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Not All Debt Is Created Equal: On the Mental Accounting of Debt Forms

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NOT ALL DEBT IS CREATED EQUAL:
ON THE MENTAL ACCOUNTING OF DEBT FORMS

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Abstract

Normatively, financing decisions should depend on the associated economic costs and benefits. However, this work builds on the mental accounting research to suggest that debt forms that are virtually identical in function (e.g., loans, lines of credit) can be represented quite differently in consumers' minds. In particular, we suggest that differences in the way that credit is marketed relative to loans influences the extent to which consumers' mentally represent "credit" as money to be repaid (vs. money to be spent). These differences in mental representations are consequential, influencing willingness to incur debt and concerns about debt repayment. Moreover, we show that the debt form can be more impactful than key economic factors such as interest rates and can therefore lead to suboptimal borrowing decisions. Marketing interventions aiming to encourage more responsible credit card usage and curb excessive credit card spending are proposed and tested.

Keywords (4-5): debt, economic psychology, financing, financial decision making, mental accounting

In March 2018, Americans' revolving debt reached over 1 trillion, most of which was credit card balances. At the individual level, 44% of Americans have credit card debt, with an average outstanding balance of \$6,600 (Kopf 2019). Many of these consumers view their credit card borrowing as burdensome, with one out of eleven Americans who have credit card debt believing that they will never be free of that debt (Tsosie and El Issa 2018). These statistics raise questions about the antecedents of credit card debt incurrence. Normatively, financing decisions should depend on the economic costs and benefits of borrowing. If so, consumers should be particularly averse to credit card debt, as it often has higher interest rates than other forms of debt (Jayakumar 2017). Accordingly, the current work extends beyond trying to understand purely economic factors, examining whether differences in consumers' psychological perceptions about debt forms contribute to credit card debt.

We investigate mental representations of debt and how consumers may mentally represent financing in the form of "credit" differently from structurally similar financing options such as loans. Although both debt forms offer a liquidity component and a repayment component, we suggest that systematic marketing differences between credit cards and loans may contribute to differences in mental representations, with credit being less likely to be represented as money owed and more likely to be represented as money to be spent. That is, we propose that these two debt forms vary in the extent to which they are marketed to consumers and mentally represented by consumers as "debt" (money owed). We use this conceptualization to better understand credit usage and repayment, and to develop interventions that may mitigate costly financial decisions.

We provide evidence that financing in the form of credit is less readily perceived as debt using multiple methods and measures including consumers' automatic associations, Google

search queries, visual perceptions, stated beliefs, and projective techniques. We further demonstrate the consequences of this difference in mental representation, showing that consumers are more interested in applying for financing and more interested in using financing when it is in the form of credit (i.e., a credit card or a line of credit) rather than a loan. We further show that consumers are less concerned about repaying debt in the form of credit, even when credit is more costly than loans. Importantly, these effects persist even when potential differences between credit and loans that may occur in the real world are held constant (e.g., cost and effort of applying, revolving nature, the intended expenditure, interest rates, ease of use). Moreover, our results demonstrate that this mental representation can be more influential than key economic factors such as interest rates. Finally, with an understanding of how consumers mentally represent debt, we designed two interventions that significantly reduce consumers' propensity to incur costly debt in the form of credit. Managerial and policy implications are discussed.

THEORETICAL DEVELOPMENT

Previous Research

Normatively, borrowing and repaying money should depend on the economic benefits and costs—that is, the benefits of receiving capital now in light of the costs of borrowing such as interest rates and accessibility (e.g., Gross and Souleles 2002; Kim and DeVaney 2001; Soman and Cheema 2002). This normative perspective suggests that the form of the debt instrument should have no bearing on consumers' use of debt. While research has found that economic factors indeed influence borrowing propensity, mental accounting research demonstrates that

people treat money differently depending on aspects such as the money's origin and its intended use. For example, people spend differently when they receive money as a windfall as opposed to other types of earnings or assets (Arkes et. al, 1994).

More directly related to the current research, the mental accounting literature shows that different payment forms can influence consumer behavior and change the types of purchases people make (e.g., Hirschman 1982; Prelec and Simester 2001; Raghurir and Srivastava 2008; Soman 2001; Thomas, Desai, & Seenivasan, 2011). For example, compared to using cash, using credit cards increases consumers' focus on the benefits of their expenditures, increases willingness to spend, and can lead to more indulgent purchases (Chatterjee and Rose 2012; Feinberg 1986; Hirschman 1979; Shah et al. 2016; Thomas, Desai, & Seenivasan, 2010).

Importantly, this existing research has focused almost exclusively on understanding consumers' available assets (e.g., cash, checks, tokens, gift cards), conceptualizing credit cards as a substitute for cash (i.e., repayment without interest), and often grouping credit cards with debit cards. Moreover, this existing research centers on explanations that are specific to differences between cash versus card transactions that would not predict differences between financing using credit versus loans. Specifically, previously documented credit card versus cash effects tend to focus on one of two explanations. The first explanation draws upon features of using and physically parting with cash. Using cash requires consumers to count and transfer dollar bills, encouraging rehearsal and salience of asset depletion (e.g., Raghurir and Srivastava 2008; Soman 2001; Soman 2003). This explanation suggests that credit card versus cash effects are mainly due to an aversion to parting with cash. The second explanation pertains to differences in payment decoupling, whereby credit cards and debit cards offer the ability to make purchases in the present and pay for them later. That is, this explanation suggests that consumers

receive greater consumption utility from a purchase using a credit card because they can enjoy the benefits of their purchase before the funds are actually removed from their account (e.g., Prelec and Loewenstein 1998; Thaler 1999; Tokunaga 1993). Notably, payment decoupling is the hallmark of all debt forms and is thus held constant for financing using credit and loans. Therefore, the existing research is silent regarding whether consumers will respond differently to financing in the form of credit as compared to loans. Given the prevalence of credit card financing, we believe it is important to not just understand credit cards as a payment mechanism, but as a financing mechanism as well.

The Current Research

We propose that some debt forms feel more like “money owed” than others. When incurring debt, there are both positive outcomes (e.g., the ability to achieve one’s consumption goals in the near future) and negative consequences (e.g., the need to repay with interest). Though the repayment aspect is constant across different debt forms, consumers may be more likely to focus on the fact that they owe money (and need to repay money) for some debt forms than others. Specifically, we suggest that financing in the form of credit is less likely to be represented as money owed (vs. to be spent), compared to financing in the form of loans. We draw upon previous research examining obligations and how similar types of obligations can vary in the extent to which they contribute to feelings of indebtedness.

In general, indebtedness is an aversive state; people view obligations as unfavorable and burdensome (Goei, Lindsey, Boster, Skalski, and Bowman, 2003). Feeling obligated can reduce one’s sense of perceived autonomy and evoke unpleasant psychological and physiological responses (Goei and Boster 2005; Greenberg and Shapiro 1971). One of the reasons obligations are aversive is because people dislike feelings of imbalance and the idea of owing someone.

However, prior research in the social exchange literature suggests that people can perceive the same benefits they receive as more or less of an obligation (Bar-Tal et al. 1977; Converse and Fishbach 2012). This prior work underscores the idea that several factors influence the extent to which obligations make people feel indebted, and support the notion that not all obligations are perceived in the same way.

In the current work, we suggest that differences in marketing communications contribute to consumer perceptions of different debt forms as more or less of an obligation. Braun 1999; Jaworski and MacInnis 1989; Moorman and Rust 1999; Vakratsas and Ambler), and we suggest that systematic differences in marketing communications across forms of credit and loans lead consumers to perceive credit as less of an obligation, compared to loans.

The most common lines of credit used by consumers are credit cards. From their inception, credit card advertisements focused on the role of credit cards in facilitating desired consumption, and “making dreams come true” (Boyd 2018). Today still, cursory observations of marketing appeals suggest that marketers focus on how credit cards can facilitate expenditures, by touting benefits such as where the card can be used, what it can buy, and rewards consumers may earn. The same observations are apparent on websites that are designed to compare credit cards; these websites appear to primarily focus on comparing the benefits and rewards of the credit cards rather than the interest rates and fees associated with the card (Saks Frankel 2019; Mohammad 2018; Credit Karma 2018; NerdWallet 2018a; Points Guy 2018). In contrast, loan advertisements, and websites that compare loans, prominently feature information about repaying debt, such as available interest rates and repayment terms (Bankrate.com 2018b; NerdWallet 2018b).

To examine these differences more systematically, we asked 200 participants ($M_{\text{age}} = 33.74$, $SD = 9.66$; 44.5% females) to search for an online advertisement, either for a credit card or for a loan, from a company they were familiar with. Our goal was to measure whether these advertisements focused on aspects related to consumers' greater ability to spend versus aspects related to repayment. Participants were asked to identify the company featured in the advertisement, upload a screen shot of the advertisement, and respond to questions about its content. First, participants indicated whether or not the advertisement had content pertaining to one's ability to spend and whether it contained repayment information (both binary measures). Second, participants indicated the extent to which they believed the advertisement focused more on the spending component or the repayment component (1 = definitely focuses more on facilitating spending, 7 = definitely focuses more on repayment). Credit card advertisements were more likely to include content related to one's spending ability than were loan advertisements, (69% vs. 46%), $B = .963$, $SE = .30$, Wald chi-square = 10.57, $p = .001$. Moreover, they were marginally significantly less likely to include content related to repayment as compared to loans, (36.3% vs. 48.3%), $B = -.494$, $SE = .29$, Wald chi-square = 2.90, $p = .089$. Finally, participants' assessed credit card ads ($M = 2.75$, $SD = 1.65$) as being less focused on repayment, and more focused on spending, compared to loan ads ($M = 3.57$, $SD = 1.82$), $F(1, 198) = 11.15$, $p = .001$. Thus, ads for credit cards and loans significantly differ, with ads for credit cards being less likely to focus on one's need to repay and more likely to focus on one's ability to spend.

The systematic differences in marketing communications for credit cards and loans may lead consumers to build stronger associations between financing in the form of credit and spending ability (vs. repayment) as compared to loans. If consumers are indeed more likely to

focus on their greater spending ability rather than their repayment obligations for financing in the form of credit, then they should be less likely to mentally represent credit as a debt obligation compared to loans. Stated formally:

H1: Financing in the form of “credit” is less likely to be represented as money owed rather than money to be spent, as compared to financing in the form of a “loan”.

Furthermore, we suggest that differences in the mental representation of credit and loans as debt will have important consequences. To the extent people view credit as money to be spent rather than money to be repaid, consumers should be more willing to use debt in the form of credit. Further, to the extent that consumers view credit as less of an obligation, they should be less focused on and concerned about repayment, as compared to loans. Stated formally:

H2: Consumers should respond differently to financing in the form of credit and loans:

- (a) Interest: Consumers should be more interested in access to financing in the form of credit (vs. a loan).
- (b) Repayment concern: Consumers should be less concerned about repaying financing in the form of credit (vs. a loan).

We have suggested that differences in responses to financing in the form of credit and loans result from differences in mental representations of the funds as money to be repaid versus money to be spent. If so, then this suggests an important means of reducing excessive credit

usage. In particular, increasing the extent to which consumers view credit as money to be repaid should attenuate their greater interest in credit compared to loans. Said formally,

H3: Increasing the extent to which consumers mentally represent credit as money to be repaid (vs. spent) will:

- (a) Reduce interest in using credit.
- (b) Increase concern about repayment for credit.

We tested these hypotheses using a combination of real world data and controlled laboratory studies. In the first three studies, we demonstrate that consumers are less likely to mentally represent credit (vs. loans) as money owed rather than money to be spent, using a visualization task (study 1), differences in Google search patterns (study 2), and consumers' natural associations with credit cards and loans (study 3). The third study also uses a projective technique to demonstrate that people are less likely to personify others who use credit cards (vs. loans) as being lower in economic status (i.e., more likely to be indebted). In the fourth study, we hold constant the revolving nature of the debt forms and the purchase for which the debt will be used, and demonstrate greater interest in applying for credit (vs. loan) offers, and lower concern about repaying credit (vs. loan) financing. In study five, we build on the results of study four, demonstrating that these effects persist even when credit cards are most costly, and further show that these results are driven by differences in mental representation. Finally, in the last two studies we leverage the knowledge that consumers mentally represent credit cards differently than loans to design interventions that encourage consumers to think about credit cards as money to be repaid, and demonstrate that this curbs credit card uptake and usage. In study six,

encouraging consumers to think about their own credit card as a loan influences their perceptions of credit as money owed, thereby reducing their interest in using their credit card to make purchases. In study seven, we demonstrate that marketing communications that vary in the extent to which a financing product is described as money owed has no impact on loans but influences interest in using credit cards and concerns about repaying them.

STUDY 1: VISUALIZING CREDIT VERSUS LOANS

Study 1 was designed to examine consumers' mental representations of financing in the form of credit versus loans by investigating how they visually represent having access to those debt forms. Participants imagined having access to additional financing in the form of either a credit card or a loan and indicated how that access would make them feel about their finances using a visual selection task.

Method

Participants were 523 individuals ($M_{\text{age}} = 37.47$, $SD = 11.94$, 45% female) on MTurk who completed this study in exchange for monetary payment. No participants were excluded in the analysis of this study or any of the studies reported herein. The study followed a two condition between-subjects design that varied debt form: credit card versus loan.

Participants received the following information, with differences by condition bolded here for emphasis: "Imagine that in addition to your current savings, checking, and credit card accounts, your bank gives you an additional [**credit card account with a limit of \$500 / personal loan of \$500**]. With this [**credit card / personal loan**], you can spend up to \$500 per month in advance of your monthly paycheck. You can pay back as little or as much as you would

like. Any remaining balance will incur a 15% interest rate.” Next, participants were instructed: “Please think for a minute about how access to this [**credit card / personal loan**] would make you feel about your finances.” Then, they viewed two visual depictions. These visual depictions were in the form of bar graphs, with one representing an increase (money to be spent) and one representing a decrease (money owed) of \$500 (see Figure 1 following references). Participants were asked, “Which of these pictures best depicts how this [**credit card / personal loan**] would make you feel about your finances?” Participants were asked to select either the graph depicting money to be spent or the graph depicting money to be owed. Finally, participants provided demographic information. Next, participants completed an instruction check question: “To ensure you were paying attention, please indicate which of the following you were asked to imagine getting:” (1 = a \$500 personal loan, 2 = a credit card with a \$500 limit, 3 = a \$500 holiday bonus, 4 = a \$500 fine). Last, participants provided demographic information.

Results and Discussion

Instruction check. The majority of participants (98%) correctly identified the condition to which they were assigned.

Mental representation. Participants considering having additional access to funding through a credit card (55%) were more likely to mentally represent access to financing as money to be spent as compared to participants considering having additional access to financing through a loan (37%), $\chi^2(1) = 17.81, p < .001$. See Figure 2 following references.

In line with our hypotheses, credit cards were less likely to be categorized as money owed in consumers’ visual representation, as compared to loans. To ensure that these differences were not specific to credit cards, and potentially the transaction ease associated with cards, we replicated this study, comparing access to a line of credit versus a loan. Participants were less

likely to represent a line of credit (46.6%) as money owed as compared to a loan (69.2%), $\chi^2(1) = 31.92, p < .001$. See Web Appendix for complete details.

STUDY 2: GOOGLE SEARCH PATTERNS

We propose that people mentally represent credit (vs. loans) more as additional money to be spent rather than money that will need to be repaid. If so, online searches for credit cards should be more likely to focus on access to funds and the ability to spend compared to searches for loans. Similarly, online searches for loans should be more likely to focus on the need to repay and repayment terms compared to searches for credit cards. In study 2, we used a Google trends comparison tool to test whether this pattern exists.

Data Collection

We created a list of ten search terms with a focus on access and spending, and a list of ten search terms with a focus on the need to repay and repayment terms that could plausibly be combined with both the terms “credit card” and “loan” to examine relative online search volumes (see Figure 3 following references). For instance, we did not include terms such as “cash back” or “rewards”, which may not be available for loans. Participants in a pre-test confirmed that the two lists of search terms significantly differed in the extent to which they focused on access to funding and spending versus the need to repay or repayment terms, $t(103) = 12.94, p < .001$. See Web Appendix for complete pre-test details.

We used the Google trends comparison tool to collect measures of relative search volume (Google, 2018). The Google trends comparison tool permits the collection of search volume data

during specific time intervals for a desired geographic area. For any given search topic and timeframe, Google reports the standardized search volume (from 0% to 100%) to reflect interest in a given topic. Google calculates this measure by assessing the percentage of searches for that topic across the geographic area as a function of all of the searches in that area. Google then standardizes each of these scores by adjusting the area-level score relative to the search term with the highest proportion of searches for that topic in any single period. Thus, for each search term, we compared the search volume for the search term when linked to credit cards to the search volume for the same search term when linked to loans across the United States each week for the last year (52 weeks). For instance, for the search term pair ‘spending credit cards’ versus ‘spending loans,’ the highest search volume occurred in week 14 for the term ‘spending credit cards.’ Hence, ‘spending credit cards’ receives a score of 100 for this week, and all the other scores for this pair are standardized relative to this search volume and ranked between 0 and 100 accordingly.

Analysis and Discussion

Hypothesis 1 predicts an interaction, where search volume will be higher for credit cards for pairs focused on access and spending, and search volume will be higher for loans for pairs focused on the need to repay and repayment terms. To examine this prediction, we regressed Google search volume on a dummy-coded variable indicating the debt type (0 = loan, 1 = credit card), a dummy-coded variable indicating focus (0 = repayment, 1 = access and spending), and their interaction using the following model specification:

$$\text{Search Volume}_{ijkt} = \beta_1 \text{Debt Type}_{ikt} + \beta_2 \text{Focus}_{ijk} + \beta_3 \text{Debt Type} \times \text{Focus}_{it} + \alpha_i + \tau_t + \epsilon_{ijkt}$$

In this model, the dependent variable is the relative search volume of search term i for debt type j with focus k in week t . We included search term pair fixed effects, identified as α_i , to account for heterogeneity in search term popularity. We also controlled for week-level heterogeneity in the data via week-level fixed effects, identified by τ_t .

There was a main effect of debt type, $B = -28.53$, $SE = 1.20$, $t(2009) = -23.81$, $p < .001$, and a main effect of spending versus repayment focus, $B = -29.58$, $SE = 2.08$, $t(2009) = -14.25$, $p < .001$. Importantly, we found the expected interaction, $B = 67.71$, $SE = 1.69$, $t(2009) = 39.96$, $p < .001$. While credit cards were searched more often than loans when accompanied by terms focused on access or spending, loans were searched more often than credit cards when accompanied by terms focused on repayment (see Figure 4 following references). Graphs reflecting relative search volume on a pair by pair basis are available in the Web Appendix. Results are robust to the inclusion of a term accounting for the popularity of the search term in the week prior to week t .

STUDY 3: ASSOCIATIONS WITH CREDIT CARDS AND LOANS

Study 3 built upon Study 2 by assessing the words that naturally come to mind when consumers think about credit cards and personal loans. Specifically, we collected the three most top-of-mind associations that consumers formed when thinking about credit cards and personal loans to examine whether these words were more related to money that must be repaid or money available to be spent. Further, we explored how people personify individuals who use credit cards versus loans. We asked participants to write a story about an individual using either a

credit card or personal loan to make a purchase and asked them to choose an avatar (that varied by how indebted they seemed) that best represented the character in their story.

Method

Four hundred participants ($M_{\text{age}} = 38.92$, $SD = 13.05$; 54% female) on MTurk completed this study for nominal payment. The study contained two between-subjects conditions (credit card vs. personal loan). We focused on personal loans because there are a variety of other loan types that may be used for non-discretionary purchases such as mortgages and car loans.

Participants were asked to list the first three words that come to mind when they hear the words “credit card” (credit card condition) or “personal loan” (personal loan condition).

Next, participants were instructed to write a short, fictional story, with the following instructions:

“We would like you to take some time to write a fictional story about someone who is using a [credit card vs. personal loan] to make a purchase. Your story can be about any character in any location, making any type of purchase, but at some point in the story, the main character must use a [credit card vs. personal loan] to make a purchase. Please write this story in the space provided below. Feel free to write about what most readily comes to mind - we're most interested in the thoughts that immediately come to you.”

After completing their story, participants were instructed to think about the main character in their story and identify which of eight avatars best represented the main character in the story. Four of these avatars were designed to depict characters who appeared to be wealthier (i.e., less indebted) and the remaining four were designed to depict characters who appeared to be poorer (i.e., more indebted). See Appendix A for stimuli. These avatars were pre-tested to

verify that the four wealthier avatars were perceived as significantly wealthier than the poorer avatars, $t(110) = 17.97, p < .001$. Full pre-test details are available in the Web Appendix.

Participants' selection of a more versus less indebted avatar served as the dependent variable. At the conclusion of the study, participants provided demographic information.

Results and Discussion

Word associations. After correcting all minor spelling errors (e.g. 'interst' was changed to 'interest'), we created a list of all the unique words generated by participants. A separate sample of 297 participants ($M_{\text{age}} = 32.41, SD = 10.51$; 55.6% men) on Prolific Academic categorized a subset of these words into one of three options: money to be spent, money to be repaid, or neither/unclear. We categorized each word using the modal category provided by participants (1 = modal response related to spending, -1 = modal response related to repayment, 0 = modal response that was rated as unclear/unrelated, or a tie in modal responses). Participants in the main study thus received 3 scores (i.e., one score per word they generated), and these scores were summed such that participants' overall score ranged from -3 (all words related to repayment) to 3 (all words related to having and spending funds). Full details on this coding procedure are available in the Web Appendix.

As predicted, on average, the words participants generated were less related to repayment for credit cards ($M = -.63, SD = 1.80$) than for personal loans ($M = -1.12, SD = 1.52$), $F(1, 398) = 8.53, p = .004$. As another specification, we examined whether participants were primarily focused on repayment by recoding average scores depending on whether they were below zero (more focused on repayment) or not (0 = yes, 1 = no). Again, significant differences emerged by condition, Wald $\chi^2(1) = 13.29, p < .001$.

Avatar selection. The eight avatar pictures were recoded so that the four relatively poorer (i.e., more indebted) avatars were coded as 0, and the four relatively wealthier (i.e., less indebted) avatars were coded as 1. As predicted, participants in the credit card condition (30%) were less likely to select a relatively poor (indebted) avatar as compared to participants in the personal loan condition (41%), Wald $\chi^2(1) = 4.92, p = .026$.

Study 3 built on the results of study 2 by examining words that consumers most readily associate with credit cards and loans. Participants were less likely to generate words related to repayment when considering credit cards as compared to loans, supporting the notion that credit cards are less likely to be mentally represented as money owed (rather than money received). In addition, participants asked to think about someone using a credit card were more likely to characterize that individual as wealthier (i.e., less indebted) than were participants asked to think about someone using a loan. To address the possibility that this difference emerged because participants envisioned credit card usage as a substitute for cash rather than financing, we replicated the story writing and avatar selection component of this study, explicitly asking participants to write about someone who has a revolving balance on a credit card or an outstanding balance on a personal loan, Wald $\chi^2(1) = 8.90, p = .003$. See Web Appendix for full study details.

STUDY 4: LINE OF CREDIT AND PERSONAL LOAN OFFERS

Thus far we have observed that consumers more readily represent credit as money to be spent rather than repaid, as compared to loans. In the next set of studies, we explore the potential consequences of this difference in mental representation. Hypothesis 2 predicts that consumers will be more interested in using debt in the form of credit as compared to debt in the form of a

loan. In study 4, we examine this hypothesis, holding constant differences between lines of credit and loans that may occur in the real world. In particular, we held constant the interest rate, the revolving nature of both debt forms, the purchase for which the financing would be used, and participants' ability to access the financing.

Method

Four hundred and five individuals ($M_{\text{age}} = 36.06$, $SD = 11.47$; 54.3% female) on MTurk completed this study in exchange for nominal payment.

To assess interest in financing offers, we created a marketing appeal based on commonly available vacation packages. In particular, participants read:

Imagine you come across an offer for an amazing vacation package to an all-inclusive resort in the Caribbean for only \$1,000, which includes all airfare and ground transportation. You have not taken a vacation in a long time. You have enough vacation days and the flexibility to take time off work. Although you don't have cash to pay for the vacation right now, you have been offered a one-time [**line of credit / personal loan**] at an annual interest rate of 10% that you could use for this vacation package.

To measure participants' propensity to use the offer described, we asked participants to complete two questions (changes by condition bolded for emphasis only): (1) "How likely would you be to use the [**line of credit / personal loan**] for the vacation?" (1 = not at all likely to use the **line of credit / personal loan**, 9 = very likely to use the **line of credit / personal loan**) and (2) "How interested would you be in using the [**line of credit / personal loan**] for the vacation?" (1 = not at all interested in using the **line of credit / personal loan**, 9 = very interested in using the **line of**

credit / personal loan). Next, we asked participants to assume they used the financing and respond to the following: (1) “How much would you worry about repaying the [**line of credit / personal loan**]?”; (2) “How concerned would you be about repaying the [**line of credit / personal loan**]?”; and (3) “How much pressure would you feel about repaying the [**line of credit / personal loan**]?” These questions assessed participants’ attitudes towards repaying the debt.

Next, we administered instruction checks. For the debt form instruction check, we asked participants to select one of three options indicating the type of offer they reviewed in the study: “line of credit,” “personal loan,” “I cannot recall.” To assess whether participants recalled that the financing offer was one-time in nature, we asked them to select one of three options describing the recurring nature of the debt form: “one-time offer,” “re-occurring offer,” “I cannot recall.” Last, participants provided demographic information.

Results and Discussion

Instruction checks. Almost all participants (97%) accurately recalled the debt condition to which they were assigned. Moreover, the vast majority of participants (87%) accurately recalled that the financing option they viewed was a one-time offer, and this accuracy rate did not differ between those in the line of credit (87%) and personal loan (88%) condition, $\chi^2(1) < 1$.

Interest in financing. The two measures assessing participants’ interest in and likelihood of using the financing were highly correlated and combined, $r = .89, p < .001$. As predicted, participants were more interested in and likely to use the financing offer in the line of credit ($M = 4.35, SD = 2.87$) condition as compared to the personal loan ($M = 3.72, SD = 2.84$) condition, $F(1, 403) = 4.97, p = .026$.

Debt repayment. The three measures assessing participants’ concern, worry, and pressure regarding repaying the financing were sufficiently related and combined, $a = .93$. Directionally,

participants in the personal loan ($M = 6.99$, $SD = 2.25$) condition reported greater concern over repaying the financing, compared to participants in the line of credit ($M = 6.64$, $SD = 2.24$) condition, $F(1, 403) = 2.43$, $p = .120$.

These results provide evidence that consumers are more interested in using financing in the form of credit, and that they may be less concerned about repaying the financing used. Importantly, this study held constant a number of important structural differences between financing in the form of credit and loans. First, the current study specified that the financing offer was a one-time financing offer, mitigating the possibility that differences in the perceived access or availability of ongoing financing contributed to the effect. Second, we held constant the interest rate (i.e., 10%) and purpose of the financing (i.e., a Caribbean vacation). By holding constant these factors, our results suggest that differences in perceptions of debt forms—ones with the same accessibility, cost, and purpose—significantly affect interest in debt usage and concern over repaying financing. In an additional study reported in the web appendix (Web Appendix Study 4), we adapted a real marketing appeal for an American Express personal loan and created a nearly identical version for a credit card to examine consumers' interest in applying for the offer given their own life situations. We replicated the results of study 4 in this externally valid context, finding that participants were more interested in financing in the form of credit cards than personal loans ($p = .042$), and more concerned about repaying the personal loan ($p = .008$).

STUDY 5: NON-NORMATIVE BORROWING

Study 5 was designed to examine the relative influence of the debt form versus economic factors (i.e., interest rates). Since personal loans often have lower interest rates than credit cards, we set the interest rate for the credit card to be almost double the interest rate for the personal loan. In addition, while study 4 held constant the specific purchase that participants considered, study 5 had participants consider their own expected purchases. We also measured whether participants had a revolving balance on their credit card to examine whether this effect extends to those for whom additional card spending would contribute to their debt obligation. To further the external validity of this study, we adapted a holiday advertisement for personal loans from a reputable lending company and varied whether the debt was in the form of a personal loan or a credit card.

Method

Four hundred and one participants in the United States ($M = 34.24$, $SD = 11.12$, 49% female) on MTurk completed a study about holiday spending during the height of the United States holiday shopping period in December. The study included two between-subjects conditions that manipulated debt form (personal loan versus credit card). To ensure that participants were considering using the financing forms for similar purposes, the offer was specific to holiday spending. We informed participants that there are various ways for people to pay for their purchases around the holiday season, and that they would be reading about one potential offer. Participants read the following description of a financing offer (with differences by condition bolded for emphasis):

One way for people to pay for their holiday purchases is with the use of a [**credit card / personal loan**]. Many of these [**credit cards / personal loans**] offer the following terms:

- Amount available: up to \$25,000 with no setup fees or penalties for pre-payment
- Fixed interest rates as low as [**12.98% (credit card condition) / 6.98% (personal loan condition)**]

- No credit score impact to apply
- Simple application and decision in a few minutes

Participants then responded to the key dependent measures: the offer's attractiveness (1 = not at all attractive, 9 = very attractive) and how interested they would be in applying for the offer (1 = not at all interested, 9 = very interested). In addition, they indicated how much of the funds they would want to use if they were pre-approved for up to \$5,000, and how concerned they would be about repaying any amount of the funding they spent in a timely manner (1 = not at all concerned, 9 = extremely concerned).

Next, participants answered four questions about how using this form of financing would make them feel. These questions were designed assess the extent to which participants felt it would feel like money owed versus money gained. Specifically, they indicated the extent to which the financing form would influence them using a 9-point scale (1 = not at all, 9 = very much so): (1) "It would feel like a financial burden"; (2) "It would make me feel worried about my financial position"; (3) "It would make me feel I could spend money freely" (reverse-scored); (4) "It would make me feel more financially secure" (reverse-scored).

Last, we administered an instruction check to assess whether participants recalled the offer they saw (0 = credit card, 1 = personal loan, -1 = I cannot recall), asked participants whether they currently had a revolving balance on any credit cards or personal loans, and collected demographic information.

Results and Discussion

Instruction check. Almost all participants (99%) correctly identified the debt instrument (credit card versus personal loan) they received in their experimental condition.

Interest in financing. The two measures assessing the offer's attractiveness and participants' interest in applying for the financing were strongly correlated, $r = .82$, $p < .001$, and

combined to form a single interest measure. As predicted, participants in the credit card ($M = 4.94$, $SD = 2.67$) condition rated the offer as more attractive than did participants in the personal loan ($M = 4.29$, $SD = 2.73$) condition, $F(1, 399) = 5.76$, $p = .017$.

Debt repayment. There was no significant difference in the amount of funding people said they would use based on the funding, $Z = 1.23$, $p = .217$. Despite there being no differences in the amount of money participants stated they would use, and the considerably higher interest rate for credit cards, participants in the credit card condition ($M = 6.15$, $SD = 2.79$) reported that they would feel less concerned about repaying the amount in a timely manner as compared to participants in the personal loan condition ($M = 6.73$, $SD = 2.61$), $F(1, 399) = 4.63$, $p = .032$.

Money owed versus gained. The four measures collected to measure perceptions of financing as money owed versus gained were reliable and combined to form a single measure ($\alpha = .76$), with higher scores indicating greater perceptions of money owed and lower scores indicating greater perceptions of money gained. Participants indicated that using financing in the form of a credit card ($M = 5.89$, $SD = 1.76$) would feel less like money owed as compared to using financing in the form of a personal loan ($M = 6.71$, $SD = 2.01$), $F(1, 399) = 19.07$, $p < .001$.

Mediation. We next examined whether the effect of debt form on interest in the financing offer was driven by perceptions of the debt form as money owed versus gained. Using Hayes' (2013) PROCESS macro using 20,000 bootstrap resamples, we found evidence for the suggested mediation, as the 95% confidence interval for the indirect effect of debt form on interest in financing via the 'money owed versus gained' index did not include zero [-1.0405, -.3899].

We next tested whether 'money owed versus gained' similarly explained participants' concern about repaying their financing. As predicted, the 95% confidence interval for the

indirect effect of debt form on concern about debt repayment via the ‘money owed versus gained’ index did not include zero [.1773, .5929], providing additional evidence for the suggested mediation.

Participants with revolving balances. Although we found the expected differences for consumers’ interest in financing and their concern over debt repayment, we considered the possibility that these results might have been driven by participants who use credit cards as a convenient way to make transactions, rather than as a debt instrument (i.e., those with no revolving balance). Thus, we restricted the dataset to include only participants (N = 169) who indicated having a revolving balance on one or more credit cards. All results remained significant, all $p \leq .022$.

STUDY 6: DEBIASING INTERVENTION 1

We have suggested that differences in credit (vs. loan) usage results from differences in the mental representation of these debt forms—primarily, that consumers are less likely to mentally represent financing in the form of credit as money that is owed and must be repaid. If these effects are indeed driven by differences in mental representations, then encouraging consumers to change their mental representation should influence their interest in using their credit card. To examine this proposition, in study 6, we test an intervention that encourages consumers to recognize that their credit cards are, in essence, a loan. Notably, this is consistent with how credit card companies view credit card usage. Indeed, in private communications with a former executive of one of the leading credit card companies, it was explained that credit cards are described as unsecured loans within the industry, but that consumer-facing communications

refer to them as “credit”. Because we propose that consumers do not naturally think of credit cards as loans, we expected our intervention to decrease participants’ interest in using their credit card. If instead, differences across credit cards and loans are purely a function of other differences such as familiarity, accessibility, ease-of-use, or potential rewards, then this intervention should have little-to-no effect.

Method

Participants were 261 undergraduates ($M_{\text{age}} = 19.79$, $SD = 5.20$, 52% females) at a large private university who completed the study in exchange for course credit.

The study included two between-subjects condition (credit vs. loan). Participants were first instructed to think about a specific, optional purchase they might want to make in the next few weeks. We explained that an optional purchase is something that is not strictly a necessity; an item that they want rather than need. To minimize the variance in the types and cost of the purchases, we instructed all participants to ensure that the purchase cost more than \$50 but less than \$1,000. We again reminded them that the purchase should be optional, and something they wanted for themselves (i.e., not a gift for someone else).

After participants described their purchase, we informed them that we wanted to learn about their credit card spending. These instructions included the experimental manipulation, bolded for emphasis only: “In the next part of this study, we would like to ask you a few questions about credit card spending. A credit card allows you to spend in the present and repay that amount at some point in the future. Essentially, these cards offer [**credit / unsecured loans**] that you can use to buy goods and services. Participants in the loan condition received an additional question: “Unsecured loans are loans that are not protected by any underlying asset or collateral, as opposed to secured loans which are protected by underlying assets or collateral (for

example, loans for cars or houses). Are you aware that credit cards are essentially unsecured loans?" (1 = yes, 0 = no). We then asked some questions about credit card usage to ensure our manipulation did not influence participants' perceptions of owning and using such a card. Specifically, participants indicated whether had such a card, and whether they used the card in the last month (1 = yes, 0 = no). Participants also indicated how they categorized their card usage. They were told, "Some people use such cards in order to make ends meet and purchase when they might not be able to do so otherwise, while others use their cards as an alternative form of payment to cash. How would you characterize your usage?" (1 = Mostly to make ends meet, 7 = Mostly as an alternative for cash). Then, to reinforce the experimental manipulation, all participants were asked to briefly describe how they feel about their financial situation knowing they have access to [**credit cards / unsecured loans in the form of credit cards**].

Next, participants viewed an image of a generic credit card. Participants in the credit condition viewed a card with a label saying, "Credit Card," while participants in the loan condition viewed the same card with a label saying, "Loan Card." They were told to consider making the purchase they wrote about earlier in the study, and that they would have to use their [**credit card / loan card**] to make the purchase. Then, they were asked to indicate whether they would make the purchase with their card (1 = yes, 0 = no). In addition, they indicated how willing they would be to use their card for the purchase (1 = not at all willing to use the [credit / loan] card, 7 = very willing to use the [credit / loan] card) and how interested they would be in using the card for the purchase (1 = not at all interested in using the [credit / loan] card, 7 = very interested in using the [credit / loan] card).

Next, we measured participants' perceptions of the debt form as being more like money owed versus gained using a set of three bi-polar measures on nine-point scales. The endpoints on

the three measures were as follows: (1) It feels like a financial loss, It feels like a financial gain; (2) It feels like a financial burden, It feels like a financial benefit; (3) It makes me feel worried about my financial situation, It makes me feel confident about my financial situation. Lower numbers thus indicated greater perceptions of the financial product as money owed versus gained. We then administered a manipulation check measure that asked participants to indicate the extent to which they thought about their credit card as being, in essence, a loan, as they completed the study (1 = not at all, 7 = very much). Last, participants provided demographic information

Results and Discussion

Manipulation check. Participants in the loan condition ($M = 3.96$, $SD = 2.73$) indicated thinking about their credit card as an unsecured loan to a greater extent than did participants in the credit condition ($M = 2.45$, $SD = 2.86$), suggesting that the manipulation worked as intended, $F(1, 259) = 18.98$, $p < .001$.

The experimental manipulation had no effect on reported ownership or usage of credit cards; 70% of participants reported owning a card, and 68% reported having used their card in the last month, and these percentages did not differ by condition, both $p \geq .147$. Moreover, there were no differences in terms of whether participants used their card to make ends meet versus as an alternative for cash, $F < 1$. All subsequent analyses reported remain significant when the sample is restricted to participants who own credit card, and when restricted to participants who used their card in the last month.

We next examined whether the intervention (reminding participants that their card was essentially a loan) was indeed a reminder of their existing knowledge or whether it provided new information. To reiterate, this question was asked only among participants in the loan condition.

The majority of participants (83%) were aware of this core feature of credit cards, and responses to this measure did not influence the dependent measures, $F_s < 1$.

Choice. Binary logistic regression revealed that participants in the credit card condition (85%) were significantly more likely to indicate that they would make the purchase, as compared to participants in the loan condition (61%), $\chi(1)^2 = 18.44, p < .001$.

Interest in financing. The two measures assessing participants' willingness to use their card and their interest in using their card to make their purchase were strongly correlated and combined, $r = .80, p < .001$, for a single interest measure. In line with the results of the binary measure, participants in the credit condition ($M = 7.17, SD = 2.03$) indicated greater interest in using their card than did those in the loan condition ($M = 3.96, SD = 2.73$), $F(1, 259) = 23.67, p < .001$.

Money owed versus gained. Participants in the credit card condition ($M = 6.21, SD = 1.86$) provided higher scores as compared to participants in the loan condition ($M = 5.35, SD = 2.01$), indicating that they were less likely to view the financial product as money owed rather than gained, $F(1, 259) = 12.91, p < .001$.

Mediation. As expected, we found support for mediation, as the indirect effect of debt form on interest in financing via the 'money owed versus gained' mediator did not contain zero, (95% CI with 20,000 bootstrap resamples: .103, .403).

In sum, participants who received an intervention reminding them that credit cards are essentially unsecured loans were less likely to use their credit card. These results were driven by perceptions of financing as money owed rather than gained. Notably, because most participants who received the intervention were aware that credit cards are, in essence, an unsecured loan, the success of this intervention cannot be attributed to the acquisition of new information. Instead, it

provides support that the intervention changed how participants mentally represented their credit card. The results of this study suggest one possible intervention for curbing excess credit card financing: encouraging individuals to consider credit cards as “loan cards.”

STUDY 7: DEBIASING INTERVENTION 2

In study 7, we examined how the marketing framing of credit cards and loans may influence credit card borrowing. This study followed a similar format as in study 5. However, we varied whether the debt form was described as a method of payment or a financing tool. We expected that describing credit cards as a financing tool would remind consumers that credit cards are a form of debt, encourage them to view credit cards as money owed, and reduce their interest in using their card. However, since we believe that loans are already viewed as such, we expected that this change in terminology would not influence interest in using loans.

Method

Participants were 805 individuals ($M_{\text{age}} = 35.15$, $SD = 10.61$, 49% females) on MTurk who completed the study around the winter holidays for nominal payment.

The study followed a 2x2 between-subjects design that manipulated debt form (credit card vs. personal loan) and marketing framing (method of payment vs. financing tool). The study procedure was similar to that used in study 5, in that all participants read about a marketing offer for either a credit card or a personal loan. As in study 5, interest rates favored personal loans, and we held constant the ease of application, funds available, and the neutral impact to applicants' credit scores. In addition, the messaging held constant the convenience of using a credit card and loan, stating the funds were easily accessible on a card, and accepted for payment anywhere

where Visa was accepted. For the marketing framing manipulation, we varied whether the marketing communication described the debt form as a means of spending or a means to finance. Importantly, as in study 6, this framing (method of spending vs. financing tool) should not provide new information to participants, since both credit cards and loans are a means of financing. See Appendix B for the complete stimuli.

After reviewing the offer, participants indicated how interested they were in applying for the offer (1 = not at all interested, 9 = very interested) and how likely they would be to apply for the offer (1 = very unlikely, 9 = very likely). Next, because this survey was run just before Christmas, we asked participants how concerned they would be about repaying the financing if they used it to buy holiday purchases (1 = not at all concerned, 9 = extremely concerned). Last, participants completed an instruction check to assess whether they recalled the debt instrument they read about (options: “credit card,” “personal loan,” “I don’t remember”), and provided demographic information.

Results and Discussion

Instruction check. Almost all participants (95.9%) correctly identified the debt form to which they were assigned.

Interest in financing. The two measures assessing participants’ interest in and likelihood of applying were correlated and combined to form a single measure of interest in financing, $r = .91, p < .001$. There was a significant main effect of debt form, with participants being more interested in financing when the offer featured a credit card ($M = 5.32, SD = 2.52$) as compared to a personal loan ($M = 4.46, SD = 2.64$), $F(1, 801) = 22.40, p < .001$. There was no main effect of the marketing framing condition, $F(1, 801) = 2.57, p < .11$. However, and most importantly, we observed the predicted interaction, $F(1, 801) = 4.88, p < .027$. Planned contrasts revealed that

the financing tool framing significantly decreased interest in using the credit card, $F(1, 801) = 7.35, p = .007$. However, this framing had no effect on interest in using the loan, $F < 1$.

Debt repayment. Consistent with the results found in prior studies, participants in the personal loan condition ($M = 7.05, SD = 2.38$) were more concerned about repaying any debt they incurred than were participants in the credit card condition ($M = 6.54, SD = 2.48$), despite the higher interest rate in the credit card condition, $F(1, 801) = 12.37, p < .001$. There was no main effect of marketing framing, $F < 1$. However, we found the anticipated interaction, $F(1, 801) = 4.36, p = .037$. Framing the credit card as a financing tool led to a marginal increase in repayment concern, $F(1, 801) = 3.56, p = .059$. However, this framing had no effect on concern over repaying the loan, $F < 1$.

In sum, study 7 demonstrates that marketing credit cards as a financing tool rather than as a method of payment reduces interest in using credit cards and increases concern over debt repayment. As such, these results suggest that credit card marketing communications that identify credit cards as a financing tool may encourage more responsible credit card usage.

GENERAL DISCUSSION

Debt allows consumers greater financial flexibility when facing liquidity constraints; yet, excessive consumer debt can pose serious challenges to individual consumers and the economy as a whole. Currently, consumer debt is rising rapidly, and consumers have multiple debt instruments available to them. However, little is known about how people think about these different debt forms. Existing research on consumer debt has examined a number of factors that can influence consumers' debt uptake. For example, consumer characteristics such as age and

income are positively associated with debt incurrence (Kim and DeVaney 2001; Zhu and Meeks 1994), and structural features of financing options (e.g., total amount, interest rate, duration) can influence debt preferences (e.g., Gross and Souleles 2002; Kim and DeVaney 2001; Soman and Cheema 2002). Further, what type of purchase the debt will be used for, such as whether the purchase is experiential, can also influence willingness to borrow (Hirst et. al 1994; Tully and Sharma 2018). In the current work, we demonstrate that a previously overlooked feature inherent in all debt decisions—the type of debt instrument available—can affect consumers’ decision to use debt.

Across seven studies, we demonstrate that credit is mentally perceived differently than loans. Consumers are less likely to mentally represent credit as money owed (vs. money to be spent) as compared to loans. These differences in mental representation increase interest in using credit card financing, and decrease concerns over repaying credit cards (even when interest rates favor loans). Importantly, we demonstrate that encouraging consumers to consider credit cards as loans—merely describing credit cards as “loan cards” or highlighting repayment requirements—reduces interest in financing using credit, suggesting plausible interventions to encourage more responsible credit card usage and curb excessive consumer debt.

The current research adds to research on mental accounting. Although mental accounting research has shown that payment forms can impact consumers’ decisions, the existent research has primarily focused on existing consumer assets (e.g., cash, gift cards, tokens) rather than debts. The current research further extends existing mental accounting research by demonstrating that payment forms can influence consumer behavior through differences in how they are mentally represented by consumers even when they are structurally identically (funding available on a card, payment decoupling, interest rates, where the payment form is accepted, etc.).

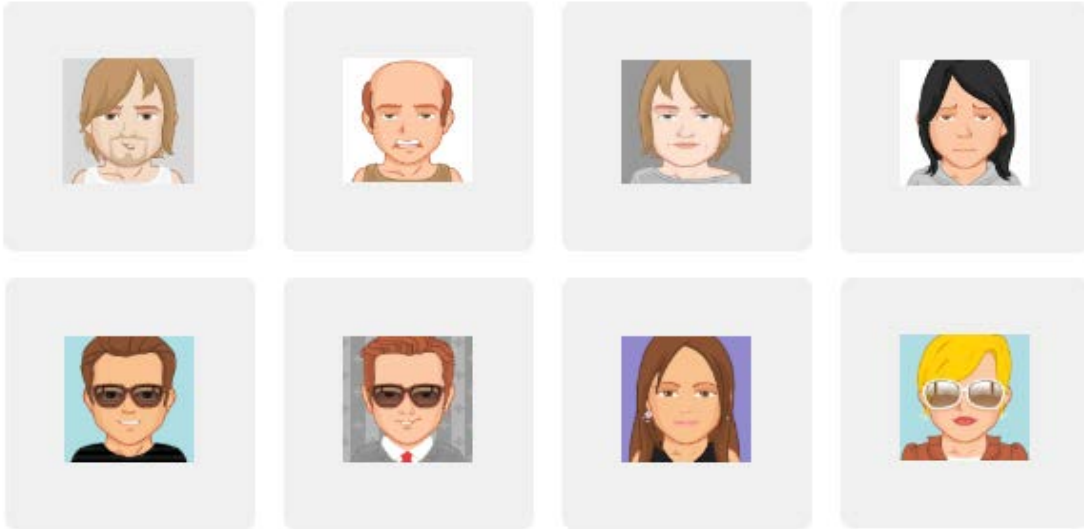
Beyond theoretical contributions, this work offers a number of implications for managers, policy makers, and consumers. Our work suggests that differential focus on the spending versus repayment components of debt can explain differences in usage interest across debt forms. Thus, this work suggests that credit card lenders aiming to attract responsible consumers may benefit more from marketing communications that identify credit cards as a financing tool. Moreover, although we did not find a reversal in study 7, it is possible that marketing communications for loans that focus consumers on how those loans can increase their spending ability (rather than ones that focus on the competitive interest rates, lower fees, and repayment options) may be more successful. Future research may empirically test this proposition. For policymakers, our work suggests that regulations that encourage the transparency of credit cards as a financing tool may help consumers make more informed choices about whether, and which credit card, to use. For consumers, our work suggests that individuals who find themselves overwhelmed by credit card debt may benefit from actively trying to change how they mentally represent their credit cards. For instance, placing a sticker on their credit card that says “loan card” may serve to change consumers’ mental representations.

This work also lays the foundation for areas for future research. The current work shows that greater interest in financing in the form of credit (vs. loans) occurs even when use of credit and loans are one-time borrowing options, when the purchase is held constant, when there are no differences in the ease and costliness of application, and when using the funds is equally convenient. We acknowledge that, in the marketplace, these factors are not always the same across debt forms and may indeed play a role in shaping consumers’ responses. In addition, the current research did not explicitly test the effects of consumer attitudes toward unsecured debt (e.g., credit cards) versus secured debt (e.g., mortgages). In the latter case, the property securing

the loan can be repossessed whereas fewer options exist to recover an unsecured loan. Indeed, such differences may exacerbate the differences found in the current research. Further, other factors like naming conventions—loans are by definition money owed to be repaid, while credit in other domains can be viewed positively (getting extra credit, getting credit for performance)—may impact how consumers mentally represent debt. A greater understanding of these factors and their influence in shaping mental representations is a fruitful area for future research.

In the current work, we focused on consumers in America given the overwhelming levels of consumer debt in the country. However, it is also worthwhile to examine these effects in other cultural contexts. The role of marketing suggests consumers' susceptibility to these effects may depend on differences in marketing communications that may vary across countries and cultures. Understanding these differences is an opportunity for examining the generalizability of these effects. Additionally, in this work we focused on credit card spending due to its prevalence of use and debt in America, and compared it with personal loans due to their similarity. However, future research would benefit from exploring other debt forms and how they, too, may differ in mental representations by consumers.

APPENDIX A: AVATARS PRESENTED IN STUDY 3



Note: The top row represents “poorer” avatars; the bottom row represents “richer” avatars.

APPENDIX B: STIMULI USED IN STUDY 7

Note: Differences by condition bolded below for emphasis only

Marketing focus: Method-of-payment

There are many purchases to make and there are various ways to pay for your purchases. We would like you to think about your spending and review the potential offer below carefully.

One way for people to **make** their purchases is with the use of a [**credit card / personal loan**]. Many of these [**credit cards / personal loans**] offer the following terms:

- Amount available: up to \$25,000 with no setup fees or penalties for pre-payment
- Fixed interest rates as low as [**12.98% (credit card condition) / 8.98% (personal loan condition)**]
- No credit score impact to apply
- Simple application and decision in a few minutes
- Funds available on a card for convenience and accepted everywhere Visa is accepted

Marketing focus: Financing tool

There are many purchases to make and there are various financing options for your purchases. With financing, you get access to money now, but you must repay this amount with interest at a later time. We would like you to think about your spending and review the potential financing offer below carefully.

One way for people to **finance** their purchases is with the use of a [**credit card / personal loan**]. **Such debt forms give you money now, but require you to repay the money with interest later. Many of these [credit cards / personal loans] offer the following terms:**

- Amount available: up to \$25,000 with no setup fees or penalties for pre-payment
- Funds available on a card for convenience and accepted everywhere Visa is accepted
- Fixed interest rates as low as [**12.98% (credit card condition) / 8.98% (personal loan condition)**]
- No credit score impact to apply
- Simple application and decision in a few minutes

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FIGURE 1: VISUAL STIMULI PRESENTED TO PARTICIPANTS IN STUDY 1



FIGURE 2: PERCENT OF PARTICIPANTS VIEWING FINANCING AS MONEY TO BE SPENT VERSUS MONEY OWED IN STUDY 1

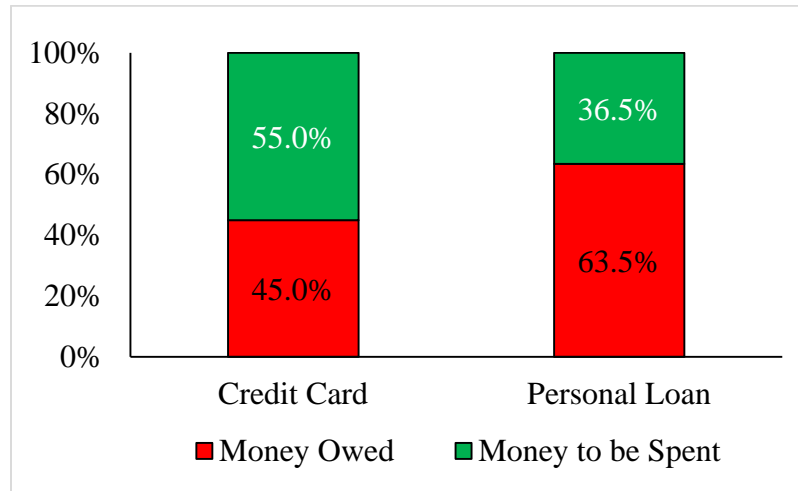
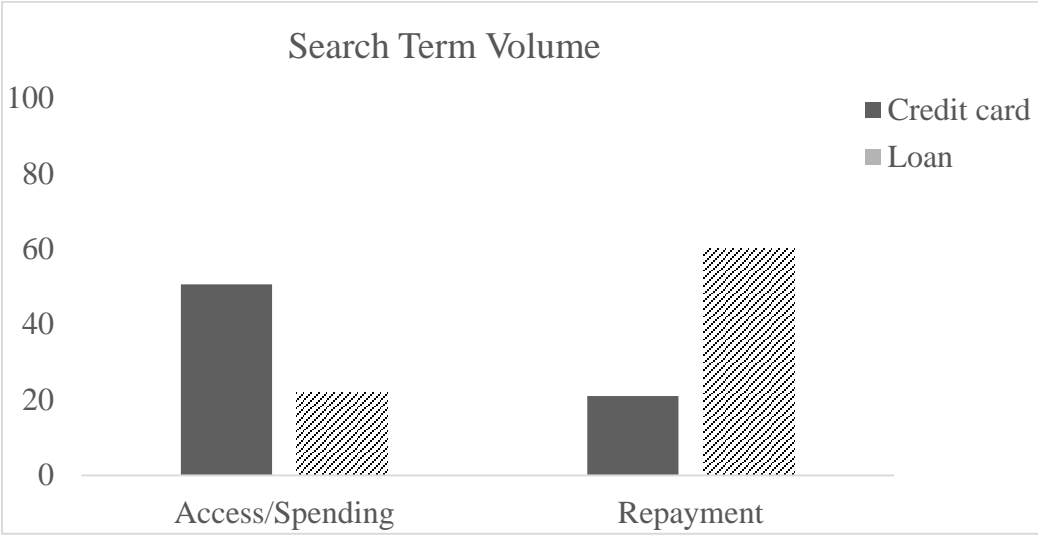


FIGURE 3: PAIRS OF GOOGLE SEARCH TERMS USED IN STUDY 2

Access and Spending Focused Search Terms		Repayment Focused Search Terms	
1.	spending credit cards vs. spending loans	1.	paying off credit cards vs. paying off loans
2.	credit card spending vs. loan spending	2.	credit card repayment vs. loan repayment
3.	credit card to spend vs. loan to spend	3.	credit card to repay vs. loan to repay
4.	using a credit card vs. using a loan	4.	repaying a credit card vs. repaying a loan
5.	credit card offers vs. loan offers	5.	credit card costs vs. loan costs
6.	credit card offer vs. loan offer	6.	credit card financing vs. loan financing
7.	credit card promotions vs. loan promotions	7.	credit card fees vs. loan fees
8.	credit card funds vs. loan funds	8.	credit card rates vs. loan rates
9.	credit card money vs. loan money	9.	credit card APR vs. loan APR
10.	credit card access vs. loan access	10.	credit card interest rates vs. loan interest rates

FIGURE 4: RELATIVE SEARCH TERM VOLUME BY DEBT TYPE AND FOCUS IN STUDY 2



WEB APPENDIX

WEB APPENDIX STUDY 1: VISUAL REPRESENTATION OF LINE OF CREDIT VERSUS LOAN

Web appendix study 1 was designed to replicate and extend the findings of study 1 in the main paper. Participants imagined having access to additional financing in the form of either a line of credit or a loan and indicated how that access would make them feel using the same visualization task used in study 1 of the main paper.

Method

Participants were 602 ($M_{\text{age}} = 34.33$, $SD = 11.97$, 55% female) individuals on MTurk who completed this study in exchange for monetary payment. The study was identical to that of study 1 in the main paper, except the credit card was replaced with a line of credit.

Results

Instruction check. The majority of participants (98%) correctly identified the condition to which they were assigned, and all participants were included in the subsequent analyses.

Mental representation. There was a significant effect of debt form on the dependent variable. As predicted, participants considering a line of credit (46.6%) were less likely to mentally represent access to financing as money owed as compared to participants considering a loan (69.2%), $\chi^2(1) = 31.92$, $p < .001$. This result is consistent with the idea that different debt forms are differentially perceived as money gained that can be spent versus money that is meant to be repaid.

WEB APPENDIX STUDY 2A: PRE-TEST OF SEARCH TERMS USED IN STUDY 2 OF THE MAIN PAPER

We pre-tested the search terms used in study 2 of the main paper to ensure that the pairs varied in the extent to which they focused on repayment or repayment terms versus access to funding or the ability to spend. Participants were 104 individuals on MTurk ($M_{\text{age}} = 35.62$, $SD = 10.85$; 48% female) who completed the study for nominal payment.

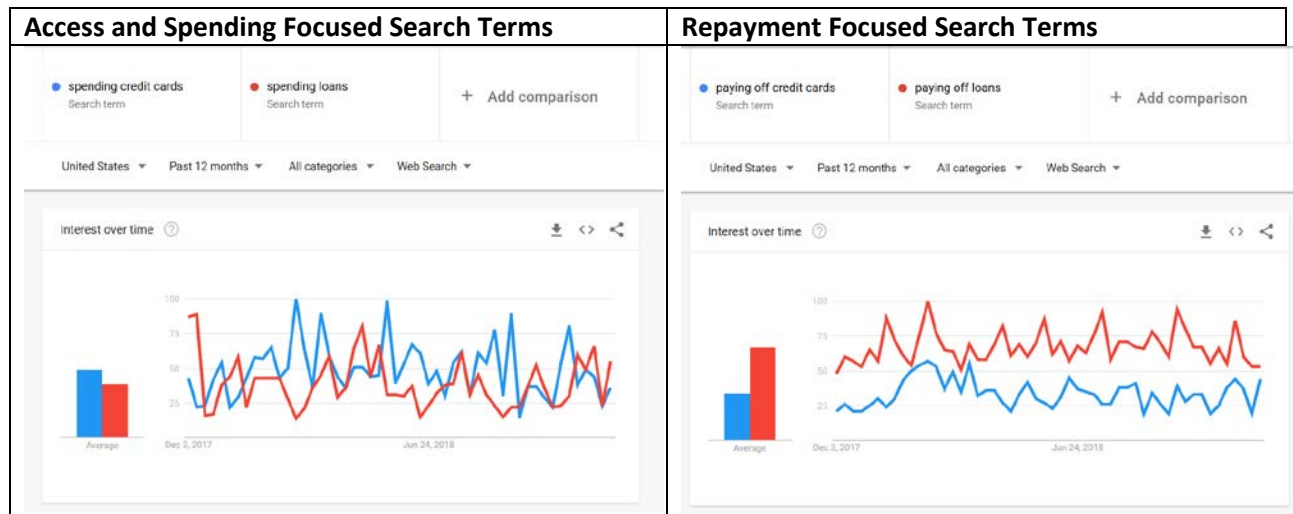
As our main interest was to test the words surrounding the financial product, in the pre-test, participants were asked to consider each search term combined with “credit card(s) or loan(s)”. Specifically the 10 terms that were designed to focus on access to funding or the ability to spend included: spending credit cards or loans, credit card or loan spending, credit card or loan to spend, using a credit card or loan, credit card or loan offers, credit card or loan offer, credit card or loan promotions, credit card or loan funds, credit card or loan money, and credit card or loan access. The 10 terms that were designed to focus on repayment and repayment terms included: paying off credit cards or loans, credit card or loan repayment, credit card or loan to repay, repaying a credit card or loan, credit card or loan costs, credit card or loan financing, credit card or loan fees, credit card or loan rates, credit card or loan APR, and credit card or loan interest rates. Participants viewed all 20 terms in a random order and indicated the extent to which the terms focused on the need to repay or repayment terms or focused on access to funding and the ability to spend (seven-point scale, -3 = Focuses only on the need to repay or repayment terms, 3 = Focuses only on access to funding or the ability to spend).

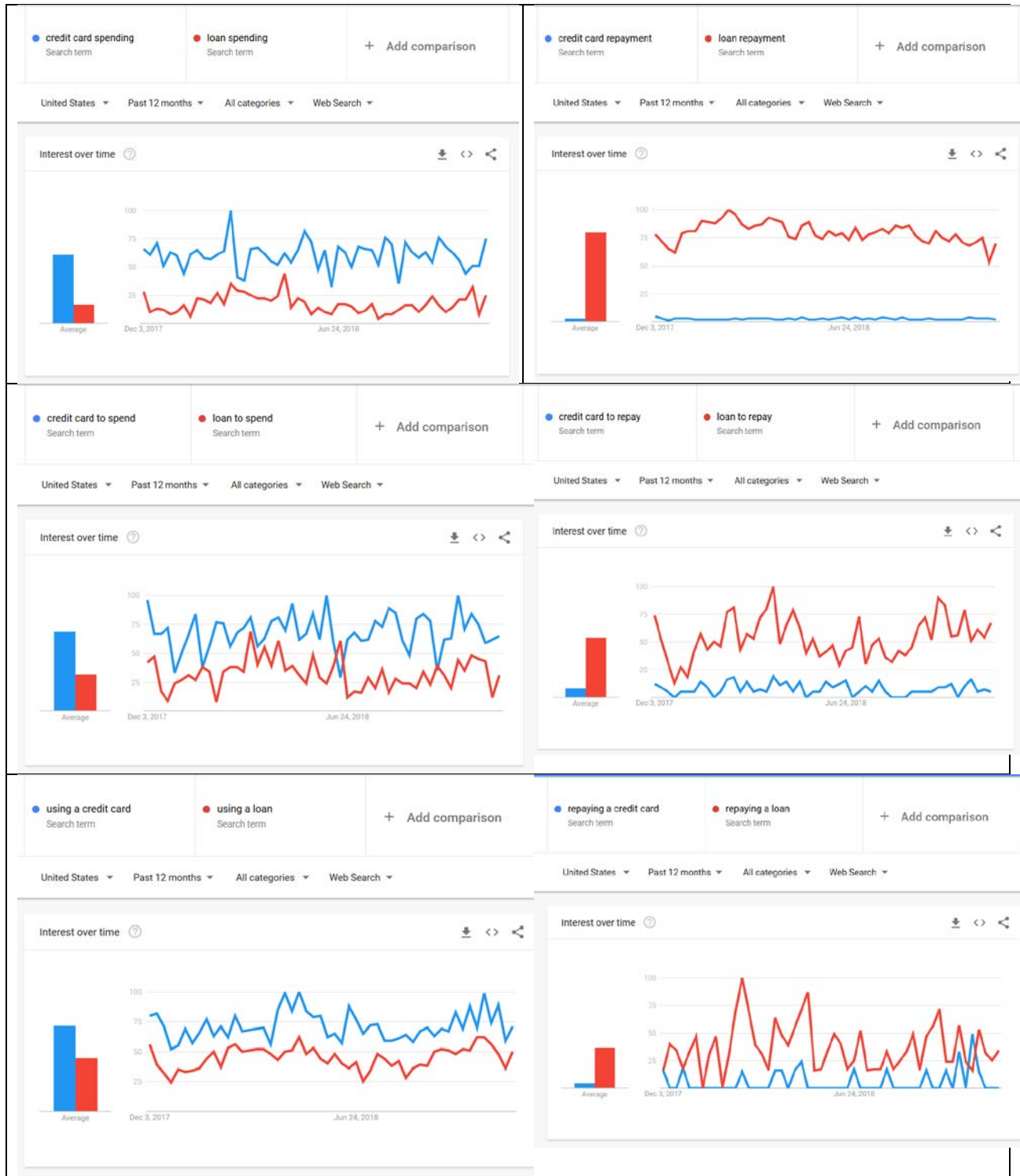
As expected, the two lists of search terms significantly differed in the extent to which they focused on access to funding and spending versus the need to repay or repayment terms,

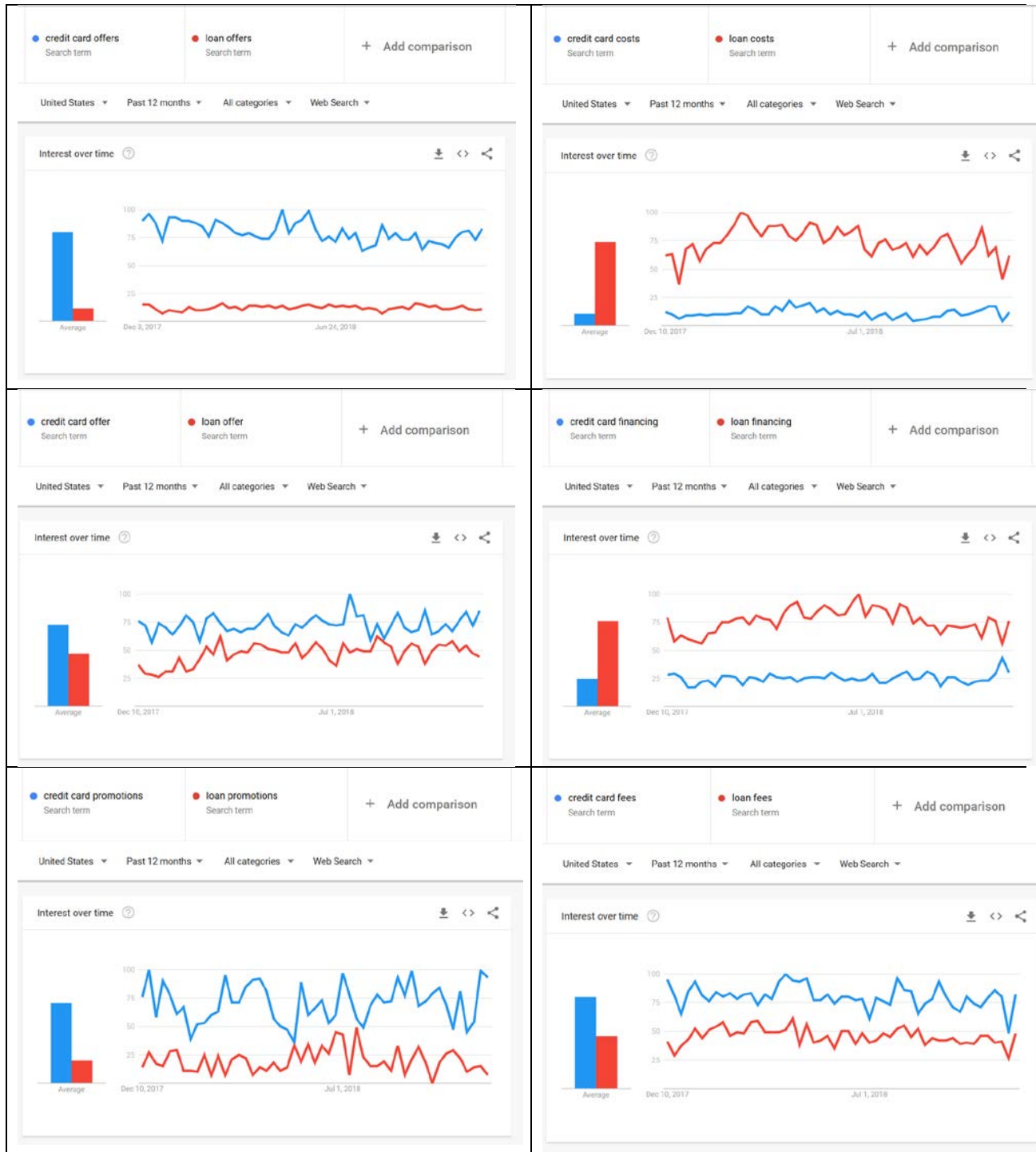
$t(103) = 12.94, p < .001$. Further, the pairs of words designed to be perceived as money to be spent ($M = 1.14, SD = 1.02$) were rated significantly above the scale's midpoint value of 0, suggesting that participants indeed perceived them as access to funding or the ability to spend (vs. money owed), $t(103) = 11.425, p < .001$. In addition, the phrases designed to be perceived as money owed that must be repaid ($M = -.97, SD = 1.25$) were rated significantly below the scale's midpoint value of 0, suggesting that participants indeed perceived them as such, $t(103) = -7.89, p < .001$.

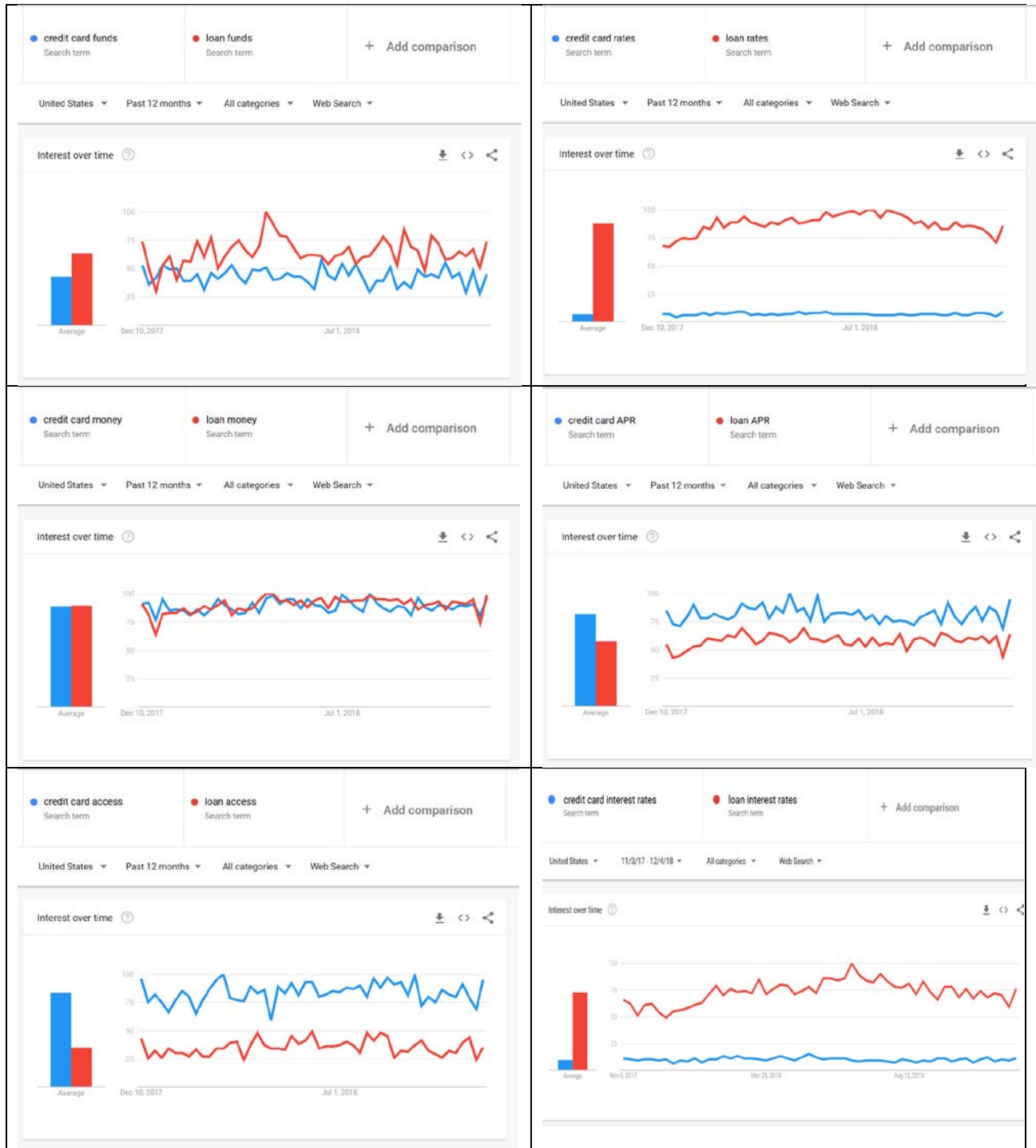
WEB APPENDIX STUDY 2B: RELATIVE SEARCH VOLUME OF GOOGLE

SEARCHES BY PAIR IN STUDY 2 OF THE MAIN PAPER









WEB APPENDIX STUDY 3A: CODING PROCEDURE USED IN STUDY 3 IN THE MAIN MANUSCRIPT

All of the words participants listed were compiled into a single spreadsheet. Repeated words were removed, including those that were misspelled (e.g. ‘interst’ was changed to ‘interest’). A separate sample of 297 participants ($M_{\text{age}} = 32.41$, $SD = 10.51$; 55.6% men) on Prolific Academic coded these three words for whether they seemed more like money to be spent, money to be repaid, or neither/unclear.

Specifically, coders received the following instructions: “In this study, you'll be viewing several words that can be used in the context of describing financial products like debit cards, credit cards, and personal loans. All of these products allow you to purchase or spend (e.g., spending to get things you like or need, offering a convenient way to pay), but some also involve incurring debt (e.g., incurring interest or fees, having debt to repay).” The coders were randomly assigned to view 20 different words, and were instructed to indicate whether they believed each word refers to “having funds, making purchases, or benefits of having or using the financial product” versus “having debt, owing money, repaying money, or feeling burdened.” For words that seemed unclear, we provided a third option: “Unrelated or unclear.”

The average number of responses per word was 19.6 (range = 8 - 35), and responses were coded according to their modal response (1 = modal response related to spending, -1 = modal response related to repayment, 0 = modal response that was rated as unclear/unrelated, or a tie in modal responses). Each word was then coded according to this score, such that participant in the main study received 3 scores (i.e., one score per word they generated). These scores were summed such that participants’ overall score ranged from -3 (all words related to repayment) to 3

(all words related to having and spending funds). In total 727 words (61%) were coded as being related to repayment, and 384 (32%) were coded as being related to having and spending funds.

WEB APPENDIX STUDY 3B: PRE-TEST FOR AVATARS USED IN STUDY 3 IN THE MAIN MANUSCRIPT AND WEB APPENDIX STUDY 4

We created eight avatars, four of which were designed to depict characters who appeared to be wealthier (i.e., less indebted) and the remaining four of which were designed to depict characters who appeared to be poorer (i.e., more indebted). These avatars were pre-tested to verify that the four wealthier avatars were perceived as significantly wealthier than the poorer avatars.

Participants were 111 individuals (7 blank responses, $M_{\text{age}} = 35.6$, $SD = 10.90$, 48% female). Participants were shown the two sets of avatars, with set 1 including the poorer (more indebted) avatars and set 2 including the wealthier (less indebted) avatars. Participants were asked to indicate which of the two sets seemed wealthier using a seven-point scale (1 = set 1 definitely seems wealthier, 4 = they seem equally wealthy, 7 = set 2 definitely seems wealthier). Scores were coded such that higher scores indicate the belief that set 2, featuring the “wealthier” (less indebted) avatars were rated as wealthier. As intended, participants’ average scores were 6.09, $SD = 1.23$, which was significantly higher than the scale’s midpoint value of four, $t(110) = 17.97$, $p < .001$.

WEB APPENDIX STUDY 4: REPLICATION OF AVATAR STUDY (STUDY 3 IN THE MAIN PAPER)

Web Appendix Study 4 was designed to replicate the results of study 3 in the main paper, while ensuring that credit cards were described were a form of financing.

Method

Four hundred participants ($M_{\text{age}} = 35.90$, $SD = 10.90$; 57% female) on MTurk completed this study for nominal payment. The study followed the same procedure as that of study 3 in the main manuscript. However, participants were instructed to write a fictional story about someone who has either a revolving balance on a credit card or an outstanding balance on a personal loan. We stated, “Your story can be about any character in any location, but for some reason has [a revolving balance on a credit card / an outstanding balance on a personal loan]. You can write about why they have [a revolving balance on a credit card / an outstanding balance on a personal loan], what their life is like in general, or something they do on a given day”.

Results

As predicted, participants in the credit card condition (39%) were less likely to select a relatively poor (indebted) avatar as compared to participants in the personal loan condition (54%), Wald $\chi^2(1) = 8.90, p = .003$.

WEB APPENDIX STUDY 5: CREDIT CARD AND PERSONAL LOAN OFFERS

This study was designed to examine consumers’ interest in credit versus loans using externally valid stimuli. When doing so, we aimed to hold constant the financing provider to

minimize the extent to which differences in the reputability or familiarity of the provider may contribute to interest in obtaining financing. We created two different financing offers by adapting a real marketing advertisement that promoted financing opportunities from American Express (see Figure 1). We held constant all aspects of the offer (e.g., provider, visual presentation, financing amount) and varied only whether the financing was in the form of a credit card or a personal loan. We measured how interested and likely participants were to apply for the offer, as well as how concerned they would be about repaying any borrowed funds that they used. We expected participants to be more interested in the offer for the credit card rather than the personal loan, and to be more concerned about repaying the personal loan rather than the credit card.

Method

One hundred and ninety-four individuals ($M_{\text{age}} = 21.10$, $SD = 3.04$, 64% female) at a private college in northeastern United States completed this study in exchange for monetary compensation. Depending on condition, participants viewed an advertisement for one of two financing offers. The terms of the financing were identical, but the form of the financing varied; half of the participants viewed a financing offer for credit cards and the other half viewed a financing offer for personal loans. Participants were asked to review the financing offer and indicate their interest in applying for the offer (1 = not at all interested, 9 = very interested) and how likely they would be to apply for the offer (1 = not at all likely, 9 = very likely). Next, they completed two questions designed to measure their impressions about repaying any part of the funding that they might spend: (1) “If you financed some of your purchases with the **[credit card / personal loan]** funding you were pre-approved for, how concerned would you be about repaying the **[credit card / personal loan]** in a timely manner?” (1 = a little concerned, 9 =

extremely concerned); and (2) “If you financed some of your purchases with the [**credit card / personal loan**] funding you were pre-approved for, how important would it be for you to repay the [**credit card / personal loan**] in a timely manner?” (1 = a little important, 9 = extremely important).

Next, we asked participants to indicate whether they recalled the offer they received in their experimental condition (0 = credit card, 1 = personal loan, -1 = I cannot recall). To examine whether the predicted effects could be explained by differences in participants’ familiarity with offers for personal loans versus credit cards, we asked participants to indicate their agreement with two questions: “I have seen offers like these before”; and “Offers like the one I viewed today are common” (1 = strongly disagree, 7 = strongly agree).

Participants then indicated (yes/no) whether they currently had any outstanding debt (e.g., credit card debt, personal loans, mortgages), and reported demographic information. To add credibility to the study’s cover story of exploring participants’ interest in financing offers, we provided a link to an American Express website at the study’s end.

Results

Instruction check. The majority of participants (97%) correctly identified the debt form (credit card vs. personal loan) presented to them in the study.

Interest in financing. The two questions assessing interest in the offer and likelihood of applying for the funding were strongly correlated ($r = .83, p < .001$) and combined to form a single interest-in-financing dependent measure. As expected, participants were more interested in financing in the form of a credit card ($M = 3.22, SD = 1.79$) than in the form of a personal loan ($M = 2.71, SD = 1.72$), $F(1, 192), = 4.18, p = .042$.

Debt repayment. The two measures regarding debt repayment (concern about repayment and importance of repayment) were only weakly correlated, ($r = .32, p < .001$) and thus analyzed separately. As expected, participants were more concerned about repaying financing in the form of a personal loan ($M = 6.82, SD = 2.02$) than in the form of a credit card ($M = 5.93, SD = 2.61$), $F(1, 192), = 7.26, p = .008$. However, participants did not differ in terms of how important, in general, it would be to repay their financing ($F < 1, NS$). The means for this measure suggest that the results on the latter measure may have been due to a ceiling effect ($M_{\text{loan}} = 8.06, SD = 1.56$ vs. $M_{\text{credit}} = 8.12, SD = 1.59$).

Debt familiarity. The two measures assessing the offer's familiarity were strongly correlated ($r = .69, p < .001$) and were combined into a single measure. There was a significant effect of condition on familiarity, with participants rating the credit card offer ($M = 5.39, SD = 1.37$) as more familiar than the personal loan offer ($M = 4.59, SD = 1.59$), $F(1, 192) = 14.10, p < .001$. However, these familiarity perceptions were not correlated with participants' interest in the financing offers, overall, or by experimental condition, all $p > .527$.

WEB APPENDIX FIGURE 1: FINANCING STIMULI USED IN WEB APPENDIX


STUDY 5

Live your life to the fullest with the help of a credit card from American Express

INTRODUCING **AMERICAN EXPRESS CREDIT CARDS**

UP TO **\$25,000**¹ WITH COMPETITIVE FIXED INTEREST RATES

From experiencing more of life, to improving the everyday, there are many reasons to want a credit card. Whether it's finally taking that dream vacation, walking into your brand new kitchen, or simply consolidating debt, a credit card from American Express offers the right option for you.

 Fixed monthly payments | No origination fee or pre-payment penalty

Lock in a competitive fixed interest rate with our quick and simple application. Click the button below to see if you are pre-approved for a credit card.

Terms and Conditions apply


[Click Here to See Your Rate](#)

Live your life to the fullest with the help of a personal loan from American Express

INTRODUCING **AMERICAN EXPRESS PERSONAL LOANS**

UP TO **\$25,000**¹ WITH COMPETITIVE FIXED INTEREST RATES

From experiencing more of life, to improving the everyday, there are many reasons to want a personal loan. Whether it's finally taking that dream vacation, walking into your brand new kitchen, or simply consolidating debt, a personal loan from American Express offers the right option for you.

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