

## **Spending Behavior and Rewards**

by

Kelly Gowen

Submitted to the Department of Economics

School of Social Sciences

in partial fulfillment of the requirements

for the degree of Bachelor of Arts

Purchase College

State University of New York

[05] [2019]

Sponsor: [Cedric Ceulemans]

Second Reader: [Meagan Curtis]

**Table of contents**

Abstract .....	3
Introduction.....	4
<b>Section 1: Literature Review.....</b>	<b>5</b>
A. Punishment and Rewards.....	5
B. Loyalty Programs.....	10
C. Credit Cards.....	13
<b>Section 2: Data and Method.....</b>	<b>14</b>
<b>Section 3: Results.....</b>	<b>16</b>
<b>Section 4: Discussion/Limitations.....</b>	<b>19</b>
Conclusion.....	21
References.....	22
<b>Appendix.....</b>	<b>26</b>
A. Survey Questions.....	26

### Abstract

This paper examined how spending behavior is affected by rewards and various traits like the preference for candy, preference for gift cards, time-preference, income levels, gender, and age. Candy was used as the small short-term reward, and the chance to win a \$25 Amazon gift card was used as the potential future reward. Participants were recruited from SUNY Purchase economics and psychology classes and were given 10 raffle tickets, as each raffle ticket could be spent on either a piece of candy or on a chance to win the gift card. Half of the participants received an additional incentive to spend all their raffle tickets on candy; they received a giant chocolate egg if they spent everything on candy. The control condition was not provided with an incentive to spend all their tickets on candy. The experiment found the short-term incentive condition did not have a significant effect on spending, and none of the various traits had any effect on spending. However, more data are necessary to make any conclusions, due to small sample size, about the importance and effectiveness of rewards when it comes to spending.

## Spending Behavior and Rewards

Spending behavior is doing more or less of something or spending in the market.

Punishment and reward have been a key area that affects spending behavior, with punishment making people do less of a certain behavior and reward making people do more of one. This study will look at how punishment and reward affect spending behavior. The hypothesis is that reward will give people an incentive to spend more. This research is important because everything from loyalty programs to general rewards for spending can be affected by how effective reward is, if it's even effective at all.

The study looks at the question of how do different types of rewards influence spending habits. It looks at different conditions that could affect spending behaviors from socio-economic status, to preferences in rewards, to gender, to how time preference changes spending behavior.

There are three categories that the articles fall into. The first one is punishment and reward where there's punishment or reward for spending and consumption habits. These habits don't have to use actual spending of money, as consumption comes in many forms, like weight loss habits and consuming food and participation of one's time. Then the second category is loyalty programs that give rewards for continued patronage of a service, encouraging people with rewards to buy more. Then the last category are credit cards.

## **Section 1: Literature Review**

### **Punishment and Rewards**

Punishment and reward decisions fall under two categories, spending in the market with consumer spending, and whether people will do less of more of something in response, behavioral effects. Consumer spending is spending in the market, the market of goods and services in GDP, while behavioral effects are spending in either experiments or with personal achievements and measures with things like weight loss. These behavioral effects fall into two sub-categories, monetary and lifestyle spending. Monetary spending will be the spending of money, such as in game theory experiments found below and lifestyle spending is whether people dedicate their time to something, like in the exercise experiments found below.

The studies look at how rewards and punishments affect spending decision-making under various conditions. As mentioned before, they look at weight loss, spending in the market, cigarette use, and game theory experiments. All the studies dealing with punishment found that it was effective and more effective than reward, while reward had mixed results about its effectiveness.

Punishment and reward can influence people's spending decisions and Kubanek's study looked at how people were cognitively affected by the behavioral economic uses of the carrot and stick, or reward and punishment. How he did this was he had people click left or right to earn money, and if they clicked in the wrong direction, they lost money. He used how often people clicked in the same direction after punishment and reward to find how strongly they were affected. What he found was that people reacted to punishment were more likely to click in the opposite direction for punishment than click in the same direction for reward (Kubanek, Snyder, & Abrams, 2015)

To investigate how punishment and reward, as stated before, affected behavior on habit-making this time, participants were put in either a lottery study, a deposit contract condition, or a control condition. The lottery condition was the possibility of reward and the deposit contract is the punishment, as people can lose cash or valuables in studies with the deposit contract. These two conditions were used to incentivize participants to increase their exercise habits in the span of 16 weeks and each month participants were rewarded \$0-\$3.00 if they met their goal and punished \$0-\$3.00 if they didn't meet them. What Volpp found was that participants in the deposit contract condition exercised more than both the lottery and control conditions in the short run. (Volpp et al. 2008).

Another study contradicts that deposit contracts do lead to habit formation, as they found that when they measured participants under both these conditions years later, a significant number of people who were rewarded kept exercising, and some of the people who were punished kept exercising as well. (Royer, Stehr, and Synder 2015).

Punishment was found to be effective but only for a limited period, as it got people to exercise more but not over years as found in Royer's study.

Punishment and rewards don't only affect habit-making though, as spending decisions can be affected as well in game theory experiments, where people exchanged and donated money to a group, or chose to keep that money for themselves. One study looked at these different effects of the carrot and the stick, otherwise known as reward and punishment, by seeing if people cooperate better under the carrot condition, the stick condition, or the condition with both. He used a proposer-responder game where participants have the option to only punish, reward, or either punish or respond the other participant for 5 cents, based on how much money they gave to the group. People were the least cooperative to give money in the carrot condition, more

cooperative in the punishment condition, and the most cooperative in the carrot-and-stick condition. (Andreoni, Harbaugh, and Vesterlund 2003).

One of the alternative factors that can affect spending is if the participants of the study make the rules of punishment and reward or the experimenters do. The study found that participants in the study who made the punishment and reward rules were more involved in giving money to the group, rather than participants who didn't make the rules (Sutter, Haigner, and Kocher 2010).

Also, people who receive the punishment or reward aren't the only ones that can be affected either. As one study looked at if participants demanded more punishment and reward when punishment and reward are separate options, or if they're demanded more when participants can choose either the carrot or stick. They found people spent money to punish more when they only had a carrot or stick as an option and spent money less when the carrot and stick were packaged together (Nikiforakis and Mitchell 2014).

Also not are only habits and spending decisions affected when people were rewarded or punished, but work ethic is as well. This was on a scale according to the amount of money they spent for the group, compared to only the biggest contributor not getting punished or getting rewarded. What they found was that participants were motivated to work harder, by contributing more money to the public goods game, together and slack off less when punishment was available than when only reward was available. Reward worked better when people were rewarded for their effort, rather than when the biggest contributor was rewarded. The biggest contributor also contributed more money to everyone when the distance of reward or punishment between them and everyone else was the greatest. This study showed that the amount people

were paid for contributing compared to everyone else affected the amount they contributed in the study. So, variation in punishment and reward matters (Dickinson 2001).

There's also experimental data done in labs that look at punishment and reward's effect in a controlled setting instead of an outside environment like in the exercise experiments. One example of punishment and reward comes from Wilcox, Block, & Einstein where they talk about how they did 4 experiments to see if people with high self-control spend more when they have a balance than with people with low self-control. They put a balance on some people's money, and they found that people with high self-control will spend more with that balance than anyone with low self-control would, unless their income increased. (Wilcox, Block, & Einstein, n.d.)

Then the effect of emotions on the effectiveness of reward were looked at as well. With emotions influencing the effectiveness of rewards, and that rewards that were directly related to the product were more effective (i.e. a reward for the laundromat in the laundromat compared to a reward for a shopping mall in a laundromat). They gave people accounts of negative or positive experiences with a service, like a restaurant, and then they gave people indirect or direct products, and had the participants receive the product immediately or after a delay. They found that direct products always worked better, that immediate gifts made people more loyal to the product when they were dissatisfied, and that delayed products had people become more loyal to the product when they were satisfied. (KEH & LEE, 2006)

Then punishment can affect consumer spending as well, with debt burden per household affects consumer spending. Consumer loans debt didn't affect consumer spending, but total loans did, decreasing consumer spending by 8% on average. This article shows that debt decreases consumer spending. (Murphy, 1998)

What these studies in punishment and reward find is that people will avoid punishment generally, and usually try to get rewarded for their actions, to the point that they'll spend more when they're rewarded for their actions, at least in the United States.

## **Loyalty Programs**

Then there's loyalty programs where people are given rewards for their patronage. These articles will be talking about what does and does not contribute to loyalty. These articles look at things from people's spending behaviors under these loyalty programs to what are the most effective strategies to get people to spend under these supermarket loyalty programs. These studies look from attractiveness of reward determining share of the wallet, to the different features of a loyalty program, to how mood affects the effectiveness of reward, as well as how personalized the loyalty program would be affecting the effectiveness of the program.

The studies where loyalty programs are in the United States found that personalized advertising was more effective in getting people to stay loyal to credit cards, that reward cards have shorter retention rates, but there was an increased rate of shopping. The authors of the article say that the reward cards probably have lower lifetimes and increased shopping due to interest rates, as people seem to drop them before they're due. Also, profitability with long-term use was weak and they took longer to use the card compared to the shoppers who would instantly use a reward card and would use that often until they dropped it. (M. Steffes, Murthi, & Rao, 2008), then it includes where they looked at how delayed rewards vs non delayed rewards affect consumers, which was mentioned earlier, then it includes (Wirtz, Mattila, & Lwin, 2007) which was also mentioned earlier.

The next article also looks at the effects of rewards with loyalty programs and looks at if customers are actual loyal to one program. Experimenters show through a review of previous experiments and studies observing consumer behavior that customers are generally not loyal to one program, with only 10% of shoppers who don't shop much being 100% loyal to the program, and that the larger the program is the more "loyal" customers they'll have by default of being so

big. There are exceptions with niches, super-loyalty brands, and big brands without much loyalty. Also rewards seem to make a product good if there's good incentives, but once those incentives are taken away it becomes a bad product in the eyes of a consumer. It argues that loyalty programs are only effective in getting loyalty to the product when there's a good deal. (Uncles, n.d.)

Experimenters also looked at different attributes of loyalty programs and defined them: including privacy information, cost of participation, how often they purchase from the store, specificity and exclusivity of the program, effort to get rewarded, receiving hard and soft benefits, how multi-vendor vs single vendor effects the program, and how the unlimited-ness vs limitedness of a program effects loyalty. They found the first five ideas to work with multi-vendor-ness not affecting results, with information alone not being enough for customers, and getting a combination of immediate and delayed benefits and rewards to be effective. So consumers don't want to give out privacy information, they don't want to put in effort to participate. Usually people who are more frequent buyers will get loyalty programs, being specific to the customer is effective. They want instant benefits and delayed benefits, and they want the program to go on forever, but participation benefits and costs accounted for more than 70% of importance to consumers. This study was done by survey with a Likert scale. (Wulf, Odekerken-Schröder, Cannière, & Oppen, 2003)

Then loyalty programs were looked at through the lens of card usage, to see if people use a card more or less with how attractive it is. They found that the attractiveness of the reward programs affected how much consumers used that card, with low attractiveness having a lower share of the wallet and higher attractiveness having a higher share of the wallet. Also, costs of switching only mattered when people had a low loyalty to the card and a high attractiveness of

the new reward program. Costs of switching didn't matter if they already were loyal to a card. This study had people do surveys, rating their cards from most attractive to least, how much they used them, and the attractiveness of these new programs. This study is part of reward and punishment because it shows that customers are more likely to use a card with high rewards for spending than low reward cards. (Wirtz, Mattila, & Lwin, 2007)

One article mentioned before found that immediate and direct rewards help when a customer is dissatisfied with their product, but delayed rewards help gain loyalty over time when they're satisfied with the product. (KEH & LEE, 2006)

## **Credit Cards**

The spending under credit card programs section is shorter looking at how people's spending behaviors are affected by different personality traits, like self-control levels or time preference levels. Self-control is self-explanatory as it looks at how well a person can control their own actions and time preference levels look at if people prefer the future or the present and how that will affect people's spending behaviors.

There are credit card programs in the US as well with one example again from Wilcox, Block, & Einstein where they talk about how they did 4 experiments to see if people with high self-control spend more when they fail then with people with low self-control. As found before, people with high-self-control spend more than people with low self-control do.

One experimenter looked to see if time-preference affected compulsive buying habits on a credit card given to participants. With the hypothesis that a time-preference for the future would deter compulsive buying and a time-preference for the present would enforce it. They found that a time-preference for the present made people more likely to engage in compulsive shopping than people who had a future time-preference. They also found that females engaged in compulsive shopping more than males, anxiety and power and prestige also increased compulsive shopping behaviors. (Norum 2008)

## **Section 2: Methods**

For the experiment, participants will be given a consent form and a survey to fill out based on patience levels, age, gender, income levels, candy preferences, and gift card preferences. There will be 10 candy dollars made from paper for the participants to use. The candy dollars will be used for either candy or a lottery for two candies and a chance at receiving a \$25 amazon gift card two weeks after the experiment. One candy dollar can be used either for one candy or for one raffle ticket, which participants will write their number on. Participants will be notified of winning or losing. Then, in one group they would be rewarded with one extra-large candy for spending all their candy dollars and the other group will not have that reward as an option. This is to see if reward influences spending behavior.

### **Descriptives ▾**

#### Descriptive Statistics

	Age	Short-term vs long term	Candy	Gift Card	Tickets for Giftcard
Valid	49	49	49	49	50
Missing	2	2	2	2	1
Mean	24.12	4.918	5.347	6.612	8.080
Std. Deviation	13.02	1.644	1.653	1.115	3.522
Minimum	18.00	1.000	1.000	1.000	0.000
Maximum	87.00	7.000	7.000	8.000	10.00

Figure 1.01 Descriptive Statistics

The experiment took people from Purchase College in economics and psychology classes. There were only men and women and the majority of people were Caucasian and young, with the exception of two senior citizens who participated in the study. The ages ranged from 18-87. Then the experiment found these means and data points had a mean of 24.12 for age, a short-term vs. long-term preference of 4.918, meaning most people were moderately patient, a candy score of 5.347, meaning most people moderately wanted candy, a score of 6,612 for the gift card

meaning most people really wanted a free amazon gift card. And the tickets for the gift card being 8 out of 10, meaning most people spent their tickets in the hopes of winning the raffle rather than receiving candy.

### **Section 3: Results**

There were multiple Anovas and one t-test done to see the effects of different variables on spending. One Anova done was to see if there was a significant effect of gender on spending habits with raffle tickets. The theory was that gender and income level would change spending habits. What was found was that even though gender approached significance, it didn't quite reach significance when it came to its effects on income.

ANOVA - Tickets for Giftcard

Cases	Sum of Squares	df	Mean Square	F	p	$\eta^2$
Gender	43.53	1	43.53	3.651	0.062	0.072
Residual	560.39	47	11.92			

Note. Type III Sum of Squares

Figure 1.02 Gender Anova

#### **Marginal Means**

Marginal Means - Gender

Gender	Marginal Mean	SE	Lower CI	Upper CI	t	p
Female	9.278	0.814	7.640	10.915	11.40	< .001
Male	7.323	0.620	6.075	8.570	11.81	< .001

Figure 1.03 Marginal Means Gender

#### **Descriptives ▼**

Descriptives - Tickets for Giftcard ▼

Gender	Mean	SD	N
Female	9.278	1.406	18
Male	7.323	4.190	31

Figure 1.04 Gender Descriptives

Then there's the paired t-test to see if the egg condition affects spending behavior. The egg is a big piece of chocolate that is offered to participants that they can only receive if they spend everything on candy. Half the participants were given the chocolate egg to choose from and half were not. The result was that a big reward did not significantly affect people's spending habits even though the means show the candy egg affecting people's spending habits in the expected direction, by making them spend candy more.

### T-Test

#### Independent Samples T-Test

	t	df	p	Mean Difference	SE Difference	Cohen's d
Tickets for Giftcard	1.045	48.00	0.301	1.040	0.995	0.296

Note. Student's T-Test.

Figure 1.05 Egg T-Test

### Descriptives ▼

#### Group Descriptives ▼

	Group	N	Mean	SD	SE
Tickets for Giftcard	0	25	8.600	3.317	0.663
	1	25	7.560	3.709	0.742

Figure 1.06 Descriptives Egg

Then there's the correlation matrix of personality traits, which basically looks at how personality traits would affect spending decisions. The personality traits are patience levels, candy preference, and gift card preference. Candy measures how much a person would be happy receiving free candy on a scale from 1 (really dislike) to 7 (really like). Then Gift Card measures how happy a person would be receiving a gift Card from a scale of 1 (really dislike) to 7 (really like). Everything with a star had a significant effect and what was found was that the short-term

versus long term preference was significantly correlated with candy preference, in other words, the more impatient a person was the more likely they were to like candy. Then it also found that candy preference significantly correlated with gift card preference, so the more a person liked candy the more a person liked gift cards. Then, the last significant correlation was the more people liked the gift card the more likely they'd choose to spend their raffle tickets on the gift card.

### Correlation Matrix

#### Pearson Correlations

		Short-term vs long term	Candy	Gift Card	Tickets for Giftcard
Short-term vs long term	Pearson's r	—	-0.411**	0.005	0.015
	p-value	—	0.003	0.972	0.919
Candy	Pearson's r		—	0.414**	-0.066
	p-value		—	0.003	0.650
Gift Card	Pearson's r			—	0.373**
	p-value			—	0.008
Tickets for Giftcard	Pearson's r				—
	p-value				—

\* p < .05, \*\* p < .01, \*\*\* p < .001

Figure 1.07 Correlation Matrix

#### **Section 4: Discussion/Limitations**

The theory from the literature above states that gender, patience, self-control, and rewards will all influence spending behaviors. (Dickinson 2001; KEH & LEE, 2006; M. Steffes, Murthi, & Rao, 2008; Norum 2008; Wilcox, Block, & Einstein, n.d.; Uncles, n.d.; Wirtz, Mattila, & Lwin, 2007; Wulf, Odekerken-Schröder, Cannière, & Oppen, 2003) What the experiment found that gender had a non-significant effect, contradicting the literature that said that it did affect spending behavior. However, it was close to a significant effect, with men spending more than women on average, contradicting the literature that said that women spent more than men on average. Then the experiment also found that time-preference, which was found in the literature to affect spending behavior making people buy more compulsively, was not found to influence spending behavior in the experiment. But it did have a correlation with candy preference even though people didn't spend more on candy. (Norum 2008; Mattila, & Lwin, 2007) Then the literature had contradicting evidence of the effectiveness of reward at changing spending behavior and habits. Despite the contradicting evidence in the literature about the effectiveness of reward, the theory was that reward would affect spending behaviors. (Volpp et al. 2008; John et al. 2011; Giné, Karlan, and Zinman 2010; Royer, Stehr, and Synder 2015; Wysocki et al. 1979; Andreoni, Harbaugh, and Vesterlund 2003; Sudarshan 2017; Dickinson 2001; KEH & LEE, 2006; M. Steffes; Murthi, & Rao, 2008; Wilcox, Block, & Einstein, n.d.; Uncles, n.d.; Wirtz, Mattila, & Lwin, 2007; Wulf, Odekerken-Schröder, Cannière, & Oppen, 2003) However the theory with reward affecting behaviors was not supported by the experiment. As people didn't spend significantly more on candy when there was an extra reward than the people without the reward. Showing that reward didn't significantly affect spending behaviors. Problems with the experiment included not everyone participating, people participating together

due to time constraints, and things like hunger that were not measured that probably affected the results.

## **Conclusion**

Time preference, candy preference, and gift card preference, as well as the chocolate egg, did not influence spending behaviors. There are other factors that could have affected the results such as the misunderstanding of the income being household or personal income. The fact that the experiment was done in groups adding peer influence into the mix of the experiment. Then there was the fact that the reward condition was a chocolate egg and not everyone likes chocolate so they might have been disincentivized by the reward. And the fact that the experiment was done at different times of day, with hunger possibly being a contributing factor to what people would choose.

There's also a lack of probability calculating of winning that could be involved in why people made the decisions they did and why the gift card had a much stronger effect than anticipated. If the experiment was to be redone then it should include categories of hunger, separating people to get rid of peer pressure, and a clearer definition of income for any experiment to come of this nature as income was not able to be measured due to conflicting definitions for people. The experiment also saw that the gift card had a much stronger effect than anticipated, overpowering the effect of candy.

So overall, the experiment found that nothing significantly affected spending decisions and that this may be due to the worth of the gift card outweighing the worth of the candy so much so that any smaller differences that might have been shown are not shown in this experiment. In order to see an effect, the rewards might have to be more even.

## Bibliography

Abdul-Muhmin, A. G., & Umar, Y. A. (2007). Credit card ownership and usage behaviour in Saudi Arabia: The impact of demographics and attitudes toward debt. *Journal of Financial Services Marketing*, 12(3), 219–234. <https://doi.org/10.1057/palgrave.fsm.4760074>

Andreoni, J., Harbaugh, W. T., & Vesterlund, L. (2003). The Carrot or the Stick: Rewards, Punishments and Cooperation. *SSRN Electronic Journal*.  
<https://doi.org/10.2139/ssrn.436500>

Brettel, M., & Spilker-Attig, A. (2010). Online advertising effectiveness: A cross-cultural comparison. *Journal of Research in Interactive Marketing*, 4(3), 176-196.

doi:<http://ezproxy.purchase.edu:2111/10.1108/17505931011070569>Nguyen, B., Simkin,

Chye Koh, H., Gan, L. L., & Maysami, R. C. (2008). Singapore credit cardholders: ownership, usage patterns, and perceptions. *Journal of Services Marketing*, 22(4), 267–279.  
<https://doi.org/10.1108/08876040810881678>

De Cnudde, S., & Martens, D. (2015). Loyal to your city? A data mining analysis of a public service loyalty program. *Decision Support Systems*, 73, 74–84.  
<https://doi.org/10.1016/j.dss.2015.03.004>

Dickinson, D. (2001). The Carrot vs. the Stick in Work Team Motivation - ABI/INFORM Collection - ProQuest. *Experimental Economics*, 4(1), 107–124.

Kara, A., Kaynak, E., & Kucukemiroglu, O. (n.d.). An empirical investigation of US credit card users: Card choice and usage behavior - ScienceDirect. Retrieved September 28, 2018, from <https://www.sciencedirect.com/science/article/abs/pii/S0969593196000066>

on credit card spending. (2004, 05). *Credit Management*, , 13. Retrieved from <http://ezproxy.purchase.edu:2048/login?url=https://ezproxy.purchase.edu:4131/docview/228363029?accountid=14171>

KEH, H., & LEE, Y. (2006). Do reward programs build loyalty for services? The moderating effect of satisfaction on type and timing of rewards. *Journal of Retailing*, 82(2), 127–136. <https://doi.org/10.1016/j.jretai.2006.02.004>

Kubaneck, J., Snyder, L. H., & Abrams, R. A. (2015). Reward and punishment act as distinct factors in guiding behavior. *Cognition*, 139, 154–167. <https://doi.org/10.1016/j.cognition.2015.03.005>

Liu, Y. (2007). The Long-Term Impact of Loyalty Programs on Consumer Purchase Behavior and Loyalty. *Journal of Marketing*, 71(4), 19–35. <https://doi.org/10.1509/jmkg.71.4.19>

L., & Chang, K. (2014). Customer engagement planning emerging from the “individualist-collectivist”-framework: An empirical examination in China and UK. *Marketing Intelligence & Planning*, 32(1), 41–65. <https://doi.org/10.1108/MIP-11-2012-0130>

M. Steffes, E., Murthi, B. P. S., & Rao, R. C. (2008). Acquisition, affinity and rewards: Do they stay or do they go? *Journal of Financial Services Marketing*, 13(3), 221–233. <https://doi.org/10.1057/fsm.2008.17>

Meyer-Waarden, L. (2008). The influence of loyalty programme membership on customer purchase behaviour - ABI/INFORM Collection - ProQuest. *European Journal of Marketing*, 42(1), 87–114. <https://doi.org/10.1108/03090560810840925>

Murphy, R. G. (1998). Household Debt and Consumer Spending. *Business Economics*, 33(3), 38–42

Norum, Pamela. 2008. "The Role of Time Preference and Credit Card Usage in Compulsive Buying Behaviors" *International Journal of Consumer Studies* 32: 269–75.

Nikiforakis, N., & Mitchell, H. (2014). Mixing the carrots with the sticks: third party punishment and reward. *Experimental Economics; New York*, 17(1), 1–23.

<http://dx.doi.org/10.1007/s10683-013-9354-z>

Odekerken-Schröder, G., Pauwels, P., & Noordhoff, C. (2004). The effect of customer card programs: A comparative study in Singapore and The Netherlands. *International Journal of Service Industry Management*, 15(4), 351–364. <https://doi.org/10.1108/09564230410552040>.

Patterson, P. G., & Smith, T. (2003). A cross-cultural study of switching barriers and propensity to stay with service providers. *Journal of Retailing*, 79(2), 107–120.

[https://doi.org/10.1016/S0022-4359\(03\)00009-5](https://doi.org/10.1016/S0022-4359(03)00009-5)

Rinaldi, L. (2001). Payment Cards and Money Demand in Belgium.

Sadiq Sohail, M., Alias, H., Tabsh, I., Ismail, I., & Ahmed, Z. U. (2010). Malaysian consumers' credit card usage behavior. *Asia Pacific Journal of Marketing and Logistics*, 22(4), 528–544. <https://doi.org/10.1108/13555851011090547>

Sutter, M., Haigner, S., & Kocher, M. G. (2010). Choosing the Carrot or the Stick? Endogenous Institutional Choice in Social Dilemma Situations. *Review of Economic Studies*, 77(4), 1540–1566.

Royer, H., Stehr, M., & Synder, J. (2015). Incentives, Commitments, and Habit Formation in Exercise: Evidence from a Field Experiment with Workers at a Fortune-500 Company - ABI/INFORM Collection - ProQuest. *American Economic Journal: Applied Economics*, 7(3), 51–84.

Steyn, P., Pitt, L., Strasheim, A., Boshoff, C., & Abratt, R. (2010). A cross-cultural study of the perceived benefits of a retailer loyalty scheme in Asia. *Journal of Retailing and Consumer Services*, 17(5), 355–373. <https://doi.org/10.1016/j.jretconser.2010.03.017>

Uncles, G. R. D. and M. (n.d.). Do Customer Loyalty Programs Really Work? Retrieved September 28, 2018, from <https://sloanreview.mit.edu/article/do-customer-loyalty-programs-really-work/>

Volpp, K. G., John, L. K., Troxel, A. B., Norton, L., Fassbender, J., & Loewenstein, G. (2008). A randomized controlled trial of financial incentives for weight loss. *JAMA : The Journal of the American Medical Association*, 300(22), 2631–2637. <https://doi.org/10.1001/jama.2008.804>

Wilcox, K., Block, L., & Einstein, E. (n.d.). Leave Home Without It? The Effects of Credit Card Debt and Available Credit on Spending | Columbia Business School Research Archive. Retrieved September 28, 2018, from <https://www8.gsb.columbia.edu/researcharchive/articles/5688>

Wirtz, J., Mattila, A., & Lwin, M. (2007). How Effective Are Loyalty Reward Programs in Driving Share of Wallet? *Journal of Services Research*, 9, 327–334. <https://doi.org/10.1177/1094670506295853>

Wulf, K. D., Odekerken-Schröder, G., Cannière, M. H. de, & Oppen, C. V. (2003). What Drives Consumer Participation to Loyalty Programs? *Journal of Relationship Marketing*, 2(1–2), 69–83. [https://doi.org/10.1300/J366v02n01\\_05](https://doi.org/10.1300/J366v02n01_05)

Appendix A.

Demographic questionnaire

Participant ID # \_\_\_\_\_

1. Age \_\_\_\_\_

2. Gender \_\_\_\_\_

3. Do you have any sensitivities to ingredients commonly found in candy, such as sugar, nuts, or chocolate?

Yes            No

If yes, please explain below.

4. Please select your personal annual income level:

\_\_\_\_\_ less than \$20,000

\_\_\_\_\_ \$20,001 to \$40,000

\_\_\_\_\_ \$40,001 to \$60,000

\_\_\_\_\_ \$60,001 to \$80,000

\_\_\_\_\_ \$80,001 to \$100,000

\_\_\_\_\_ above \$100,000

5. Please indicate your agreement with the following statements, on a scale from 1-7:

a. I am usually able to resist short-term pleasure if it will help me achieve a larger, long-term personal goal.

Strongly disagree

Strongly agree

1      2      3      4      5      6      7

b. I would be very happy if someone offered me free candy.

Strongly disagree

Strongly agree

1      2      3      4      5      6      7

c. I would be very happy if someone offered me a free \$25 Amazon gift card.

Strongly disagree

Strongly agree

1      2      3      4      5      6      7