1986) found that his participants' decision times were faster in the presence of credit card symbols. In the present studies, however, no significant response-time differences were found between the two condition types. This difference between Feinberg's findings and the current findings may be an artifact of the way that decision time was measured in the current study. For Feinberg's experiment, decision time was measured from the moment the image of the consumer item was presented to the participant to the time the participant decided how much he or she was willing to spend. In the present studies (Experiment 1-Task B, and Experiment 2), participants were presented with the image of a consumer item and answered a distractor question before being asked how much they would be prepared to pay. Decision time was measured from the start of this second question to when the participant had typed in a value and pressed the "accept" button. In reality, participants may have begun considering price from the moment they first saw the item, and a different outcome might have occurred if decision time was measured from when the item was first presented.

The results from the present studies highlight the fact that differences in phenomena such as the credit card effect are found in other settings that may differ in social or economic context. Although the present studies are the first to find a systematic negative credit card effect, these results are consistent with those of researchers who have suggested that the standard (positive) credit card effect is a product of the social and economic contexts in which the experiments were carried out (Feinberg, 1990). Thus, the present studies provide further support for an associative learning explanation of the credit card effect.

References

- BODDINGTON, L., & KEMP, S. (1999). Student debt, attitudes towards debt, impulsive buying, and financial management. *New Zealand Journal of Psychology, 28*, 89-93.
- COMMERCE COMMISSION. (2006). *Commission alleges price-fixing in credit card interchange fees*. Retrieved 07/11/2008, from <http://www.comcom.govt.nz/BusinessCompetition/Anti-competitivePractices/commissionallegespricefixingincred.aspx>
- DAVIES, E., & LEA, S. E. G. (1995). Student attitudes to student debt. *Journal of Economic Psychology, 16*, 663-679.
- FEINBERG, R. A. (1986). Credit cards as spending facilitating stimuli: A conditioning interpretation. *Journal of Consumer Research, 13*, 348-356.
- FEINBERG, R. A. (1990). The social nature of the classical conditioning phenomena in people: A comment on Hunt, Florsheim, Chatterjee, and Kernan. *Psychological Reports, 67*, 331-334.
- HUNT, J. M., FLORSHEIM, R. A., CHATTERJEE, A., & KERNAN, J. B. (1990). Credit cards as spending-facilitating stimuli: A test and extension of Feinberg's conditioning hypothesis. *Psychological Reports, 67*, 323-330.
- LEA, S. E. G., WEBLEY, P., & LEVIN, R. M. (1993). The economic psychology of consumer debt. *Journal of Economic Psychology, 14*, 85-119.
- MCCALL, M., & BELMONT, H. J. (1996). Credit card insignnia and restaurant tipping: Evidence for an associative link. *Journal of Applied Psychology, 81*, 609-613.
- MCCALL, M., TROMBETTA, J., & GIPE, A. (2004). Credit cues and impression management: A preliminary attempt to explain the credit card effect. *Psychological Reports, 95*, 331-337.
- MONGER, J. E., & FEINBERG, R. A. (1997). Mode of payment and formation of reference prices. *Pricing Strategy and Practice, 5*, 142-147.
- PRELEC, D., & LOEWENSTEIN, G. (1998). The red and the black: Mental accounting of savings and debt. *Marketing Science, 17*, 4-28.
- PRELEC, D., & SIMESTER, D. (2001). Always leave home without it: A further investigation of the credit-card effect on willingness to pay. *Marketing Letters, 12*, 5-12.
- RAGHUBIR, P., & SRIVASTAVA, J. (2008). Monopoly money: The effect of payment coupling and form on spending behavior. *Journal of Experimental Psychology: Applied, 14*, 213-225.
- RESERVE BANK OF NEW ZEALAND. (2008). *C12 credit card statistics: Balances outstanding, limits and interest rates*. Retrieved 07/11/2008, from <http://www.rbnz.govt.nz/statistics/monfin/c12/data.html>
- SHIMP, T. A., & MOODY, M. P. (2000). In search of a theoretical explanation for the credit card effect. *Journal of Business Research, 48*, 17-23.
- TATZEL, M. (2002). "Money worlds" and well-being: An integration of money dispositions, materialism and price-related behavior. *Journal of Economic Psychology, 23*, 103-126.

Appendix A

Prior Credit Card Use Questionnaire

- | | | |
|---|-----|----|
| 1. Do you own a credit card? | Yes | No |
| 2. If yes, in what purchasing situation do you use it most often? | | |
| 3. If not, have you ever had a credit card? | Yes | No |
| 4. Have you ever had difficulty paying off credit card debt? | Yes | No |

Appendix B

Awareness Questionnaire

1. What do you think the experiment was about?
2. What do you think the hypothesis was?
3. During the experiment, and before this questionnaire was given, what suspicions did you have (if any)?
4. Did you ever suspect that anything on the desk had something to do with the experiment?
5. If yes, how suspicious were you?

1	2	3	4	5	6	7	8	9	10
Very suspicious							Not suspicious at all		

Copyright of Psychological Record is the property of Psychological Record and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.