Effects of Perceived Scarcity on Financial Decision Making

Laurel Aynne Cook and Raika Sadeghein

How are financial decisions compromised as scarcity increases? Extant research focuses mostly on the consequences of financial scarcity; moreover, this factor is treated simply as a lack of liquidity. Using a mixed-method approach, the authors investigate the dimensions of perceived scarcity and the ways they work in tandem to negatively influence perceptions and decisions. Internal influences (including perceived consequences) and external influences (including decreased lending options) lead to results described in this article as the "triple scarcity effect." Experimental results show how perceived financial scarcity undermines loan decisions, particularly for consumers at the greatest financial risk. Next, qualitative data collected from the Consumer Financial Protection Bureau are used for a between-method triangulation of the earlier findings. Understanding the multidimensionality of perceived financial scarcity is important for designing preventive measures that improve decisions (e.g., not reborrowing) and decision making (e.g., accurately calculating cost). Results from two interventions demonstrate how these improvements are made when consumers' perceptions of scarcity are reduced. Finally, the authors discuss the welfare impact for lenders, marketers, and policy makers, and they offer an agenda for future research.

Keywords: resource scarcity, triple scarcity effect, payday loans, lending, financial well-being

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Problems associated with poverty, such as limited savings or overborrowing, have been debated in the social sciences with three opposing views. The first view emphasizes the role of the environment (e.g., lending options) or demographic factors (e.g., income). The second view focuses on personality factors such as risk aversion or self-control. More recently, a third view suggests that suboptimal financial decisions may result from perceptions of scarcity. In line with this theoretical development, the current research reiterates how financial decisions are compromised when consumers have less than they feel they need. However, we believe that perceived scarcity is more than a lack of financial resources (e.g., liquidity): it is also perceptual and can compound the problems associated with financial strain. A lack of liquidity (e.g., "I don't have any cash in my bank account!"), perceived consequences (e.g., "My car will be repossessed!"), and limited lending options all interact to influence a consumer's financial decision-making abilities—an outcome we introduce as the "triple scarcity effect." Moreover, this effect is likely to become more harmful for those consumers who respond to financial strain by using unsecured loans (e.g., payday or check-cashing loans).

The Federal Deposit Insurance Corporation (FDIC) defines payday loans as interim, small-dollar loans that borrowers agree to repay from their next paycheck (2003). Payday loans have a large impact on the economy of the United States: they are estimated to have cost Americans $3.6 billion in fees in 2015 (Schmall and Wolkowitz 2016) and have been used by nearly 19 million households (Melzer and Morgan 2015). The influence of these loans on individuals has also been highlighted. For example, King and Parrish (2011) find that borrowers are indebted an average of 212 days the first year they take out a payday loan. During a full two-year period, borrowers are indebted a total of 372 days, on average (p. 2). This result is often referred to as a cycle of debt, whereby consumers *over*borrow, are unable to pay off the entire loan, and then usually *re*borrow—generally known in the payday industry as "rollovers."

Using a multimethod approach, we begin by testing how the dimensions of financial scarcity vary in their effects on consumers' borrowing, cost estimations, perceptions, and behavioral outcomes. Next, we corroborate our experimental findings using qualitative data collected from payday loan complaints filed with the Consumer Financial Protection Bureau (CFPB). We examine the responses of everyday payday consumers to see whether they provide evidence of the triple scarcity predictors introduced in Studies 1–3. The data are also useful to generate additional insight into the underlying phenomena. Our final study is an experiment that tests two strategies designed to help consumers reduce their perceptions of financial scarcity in order to make better financial decisions. With this research approach, we aim to address the following research questions: (1) Will consumers overborrow more under conditions of no liquidity (i.e., cashless) or when the need for money becomes critical? (2) How will other sources of financial scarcity (e.g.,

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perceived consequences) influence borrowing? (3) Are consumers most vulnerable to overborrowing when they concurrently lack liquidity and lending options *and* anticipate loss? (4) What are the perspectives of payday borrowers? Do the various dimensions of perceived scarcity appear when they articulate their loan motivations and experiences? (5) Will improvements in perceived financial scarcity have a positive impact on perceptions and behavioral outcomes for the most vulnerable group of consumers (i.e., recent payday users)?

The current research investigates how the absence of liquidity, limited lending options, and loss framing synchronously increase perceptions of scarcity. Taken together, these factors negatively influence consumers' financial decisions. We suggest that dimensions of scarcity work in tandem to change consumers' attention and financial decisions. These results are some of the first data to illustrate differences in affective and attitudinal responses to scarcity. Previous research has frequently treated scarcity as a basic process across consumers, ignoring important situational and individual differences. Understanding the true dynamics of perceived financial scarcity is important for finding preventive measures, which could help reduce the negative consequences of perceived scarcity. Our research demonstrates when changes in perceived scarcity negatively affect consumers' loan perceptions, decisions, and cost estimations. Importantly, we also establish that perceived scarcity is multidimensional and is not solely a result of the absence of liquidity. This result is a vital finding, especially for policy makers, because consumers' financial circumstances cannot be influenced directly. Fortunately, our findings suggest that perceptions of scarcity can be mitigated through factors *other* than liquidity.

Perceived Financial Scarcity

Generally, scarcity occurs when you have less than you feel you need (Mullainathan and Shafir 2013). This psychological mechanism has been shown to affect decisions beyond socioeconomic and personality factors (Shah, Mullainathan, and Shafir 2012). Specifically, perceptions of scarcity shift our attention to the most pressing problems while causing us to neglect other issues. This attentional neglect shifts focus to the benefits of today without enough regard for, or elaboration on, future consequences. Previous research has shown the negative outcomes of financial decisions made in isolation (Benartzi and Thaler 1995; Langer and Weber 2005; Thaler et al. 1997). Consumers should consider current and future expenses to make objectively better financial decisions. Under conditions of scarcity, an attentional shift causes people to focus on current expenses only. This outcome is described by Mullainathan and Shafir (2013) as a scarcity-induced "tunnel" in which a person focuses "single-mindedly on managing the scarcity at hand" (p. 29) and is blind to everything outside the tunnel. However, as Langer and Weber (2005) note, a narrow framing of financial decisions will have a systematic impact on finance management. An individual's cognitive ability and mental accounting are reduced (Mullainathan and Shafir 2013). Mental accounting refers to the methods implemented to evaluate costs, benefits, and financial outcomes. As the time horizon considered in decision making becomes shorter, people make financial decisions that are objectively inferior (Benartzi and Thaler 1995). Mullainathan and Shafir (2013) explain that the tunnel "magnifies the costs and minimizes the benefits" (p. 30). In other words, it distorts the ability to perform a thorough cost–benefit analysis. As a result, individuals neglect the long-term consequences of their actions and focus just on the short-term relief of the magnified costs. Tunneling works through the mechanism of goal inhibition. The goal created by scarcity is "dealing with pressing needs, that inhibits other goals and considerations" (p. 31). Therefore, this mindset may explain how payday loans reinforce poor financial decision making.

The primary element of perceived scarcity results from consumers' limited financial resources (e.g., such liquid assets as cash). The absence of financial liquidity is especially concerning for employed consumers who live below the poverty level, otherwise known as the working poor (Koku and Jagpal 2015). Most borrowers use payday loans for utilitarian expenses, like rent, utilities, or necessities such as food and clothing (Bianchi and Levy 2013). Generally, when items are scarce, they are viewed as more valuable (Cialdini 1993). For this reason, consumers are often willing to pay a higher price (e.g., a higher interest rate) for cash when their assets have become depleted. For instance, the annual percentage rate (APR) of payday loans can range from 300% to 1,000% (FDIC 2003, 2013), and these rates are significantly higher than other forms of credit available to consumers (e.g., credit cards). The absence of liquidity will directly influence loan decisions and the negative effect of "having less" (Shah, Mullainathan, and Shafir 2012) will be compounded for recent (vs. new) borrowers.

H_1: The effect of no liquidity on loan decisions and perceptions is stronger (less favorable) for recent payday loan consumers.

Mullainathan and Shafir (2013) argue that perceived scarcity consumes mental "bandwidth" and results in an attentional shift. This perception of scarcity and attentional shift is not the same, though, in all circumstances. For example, perceptions of scarcity differ when funds are lacking for a regular dental checkup compared with funds needed for a root canal. The differences described here vary as a function of criticality, which is defined as the perceived importance of a particular experience (Ostrom and Iacobucci 1995). One of the impacts of criticality is intensifying and strengthening attitudes. While limited effort is exerted to resolve money issues related to a dental checkup, significantly more effort and attention are given to resolve an excruciating toothache (i.e., the need for a root canal). As demonstrated, a need's criticality is directly related to the attention given for problem resolution. A need's criticality, then, should cause an attentional shift—one of the primary outcomes of perceived financial scarcity. As a result, we expect the unfavorable effect of no liquidity to be stronger when criticality is higher.

H_2: The effect of high criticality on loan decisions and perceptions is stronger (less favorable) for recent payday loan consumers.

We expect the combined effect of liquidity and criticality to influence the loan amount consumers request. Other outcomes, including the ability to correctly estimate a loan's cost, may be negatively impacted. While each of these factors (liquidity, criticality, and loan user type) imposes a tax on mental bandwidth, we predict that their combined effect will pose a greater threat to consumers' financial decisions. For consumers who have recently incurred debt through a payday loan, the influence of liquidity and criticality will be stronger than for new borrowers. Research has shown that 83% of recent borrowers are already in debt, and 55% of them take out more than one payday loan a year (Freeman 2016). These individuals are in a cycle of debt and are especially vulnerable to changes in liquidity and criticality. In response, we suggest the following:

> H_3: The effect of no liquidity (scarce financial resources) is stronger (less favorable) for recent payday loan consumers in a critical situation.

Most extant literature concerns the consequences of scarcity. Alternatively, little research exists regarding the antecedents of this phenomenon. Expanding on the definition of scarcity by Mullainathan and Shafir (having less than you feel you need), we suggest that scarcity is defined as fiscal needs minus resources, when needs are greater than are current resources. In addition, a person's need may differ in magnitude based on context. We test these two drivers of financial need in our first experiment. Figure 1 presents our conceptual framework.

Study 1

Study 1 examines the effects of no liquidity (financial scarcity) and criticality for U.S. borrowers. We utilized a controlled experiment for exploring two primary questions: (1) Will consumers overborrow more (a) under conditions of no liquidity or (b) when the need for money becomes critical? (2) As liquidity and criticality improve, will these changes have a positive impact on perceptions and behavioral outcomes for the most vulnerable group of consumers (i.e., recent payday users)?

Study Design

The online study was a 2 (liquidity: present/absent) × 2 (criticality: low/high) between-subjects design. We manipulated liquidity through a scenario ("You are broke" or "You just got paid") and manipulated the premise for needing a payday loan (criticality) in both cases with a visit to the dentist prompted by a root canal (high criticality) or a routine checkup (low criticality). In addition, we included a measure of prior payday loan usage that consisted of two responses ("yes" and "no") for use in tests of our hypotheses ("Have you recently, within the last six months, requested a cash advance through a payday loan company?").

Sample and Procedure

Participants were 207 adult American consumers recruited through Amazon Mechanical Turk (MTurk).[1] Cell sizes ranged between 49 and 54. Approximately half of the sample participants (n = 104) were recent payday loan users. We randomly assigned participants to one of the experimental conditions and presented all of them with a brief description of payday lending (for experimental stimuli, see the Web Appendix).

We then asked all participants to indicate the number of credit cards they had, their approximate credit score, employment information, and whether they owned their home. After ten seconds of simulated "processing" time, participants saw the following text: "Congratulations! You are qualified to receive a payday loan of up to $1,000 from EZ Loan! The loan is due in 14 days and costs $25 per $100 borrowed (651.78% APR)." The sample had a median income of $40,000–$49,999; 89% had attended at least some college, and 59% had earned a college degree. More than half the sample participants were female (66%), and the mean age of the respondents was 34 (SD = 12); 76% were Caucasian; 67% were employed full-time; and geo-IP measures embedded within the survey confirmed responses from 42 states.

Measures

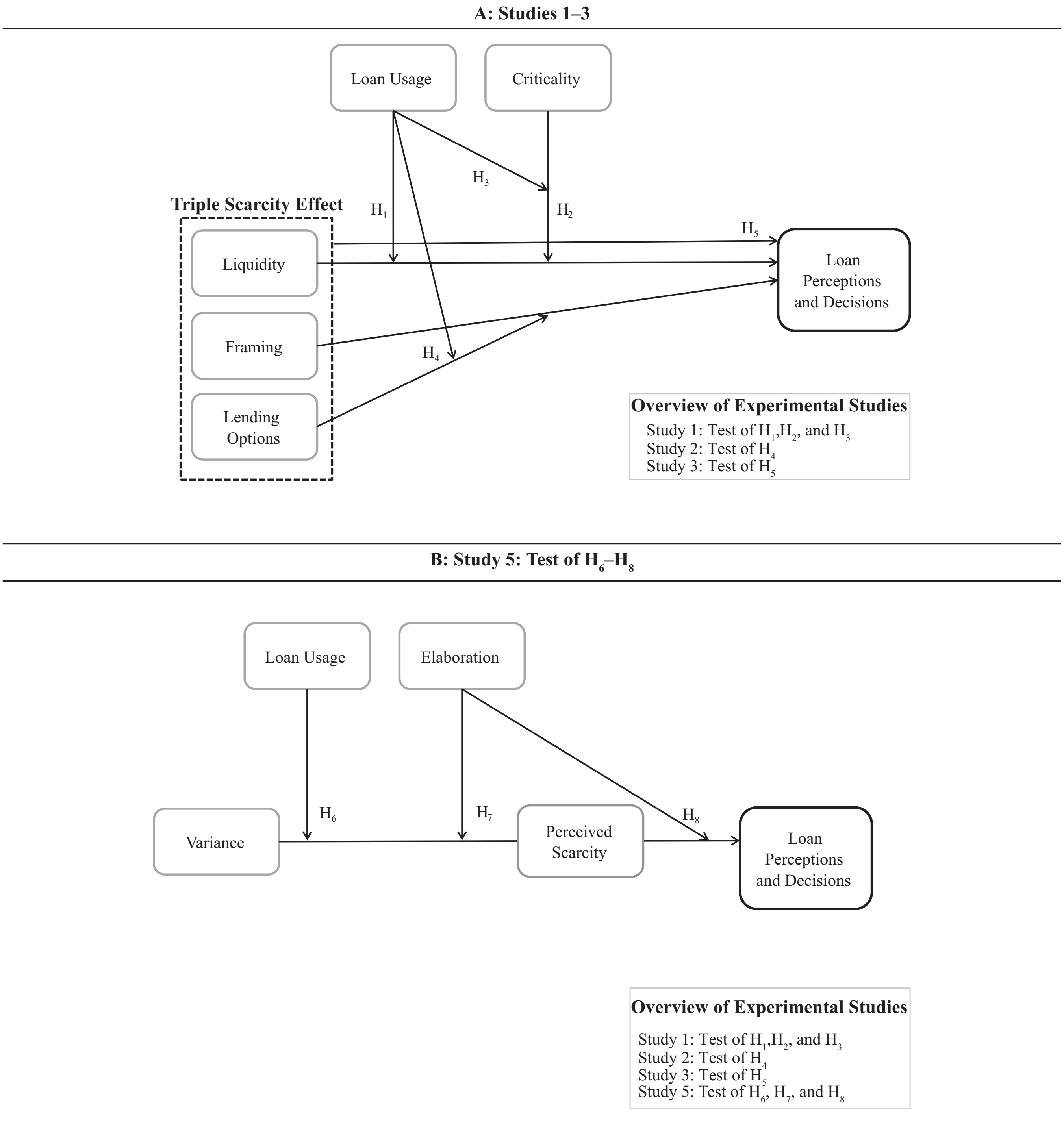
We addressed the following three primary dependent measures: (1) loan amount, (2) financial accuracy, and (3) attitudes and perceptions. Loan amount was a single open-response item. We reminded participants of the amount for which they qualified (up to $1,000) and asked them to choose a loan no larger than the maximum. In both conditions, we told the respondents they needed $500. We measured financial accuracy by requesting that each participant provide an estimate of the finance charge associated with the specific loan requested. Differences between the cost and each estimate were calculated after responses had been collected.

Financial risk perception measures included five items rated on a seven-point scale ($\alpha = .84$) drawn from prior research with regard to risk perceptions (DelVecchio and Smith 2005; e.g., "Given the financial commitment, I may regret purchasing a payday loan," with endpoints of "strongly disagree" and "strongly agree"). We also added a measure of ego depletion (e.g., Clarkson et al. 2010). Ego depletion occurs in conditions of prolonged self-control. The persistent exertion of self-control consumes cognitive and affective resources that reduce operating power (Baumeister 2002). Individuals in an ego-depleted condition make objectively poorer decisions (Baumeister 2002; Baumeister et al. 1998). We included this measure to determine whether dimensions of financial scarcity result in ego depletion and further jeopardize consumers' financial welfare. Ego-depletion measures included three items rated on a seven-point scale ($\alpha = .77$) drawn from prior ego-depletion research (Dorsey and Fitzgerald 2015; e.g., "I am mentally tired," with endpoints of "strongly disagree" and "strongly agree").

A person's consideration for distant (vs. immediate) consequences of behavior can substantially influence his or her financial decision making (Ellen, Wiener, and Fitzgerald 2012; Salisbury 2014). In response, we included consideration of future consequences (CFC; Strathman et al. 1994) as a covariate measure. We added the full 12-item scale from Strathman et al. (1994) with items such as, "I only act to satisfy immediate concerns, figuring the future will take care of itself" (endpoints of "extremely uncharacteristic" and "extremely characteristic"). We carried out an exploratory factor analysis, employing principal components of extraction and Varimax rotation on this scale, without constraining the number of factors. The data for this construct matched up in seven items, with the two dimensions (immediate concerns: four items, $\alpha = .85$; and future outcomes: three items, $\alpha = .66$) well supported in extant literature (Joireman and King 2016). We subsequently included both scales as covariates. We also included eight basic questions, as prescribed by economists and implemented as a standard covariate measure of financial literacy (Lusardi, Mitchell, and Curto 2009), for example, "If you borrowed $100 today at an APR of 12%, approximately

[1]To collect our study sample via MTurk, we included the following mandatory qualifications for participants in this and all remaining studies: (1) minimum age of 18 years, and (2) prior MTurk job-approval rate ≥ 90% (i.e., indicating superior performance). Finally, embedded measures within the survey (e.g., geo-IP location, mobile-device usage) allowed only U.S. residents on a laptop or desktop computer to participate.

Figure 1. Conceptual Models



how much interest would you owe at the end of one month?" The survey software automatically calculated an accuracy score (1 = correct; 0 = incorrect). Finally, to assess the impact of income and education on financial decision making, each demographic variable was included as a covariate here and for all remaining studies.

Results

Manipulation Checks

To measure the effectiveness of our mock financial situation, we requested each participant respond on a seven-point scale (endpoints "disagree" and "agree") to the following statement:

Table 1. Study 1: Effects of Scarcity, Criticality, and Prior Payday Loan Usage

	Univariate F-Values and η_p^2			
Independent Variables	**Loan Amount**	**Loan Cost Accuracy**	**Ego Depletion**	**Financial Risk**
Main Effects				
Criticality (C)	4.22** (.02)	.258	.359	.406
Liquidity (L)	.635	.514	0	.067
Loan usage (U)	5.72** (.03)	.019	.673	4.94** (.03)
Interaction Effects				
C × L	.15	.015	1.75	.319
C × U	3.09* (.02)	2.78* (.01)	.028	.458
L × U	.831	3.89** (.02)	1.73	.328
C × L × U	5.41** (.03)	.572	5.81*** (.03)	2.84* (.01)

*$p \leq .10$.
**$p \leq .05$.
***$p \leq .01$.
Notes: Consideration of future consequences, financial literacy, income, and education are covariates. Suggested norms for η_p^2 effect sizes (in parentheses): small = .01; medium = .06; large = .14.

"In my opinion, this situation represents a financial emergency." Utilizing a one-way analysis of variance (ANOVA), we found difference in perceptions across conditions ($p < .001$), where low criticality (M = 2.8) was perceived as much less of a financial emergency than high criticality (M = 5.7). Moreover, we asked every participant to respond to the statement "I feel as if my expenses are not easily met because money is scarce," and a one-way ANOVA confirmed differences in perceptions ($F(1, 205) = 11.9$, $p = .001$; $M_{liquidity} = 4.5$, $M_{no\ liquidity} = 5.5$). At the end of the survey, we asked participants to recall the reason for needing a payday loan (routine exam; root canal; teeth whitening; braces). We conducted a two-way contingency table analysis to ascertain the significance of those participants who correctly identified their experimental condition; 97.1% ($Criticality_{low}$) and 100% ($Criticality_{high}$) correctly recalled their experimental condition ($\chi^2 = 199.2$, $p < .001$, Cramer's V = .98). Finally, we requested that participants recall the financial situation described in the scenario (they were broke; a friend was going to lend them money; they had just been paid; they were going to be paid soon); 95% (liquidity) and 93% (no liquidity) correctly recalled their experimental condition ($\chi^2 = 187.7$, $p < .001$, Cramer's V = .95). The significant results and large effect sizes confirm the effectiveness of our experimental manipulations.

Effects on Loan Amount and Cost Estimations

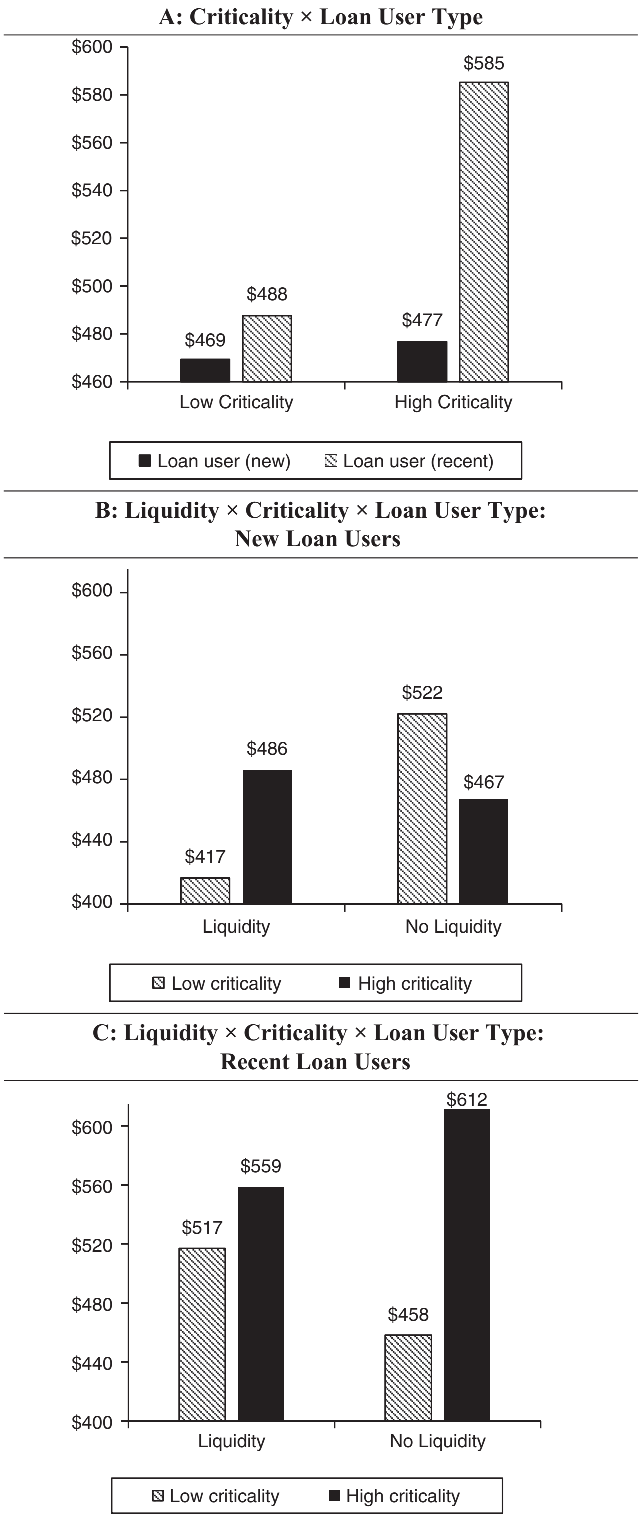
In each experimental scenario, we told participants they required $500 to cover expenses. As expected, those in a highly critical scenario (i.e., root canal) and recent payday loan users tended to overborrow (*p*s ≤ .04). Several notable interactions, however, qualify these main effects. First, the amount of overborrowing is moderated by the criticality of the situation, but only for recent users (H_2). For instance, contrast tests show that there is *no* difference in the amount borrowed for new users—even in critical situations ($p \geq .6$). However, for recent payday loan users, the amount of borrowing increases by ≈$100 when criticality is high (M = $585.22; $F(1, 196) = 7.3$, $p = .008$, $\eta_p^2 = .04$). This result underscores the harmful effects of criticality for those consumers who are at the greatest risk. Furthermore, the effects of liquidity further magnify this effect, and the three-way interaction is significant ($F(1, 196) = 5.4$, $p = .02$, $\eta_p^2 = .03$), as outlined in Table 1 and shown in Figure 2, Panel B. Specifically, recent loan users request an average of $612 when faced with the pressures of absent liquidity and high criticality, and the magnitude of this effect is substantial ($F(1, 196) = 9.4$, $p = .002$, $\eta_p^2 = .05$), consistent with H_3. Liquidity also affected recent users' ability to correctly estimate the cost of their loan. Without liquidity, estimations were incorrect by an average of $48 ($F(1, 196) = 3.7$, $p = .057$, $\eta_p^2 = .02$). Clearly, these consumers are more vulnerable to situational factors and are likely to respond in ways (e.g., overborrowing, underestimating cost) that negatively impact financial well-being.

Effects on Risk Perceptions and Ego Depletion

Generally, new users perceived a payday loan as financially riskier (M = 6.4) than did recent consumers (M = 6.0; $F(1, 196) = 4.94$, $p = .03$, $\eta_p^2 = .03$). However, liquidity and criticality moderate this effect somewhat. The primary driver of this interaction is based on effects that occur for recent payday loan consumers (H_2). Specifically, risk perceptions were increased for these consumers when liquidity was absent and criticality was high ($F(1, 196) = 3.1$, $p = .08$), and there was no change for new users ($p > .6$).

We hypothesized differences in perceptions of ego depletion, a dependent variable with important implications for self-regulation as well. As expected, liquidity and criticality interacted, and the effect on ego depletion varied among loan users (three-way effect; $F(1, 196) = 5.81$, $p = .017$, $\eta_p^2 = .03$). Follow-up contrast tests show a disordinal interaction between liquidity and criticality. When liquidity is present, ego depletion increases (i.e., becomes less favorable) when criticality is high ($F(1, 196) = 4.2$, $p = .04$, = .02). When consumers are cash-poor (i.e., liquidity is absent), the effect reverses and ego depletion decreases when criticality is low ($F(1, 196) = 2.8$, $p = .095$, $\eta_p^2 = .01$). Importantly, this interaction occurs only for recent payday loan users.

Figure 2. Study 1: The Moderating Effect of Criticality on Liquidity and Loan User Types for Payday Loan Amounts



Notes: Panel C: A significant contrast is shown between low and high criticality for recent loan users when liquidity is absent ($F(1, 196) = 9.4$, $p = .002$, $\eta_p^2 = .05$). All other contrasts in the three-way interaction are nonsignificant.

Results Summary

In partial support of H_1, Study 1 results show that recent payday loan users without liquidity (i.e., cash-poor consumers) are more likely than consumers with liquidity to misestimate the costs associated with a payday loan. This interaction, however, did not significantly impact consumers' overborrowing. Consistent with H_2, recent payday loan users in a high criticality condition borrowed significantly more, compared with new users or those in a noncritical condition. We also find a significant three-way interaction of liquidity, criticality, and user type on risk perceptions, ego depletion, and loan amount, in support of H_3. These findings offer preliminary evidence that recent payday loan users are more at risk for poor financial decision making. These at-risk consumers borrow more than the amount they need, while misestimating the total cost of their loan. Moreover, lower perceptions of risk and greater levels of ego depletion begin to illustrate the cognitive effects behind these external environmental factors.

Study 2

In addition to liquidity, consequences (e.g., perceptions of loss) may be another dimension of perceived scarcity. Without cash and with the possibility of losing—or of going without—possessions and services, this segment of consumers is vulnerable and more likely to overborrow. They are largely concentrating on resolving their scarcity issues (e.g., "I need money; how can I keep my goods/services, and who will give me money?") and are not focused on *other* future consequences (e.g., fees associated with insufficient checking-account funds). According to the psychology of decision making, the disutility of loss is far greater than the utility of a gain (Benartzi and Thaler 1995). As a result, the value of goods/services that are about to be lost is significantly higher. As mentioned previously, the majority of payday loan borrowers use payday loans for utilitarian purposes and such necessities as food, clothing, or rent (Bianchi and Levy 2013). For them, not possessing the necessary funds is equal to a loss of service or product. To prevent such losses, they adopt a myopic loss-aversion lens, which creates the same tunnel vision as does lack of liquidity. The myopic loss-aversion lens will push them to behave in what they consider to be low-risk ways (Bellemare et al. 2005). To these people, a low-risk behavior involves omitting what they consider a pressing threat against their welfare. To do this, they will ignore the future threats their current decision might pose to their well-being.

Another driver of perceived financial scarcity may be a limitation of other lending options. Many consumers turn to payday loans as a last resort. These individuals are less likely to be eligible for other loans, credit cards, or funds from friends and family. For this reason, their perceptions of scarcity may become intensified. Lack of lending options other than payday loans creates an effect similar to the absence of liquidity. It creates the same sense of "having less than you feel you need"—thus reducing consumers' cognitive capability and executive control. It reduces the ability to compare benefits and costs (Shah, Mullainathan, and Shafir 2012). We maintain, though, that limited lending options alone do not have a significantly negative impact on financial decisions. Restricted lending options, unlike a lack of liquidity or perceived consequences, are not a persistent concern. This issue arises only when there is a need to borrow. Consequently, perceptions of financial scarcity will grow when other lending options are absent *and* the user is avoiding a loss.

H_4: The effect of limited lending options on loan decisions and perceptions is stronger (less favorable) for recent borrowers avoiding a loss.

In response, our objective in the next study is examining the effects of other sources of perceived scarcity. While limited financial resources (e.g., cash) can contribute to unfavorable outcomes for consumers, as demonstrated in our first study, perceived financial scarcity is multidimensional and is also influenced by other factors. Notably, consumers' perceived scarcity may result from perceived consequences (i.e., losses loom larger than gains) or limited lending options (i.e., no other forms of credit). We explore both of these factors here.

Study Design

The online study was a 2 (frame: loss/gain) × 2 (lending options: present/absent) between-subjects design. As in the previous study, we gave all participants a scenario describing the need for a payday loan. We manipulated framing as a loss ("You are four months behind on payments for your car, and you now risk repossession") or as a gain ("You want to lease a newer model to benefit from the additional features"). We manipulated lending options as absent ("You have no other lending options, so a payday loan is your only source of cash") or present ("You have other lending options, but you still decide to acquire cash through a payday loan"). We additionally measured prior payday loan usage (i.e., recent/new) in an identical manner as described for Study 1.

Sample and Procedure

Participants were 200 adult American consumers recruited on MTurk. Cell sizes ranged between 48 and 52. Approximately half of the sample participants (n = 113) were recent payday loan users. The sample had a median income of \$40,000–\$49,999; 90% had at least some college; and 59% had obtained a college degree. Slightly more than half of the sample participants were female (58%), and the mean age of the respondents was 36 (SD = 11); 75% were Caucasian; 67% were employed full-time; and geo-IP measures embedded within the survey confirmed responses from 39 states.

Results

Manipulation Checks

After the presentation of our manipulations, we asked participants to respond to the statement "The information about what you need the money for was..." on a seven-point scale with endpoints "focused on the benefits" (gains) and "focused on the risks" (losses). One-sample t-tests confirmed means above the scale midpoint for gain framing (M = 4.5, t(97) = 4.6, $p < .001$) and below the scale midpoint for loss framing (M = 2.1, t(101) = 9.4, $p < .001$). One-sample t-tests for responses to the statement "I believe that I have plenty of lending options" show means above the scale midpoint when lending options were present (M = 3.9, t(97) = 2.3, $p = .02$) and below the scale midpoint when lending options were absent (M = 2.9, t(101) = 3.5, $p = .001$). Moreover, we recorded recall at the end of the survey; 96% (loss framing) and 93% (gain framing) correctly recalled their experimental condition ($\chi^2 = 173$, $p < .001$, Cramer's V = .93). Finally, we asked participants to remember the number of lending options provided, with 97% correctly recalling the absence of lending options ($\chi^2 = 44.1$, $p < .001$, Cramer's V = .47).

Effects on Loan Amount and Cost Estimation

We predicted that prior loan usage would moderate the effect of lending options (i.e., absent or present). As Table 2 illustrates, this factor moderates consumers' loan amount (F(1, 187) = 3.84, $p = .05$, $\eta_p^2 = .02$). Contrasts show that this effect is strongest for recent users. For instance, when lending options are absent, the amount new and recent users borrow is well above the required amount (i.e., \$500, which is identical to Study 1), although the difference between users is not significant ($p = .49$). The effect of other lending options is most helpful for new users. In this case, the amount borrowed is \$68 less than when lending options are absent (F(1, 187) = 3.29, $p = .07$, $\eta_p^2 = .017$). Moreover, when other lending options are available, recent users borrow an average of \$73 more than new users (F(1, 187) = 4.08, $p = .04$, $\eta_p^2 = .021$). Interestingly, the amount of overborrowing increases when a loss frame is employed. In partial support of H_4, contrasts show a three-way interaction between these factors whereby recent users borrow \$132 more with a loss frame (vs. a gain frame), despite the presence of lending options (F(1,190) = 6.62, $p < .05$, $\eta_p^2 = .034$). For these consumers, the presence of lending options does little to influence the amount of overborrowing. When the payday loan is framed in response to a loss (repossession), however, nearly \$200 (M = \$686) is borrowed in excess of the amount actually needed (see Figure 3).

We are also interested in how framing and lending options affect consumers' financial estimations. An important implication for cash advances is the ability to calculate their true cost. Given the realistic APR of 652% in our scenario, the cost may vary substantially as a function of the loan amount. Results indicate that consumers with the lowest financial literacy (i.e., a score of 0) underestimated their loan's finance charge by an average of \$500. Such a result clearly reiterates that consumers with low financial literacy are the most vulnerable segment in this market.

Results Summary

Study 2 examined other dimensions of perceived scarcity (perceived consequences and limited lending options). In addition, consistent with H_4, we identified an increase in overborrowing when other lending options are absent. This effect was stronger for recent payday loan users. Moreover, a significant three-way interaction among limited lending options, perceived consequences, and user type supported H_4, although we discovered an increase in overborrowing for recent users with a loss frame, even when other lending options were present. As expected, this outcome indicates that the impact of perceived consequences of loss (i.e., loss framing) is stronger than the effect of limited lending options.

Study 3

In Study 3, our goal is examining the effects of all three sources of a consumer's perception of financial scarcity: no liquidity, perceived consequences (gain vs. loss), and limited lending options. The combination of these three drivers creates a condition we call the "triple scarcity effect." The individual effect each factor may have on financial decisions is limited and is not

Table 2. Study 2: Effects of Framing, Lending Options, and Prior Payday Loan Usage

	Univariate F-Values and η_p^2			
Independent Variables	**Loan Amount**	**Loan Cost Accuracy**	**Repurchase Intentions**	**Financial Risk**
Main Effects				
Framing (F)	.15	0	.66	.19
Lending options (LO)	.59	1.08	.26	1.49
Loan usages (U)	.87	1.25	20.93**** (.10)	5.90** (.03)
Interaction Effect				
LO × U	3.84* (.02)	1.95	.55	.90

*$p \leq .10$.
**$p \leq .05$.
****$p \leq .001$.
Notes: Consideration of future consequences, financial literacy, income, and education are covariates. Suggested norms for η_p^2 effect sizes (in parentheses): small = .01; medium = .06; large = .14. Unreported interactions (e.g., F × LO) are nonsignificant.

always a detriment. Previous studies have shown that a moderate level of perceived scarcity actually has the potential to work in consumers' favor—helping them to be more focused, creative, and better at making decisions (Mehta and Zhu 2016). However, when triple scarcity occurs, the combined effect on financial decisions will be negative. In the midst of this triple scarcity effect, the heightened attentional neglect will cause consumers to overborrow.

H_5: Unfavorable consumer perceptions and behavioral outcomes are highest when the triple scarcity effect occurs (i.e., no liquidity, limited lending options, and perceived consequences of loss).

In response, we designed this study to address three primary questions: (1) Will consumers overborrow when they (a) are without liquidity, (b) are without lending options, or (c) frame the consequence of their recent financial situation as a loss (vs. gain)? Which of these three outcomes will have the strongest (least favorable) effect on consumers' financial decisions? (2) Are consumers most vulnerable to overborrowing when they are in a triple scarcity situation? (3) Does the amount of overborrowing vary as a function of prior payday loan usage?

Study Design

The online study was a 2 (liquidity: absent/present) × 2 (frame: loss/gain) × 2 (lending options: present/absent) between-subjects design. We manipulated liquidity in the same manner as in Study 1. We manipulated framing and lending options in a manner similar to that of Study 2.

Sample and Procedure

Participants were 199 adult American consumers recruited on MTurk. Cell sizes ranged between 22 and 27. Slightly more than half of the sample participants (n = 112) were recent payday loan users. The sample had a median income of $40,000–$49,999; 87% had attended at least some college, and 53% had attained a college degree. Slightly more than half of the sample participants were female (56%), and the mean age of the respondents was 34 years (SD = 12); 67% were Caucasian; 81% were employed full-time; and geo-IP measures embedded within the survey confirmed responses from 41 states.

Results

Manipulation Checks

In the same manipulation check for liquidity from Study 1, a one-way ANOVA showed significantly increased perceptions of cash scarcity in the low condition (M = 6.8), compared with the "high" condition (M = 4.6; $F(1, 198) = 106.6$, $p < .001$). We also used the same manipulation checks from Study 2, and a one-way ANOVA demonstrated significantly increased perceptions of risk in the loss condition (M = 4.7), as compared with the gain condition (M = 2.2; $F(1, 198) = 107.2$, $p < .001$). A one-way ANOVA showed significantly increased beliefs with respect to having lending options in the high condition (M = 5.2), compared with the low condition (M = 2.3; $F(1, 198) = 161.9$, $p < .001$).

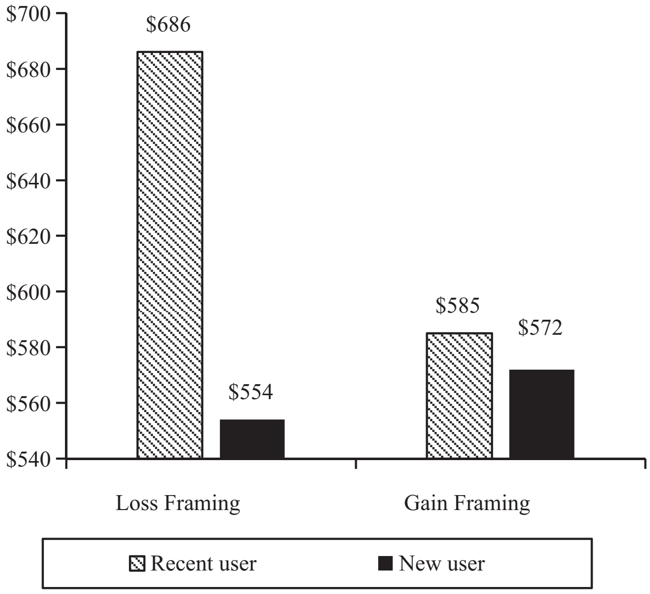
Furthermore, we requested that participants recall the financial situation that we had described to them in the scenario (i.e., they had just been paid; a friend was going to lend them money; they were broke with a bank account balance of $0.00; they were going to be paid soon). We performed a two-way contingency table analysis to determine the significance of those participants who correctly identified their experimental condition; 88% (liquidity present) and 98% (liquidity absent) correctly recalled their experimental condition ($\chi^2 = 169.1$, $p < .001$, Cramer's V = .92). In addition, we asked them to remember how many lending options they had (only a payday loan; others as well as a payday loan; five; ten); 80% (lending options present) and 93% (lending options absent) correctly recalled their experimental condition ($\chi^2 = 124.6$, $p < .001$, Cramer's V = .79). Finally, we asked the participants to remember the reasons they received a payday loan in the scenario (to avoid repossession; to lease a newer-model car; to purchase tinted windows; to pay parking fines), with 89% correctly recalling the gain manipulation and 98% correctly recognizing the loss manipulation ($\chi^2 = 158.3$, $p < .001$, Cramer's V = .89).

Effects on Loan Amount

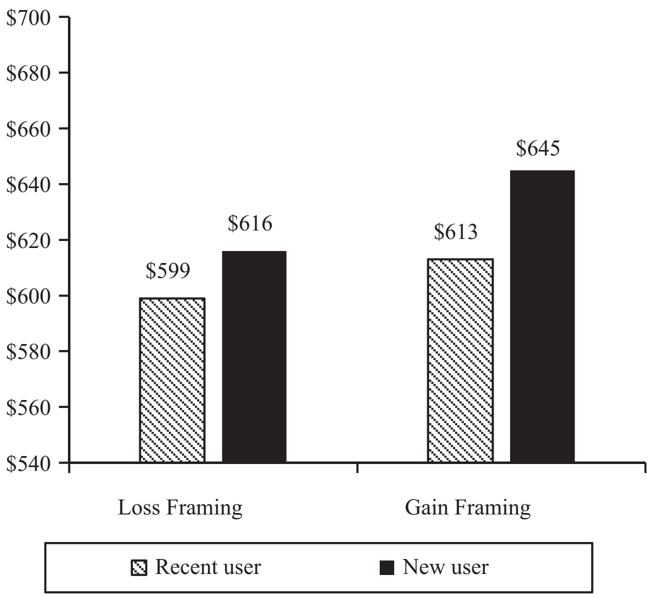
Consistent with our previous studies, we instructed participants that they needed at least $500 to cover expenses. As Figure 4 shows, there was a marginally significant three-way interaction among perceived consequences (loss/gain), lending options,

Figure 3. Study 2: The Moderating Effect of Framing, Lending Options, and Loan Usage for Payday Loan Amounts

A: Lending Options Are Present



B: Lending Options Are Absent



Notes: Panel A: A significant contrast is shown between user types for loss framing when lending options are present ($F(1, 187) = 6.62, p = .011, \eta_p^2 = .034$). All other contrasts are nonsignificant.

and liquidity ($F(1, 189) = 3.00, p = .08, \eta_p^2 = .016$), illustrating how individuals who were in a loss mindset, did not have any other lending options, and were without liquidity (i.e., "the triple scarcity effect") were negatively influenced (H_5). These individuals requested an average of $725 when faced with the triple scarcity effect (more than $200 in excess of their need). When liquidity was present, the amount borrowed was $133 less than when liquidity was absent ($F(1, 185) = 5.33, p < .05, \eta_p^2 = .028$). In addition, results support a main effect of user type (recent vs. new) on loan amount ($F(1, 177) = 12.49, p < .001, \eta_p^2 = .07$). Though there were not any interactions between user type and the triple scarcity effect, follow-up contrasts revealed several other significant interactions. For instance, results indicate that recent payday loan users who are without liquidity and frame the problem as a loss (vs. gain) tend to borrow $128 more than new payday loan users in the same situation ($F(1, 177) = 4.95, p < .05, \eta_p^2 = .027$). Moreover, we perceive a similar pattern of results for consumers without liquidity or other lending options because recent payday loan users tend to borrow $111 more than new users ($F(1, 177) = 4.06, p < .05, \eta_p^2 = .022$). Finally, we find that recent payday loan users who are in a loss mindset and have no other lending options borrow $187 more when they have no liquidity (cash) than when they are liquid ($F(1, 177) = 6.10, p < .05, \eta_p^2 = .033$). These individuals borrow an average of $809, which places them in the highest-vulnerability group. As mentioned in the previous study, this result highlights that those consumers are more vulnerable to situational factors and are likely to engage in overborrowing (see Table 3).

Effects on Purchase Intention

We anticipated that purchase intention would be higher for consumers experiencing the effects of triple scarcity: (1) no liquidity, (2) no other lending options, and (3) perceptions of risky consequences due to expectations of loss (i.e., loss framing). The effects of triple scarcity are also expected to be stronger for recent payday loan users. Here, the four-way interaction between liquidity × lending options × framing × user type approaches significance ($F(1, 177) = 3.49, p = .06, \eta_p^2 = .019$). Further contrasts reveal that recent payday loan users who have no liquidity, have a loss frame of mind, and have no other lending options have a significantly higher purchase intention ($M = 4.42$) than do new payday loan users under the same circumstances ($M = 2.16$; $F(1, 177) = 7.81, p < .01, \eta_p^2 = .042$). This outcome supports the prediction that recent (vs. new) borrowers facing the effects of triple scarcity are more likely to reborrow and enter a cycle of debt.

Results Summary

Consistent with H_5, Study 3 found support for a three-way interaction between liquidity, perceived consequences, and lending options on loan amount. Results offer evidence of the vulnerability for consumers who are in a loss mindset, have no other lending options, and do not have liquidity (i.e., scarce financial resources). Importantly, results show that this triple scarcity effect is worse for recent borrowers. These consumers are more likely to overborrow and stay indebted. In the next study, we elaborate on our experimental findings by drawing on qualitative data acquired from the CFPB.

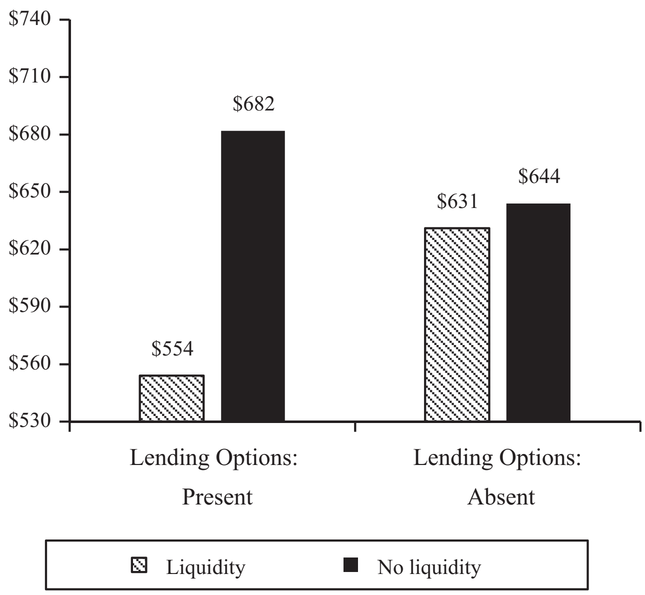
Study 4

Study Description

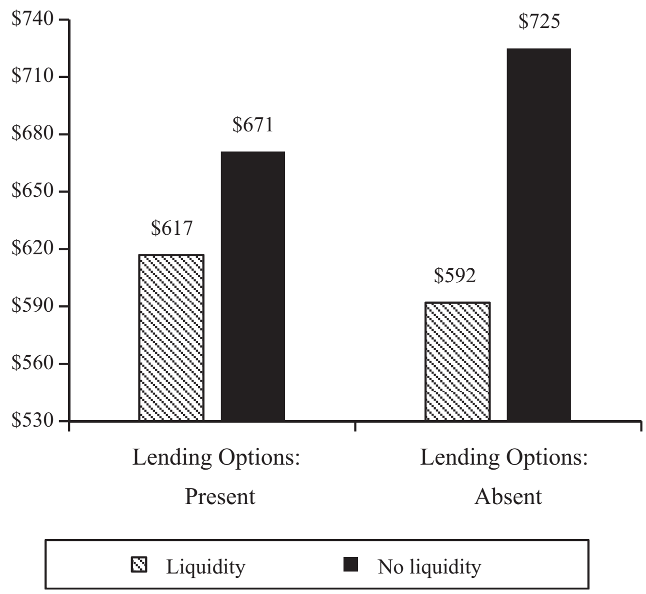
To gain further understanding of our experimental findings, we utilized qualitative data acquired through payday loan

Figure 4. Study 3: The Moderating Effect of Framing, Lending Options, and Liquidity for Payday Loan Amounts

A: Gain Framing



B: Loss Framing



Notes: Panel A: A significant contrast is shown between those with and without liquidity for gain framing when lending options are present (F(1, 185) = 5.34, p = .02, η_p^2 = .028). Panel B: A significant contrast is found between those with and without liquidity for loss framing when lending options are absent (F(1, 185) = 5.33, p = .02, η_p^2 = .028).

complaints filed with the CFPB (2017). This content analysis study was used to determine whether dimensions of perceived scarcity introduced in the experimental studies and recognized as important statistically were, in fact, predictors of consumer vulnerability and poor financial decision making. As suggested by Denzin (1978) and used by many marketing scholars (e.g., Hewett, Money, and Sharma 2006), the CFPB data were used for a between-method triangulation of our earlier findings. In addition, this study was conducted to enhance a deeper understanding of our focal constructs (for a full description of the CFPB Consumer Complaint Database, see the Web Appendix).

Implementing Hsieh and Shannon's (2005) approach for content analyses and to make the coding process more feasible, we used a random sample to identify recurring patterns in consumers' responses. According to Ritchie and Lewis (2013), in qualitative research, the sample size should be increased until empirical saturation is achieved (i.e., no new emerging themes). A number was assigned to each complaint, and a random number generator was used to select complaint narratives to analyze. The final sample contained 200 complaints to ensure saturation and to include 10% of the total sample (1,487 cases). Each complaint (dating from March 2015 to November 2016) was coded separately by two independent coders using computer-assisted, qualitative data analysis software (QSR NVivo 11; QSR International 2016). Abductive reasoning was used to move from the observation to the theory and vice versa (Dubois and Gadde 2002).

Discussion and Results

The conceptual model introduced earlier examines the dimensions of perceived scarcity in consumers' financial decision making. Results from three experiments show the effects these dimensions have on financial outcomes. In the current study, the results richly describe these factors and offer additional support for our triple scarcity prediction. Here, we find that consumers are burdened with stressors beyond a lack of financial resources. These burdens lead to decisions that reinforce their vulnerable financial circumstances.

Lack of Liquidity

Access, or a lack thereof, to liquid assets (i.e., cash) is an important dimension of perceived financial scarcity. Indeed, consumers illustrated this conceptualization in their complaints. For example, a consumer named Laura said, "We really needed the [cash] money to buy my son's school clothes and pay our bills off." As expected, there was not a single instance in our complaints sample in which an individual reported reasons for borrowing that did not include a lack of funds. This element is the most intuitive predictor of perceived scarcity. Without a need for cash, there is little need to borrow. However, it is not an *isolated* lack of liquidity that motivates consumers to depend on payday loans. The need for liquidity is often combined with other factors (e.g., a child needing clothes for school, bills having to be paid, car or housing payments being late), as shown in the remainder of the article.

Criticality

Consumers commonly reported taking out a payday loan under critical, even dire circumstances. Examples include needing payments for necessities such as utilities, shelter,

Table 3. Study 3: Effects of Liquidity, Framing, Lending Options, and Prior Payday Loan Usage

	Univariate F-Values and η_p^2			
Independent Variables	**Loan Amount**	**Loan Cost Accuracy**	**Repurchase Intentions**	**Financial Risk**
Main Effects				
Liquidity (L)	11.02**** (.06)	.31	1.99	.78
Framing (F)	.92	3.37*	.96	.16
Lending options (LO)	.26	.55	.07	2.51
Loan usages (U)	12.49**** (.07)	.06	9.14*** (.05)	17.34**** (.09)
Interaction Effects				
LO × U	1.48	.06	4.91** (.03)	.42
L × F × U	.54	.32	.36	.41
L × F × LO	3.43* (.02)	0	2.07	2.17

*$p \leq .10$.
**$p \leq .05$.
***$p \leq .01$.
****$p \leq .001$.
Notes: Consideration of future consequences, financial literacy, income, and education are covariates. Suggested norms for η_p^2 effect sizes (in parentheses): small = .01; medium = .06; large = .14. Unreported interactions (e.g., F × LO) are nonsignificant.

and medical emergencies. Consumers Linda and Helen referred to a medical issue as their primary reason to purchase a payday loan. Linda said, "I had medical issues and just had a baby to where I wasn't able to pay.... I have very little income." Helen had a similar story, explaining, "Due to a medical crisis, I used poor judgement and took out an online loan." In fact, most of these consumers indicated regret after purchasing a payday loan. Sam said "I took a small loan regrettably.... I was not made aware... that they expected me to pay a 831% interest rate!" However, the criticality of their situations influenced their decisions to use a payday loan.

Loan Usage

We hypothesized that consumers with previous payday loan experience (i.e., recent borrowers) are more susceptible to the negative effects of triple scarcity. Unfortunately, these borrowers are also more likely to enter a cycle of debt. Complaints from these consumers echoed our experimental findings. Many consumers had to reborrow from payday loans because they were unable to pay off the entire loan amount. Sarah noted, "I took out payday loans [again] when my husband wasn't working (a 15-month period) so that we would not have to pay car payments, housing, or utilities late. Since then, the interest has eaten us alive where we can't pay them off. We've had to... renew multiple times." This example shows how a recent payday loan user—cash-strapped, perceiving her situation as critical, and fearful of a looming loss—increases her debt in response to each dimension of perceived scarcity.

Framing

Studies 2 and 3 showed how a loss (vs. gain) frame negatively affects loan decisions and perceptions. The results of these studies show that the influence of framing on financial decisions is an important part of the triple scarcity effect. As expected, we find a loss avoidance articulated in the complaint narratives. For example, Gerald describes how the money from a payday loan is used to avoid a substantial loss: "I will soon be homeless. My landlord gave me thirty days to purchase this home because he wants to sell it." Harry describes how charges from a payday loan are affecting all aspects of his life, saying the unanticipated costs leave him with "literally no monies at all for the next two weeks, most importantly for basics like living expenses (food, transportation expenses, necessities, needed medication refills) and for bills that are now going to be past due (rent, utilities, car repair)." These examples demonstrate the dimensions of scarcity (lack of liquidity, criticality, and loss framing) working in tandem to negatively impact the borrower.

New Findings

Our content analysis also enhanced our understanding of several other factors not tested in our experiments. A consistent theme observed in the complaint narratives is the emotional burden experienced by borrowers. Communication problems (e.g., harassments or unwanted aggressive marketing) take an emotional toll on this group and inhibit future financial decisions. In a complaint, Carl mentions being harassed even after repeatedly asking the payday loan company to stop: "I left a voicemail with the store demanding that they cease and desist all communication with me and my references as it is harassment." Debt collection practices that unduly harass the borrower weaken the business relationship and compound an already precarious financial burden. Another example comes from Paul, a new payday loan consumer: "[I received] threatening phone calls at work and on my cell phone saying that I will be arrested and prosecuted, or worse." The data also illustrate another recurring theme from borrowers. Many consumers have exerted great effort to obtain additional information about their loan. Requests for additional information about the loan, finance charges, or the identity of the lender are commonly met with rejection. Lenders' lack of cooperation compels many consumers to doubt the authenticity of their fees and forgo payment. The decision not to pay results in additional charges and a longer loan period.

Results Summary

With the feedback of recent payday loan consumers, we see initial evidence of consumer vulnerability. The results support our prediction that these consumers are burdened with more than merely a lack of financial resources. They commonly report the reason for taking out a payday loan as the need for necessities and for critical issues that include medical crises and utilities. While there are some consumers who were aware of the significantly high costs and percentage rates, there is evidence that most of these individuals were unaware of the actual costs due to (1) their own miscalculations or (2) the misleading practices of lenders. Each factor illustrates how consumers purchase payday loans without full information. For example, Susan notes, "The website is unclear about how much will be paid in interest and fees on a loan. Also the online site does not give a full account history after payments are made. [Lender] hides the fact that you will never make headway on the loan and by not giving someone their payment history they cannot see that they are not making progress on paying down the loan." Consistently, consumers are unable to fully understand the consequences of their loan decisions. Limited information and guidance compound the problems associated with these loans.

Finally, we see that borrowers' fear of loss, due to liquidity and other factors, is pervasive. Many complaints include reports in which a job, housing, or the respect of family members was lost. These states of powerlessness change perceptions and lead to negative financial outcomes (e.g., reborrowing, incurring hefty fees). Consumers become more dependent on lenders while recognizing abuses of power (Baker, Gentry, and Rittenburg 2005). The CFPB data also describe the exchange between lenders and borrowers as predatory. One borrower says, "I feel like I have been a part of predatory lending and that enough has already been paid back in interest." Another says, "Charging $350.00 on a $500.00 loan that was paid off in less than a month is BEYOND predatory." While payday loans themselves are not predatory, lending practices may be considered as such if they include (1) aggressive or deceitful marketing tactics, (2) bait-and-switch schemes, (3) loan flipping with new fees, (4) charges for unrequested services, or (5) hidden balloon payments (DFI 2017). Such activities undermine consumers' financial well-being and are reiterated in the consumers' complaints. Perceptions of harassment and fraud are consistent themes that emerged in the data (see Table 4). Debt collection practices that unduly harass the borrower weaken the business relationship and compound an already precarious financial burden. Loan practices may also be considered predatory if there is no concern about a borrower's ability to pay (Hill and Kozup 2007). The Truth in Lending Act and Regulation Z require the disclosure of all finance charges and APRs (FDIC 2015), but payday lenders perform minimal analysis on consumers' ability to pay. This laxity, combined with the borrowers' limited financial capacity, underscores the importance of understanding how situational factors interfere with financial decision making. These factors and potential marketplace interventions are tested in our final study.

Study 5

In the previous studies, we illustrated the vulnerability of payday borrowers and the unfavorable behaviors associated with their mental state (e.g., overborrowing). Psychological mechanisms such as myopia and cumulative cost neglect (Sunstein 2006) created by perceived scarcity contribute to these problematic behaviors by compromising consumers' financial well-being. There are two primary approaches for addressing problematic and self-destructive behavior: (1) a user-based approach that emphasizes self-control, and (2) a policy-based approach that utilizes interventions designed to assist consumers (Ikeda 2016). The first approach is favored by advocates of self-autonomy but is limited in its applicability. For example, users must be aware of their problem(s) and capable of making changes independently. The second, more feasible, approach is called a "paternalistic" intervention. Paternalism has been studied as a means to control undesirable behavior and improve well-being in many disciplines (Buchanan 2008; O'Donoghue and Rabin 2003; Sunstein 2006). Sunstein (2006) discusses the effectiveness and appropriateness of weak and strong paternalism on excessive borrowing. In weak paternalism, choice is not removed from consumers and their autonomy is intact; the role of policy makers is merely to guide and help consumers with their choices. Conversely, in strong paternalism, rules are established to control the problematic behavior such as overborrowing. "Strong paternalism forecloses choice, typically on the ground that all or most people will choose unwisely" (Sunstein 2006, p. 254). There are many arguments against the use of strong paternalism, though, because it allows for overriding personal autonomy and freedom of choice (Buchanan 2008; Sunstein 2006). In response, we propose two types of weak paternalistic interventions designed to improve financial decision making without removing consumers' freedom of choice.

Payday loans involve lenders who will offer a loan amount based on an ability to repay, rather than an amount that is actually needed. For instance, a consumer may need only $100 but may be offered up to $800. In the payday industry, very little is known about the amount a consumer truly requires. Payday lenders traditionally base loan amount on a variety of other factors (like credit history). When offered a loan for more than the amount needed, most consumers will agree to a larger loan—thus increasing their debt. The discrepancy between the amount needed and amount offered may cause a priming effect, such that consumers reconsider (and overestimate) the size and cost of their loan.

In addition, attentional neglect, caused by the triple scarcity effect, suggests that consumers are much more likely to overborrow (vs. borrowing only the amount needed) independent of psychological or socioeconomic factors (Shah, Mullainathan, and Shafir 2012). Due to perceptions of scarcity, consumers are likely to take the maximum loan offered (Haushofer and Fehr 2014) despite long-term consequences (Shah, Mullainathan, and Shafir 2012). This effect is even more likely for consumers who reborrow. King and Parrish (2007) find APR rate caps to be effective in reducing consumers' likelihood of reborrowing. More recently, the CFPB has proposed a ruling to limit loans to $500 if lenders are unable to determine consumers' ability to repay the loan (CFPB 2016). This change is structured to limit overborrowing and significantly reduce the likelihood of borrowing again. Capping the loan amount according to need can be considered a form of weak paternalism. Such policies significantly benefit individuals affected by bounded rationality but do not affect others (Sunstein 2006). As the theory of paternalism suggests, consumers who make rational financial decisions are unlikely to overborrow. As a result, loan-capping policies will only affect those consumers whose mental state is affected by perceived scarcity. Capping loan amount according

Table 4. Study 4: Final Coding Framework with Themes and Examples

Theme and Nodes	Example
Scarcity-Induced Burden	
Cycle of debt	"I took out payday loans when my husband wasn't working (a 15-month period) so that we would not have to pay car payments, housing, or utilities late. Since then the interest has eaten us alive where we can't pay them off. We've had to pay them off and renew multiple times."
Lack of liquidity	"We really needed the [cash] money to buy my son's school clothes and pay our bills off....We have paid them the [$X] back and now we find out that we have only been paying the finance fee.... [Lender] was very misleading."
Criticality	"I had medical issues and just had a baby to where I wasn't able to pay.... I have very little income. The finance charge that I later found out was extremely high and [I] was not told that when I signed!"
Loss framing	"This unauthorized transaction took all of my paycheck ... leaving me with literally no monies at all for the next two weeks, most importantly basics like living expenses ... and for bills that are now going to be past due (i.e. rent, utilities, car repair, etc.)."
Emotional Burden	
Harassment	"I left a voicemail with the store demanding that they cease and desist all communication with me and my references as it is harassment."
Aggressive marketing	"[Lender] deposited [$X] into my checking account. This was done without any knowledge by myself as I did not apply for any loan.... This concerned me as I live on limited income and the fact that I did not apply for or request any loan from this company."
Resources Requested	
Additional information	"I wanted to close and settle the account.... After no response for 2 days, I sent another follow-up email.... I was unable to view the Truth in Lending disclosure until after the loan had been processed and funds delivered to my account. No rep can explain to me the details of the interest which seems to be extremely high."
Sought outside aid	"I have disputed the transaction with my bank and have filed a police report as I feel that the merchant has committed a crime. I've also reported the merchant to Oregon District Attorney, Consumer Protection Agency and the Attorney General of their fraudulent activity and in attempts to get my monies returned to me."
Ambiguity of Charges	
Payment expectations unclear	"The website is unclear about how much will be paid in interest and fees on a loan.... [Lender] hides the fact that you will never make headway on the loan and by not giving someone their payment history they cannot see that they are not making progress on paying down the loan. Now I have paid in more money than the loan was issued for and never even got any of the principle paid."
Loan costs unclear	"I took out [$X] from [Lender] and before taking out any money I asked if there was any interest fee they said I didn't have to pay interest if I did something called a pay down.... I cannot afford this any longer and it's really beginning to stress me out. They told me I still owe about [$X] more! I obviously don't have a high paying job to be able to pay them over [$X] worth of funds. I think that's a rip off!"

Notes: The examples provided here are not meant to generalize or make claims about the greater population of payday loan consumers. Instead, quotes are included to demonstrate the patterns within our sample that emerged from each complaint narrative.

to need should decrease overborrowing (in general), and this effect will be stronger (i.e., more favorable) as a function of prior loan usage.

> H_6: The effect of a small variance in loan offering (i.e., loan caps) is stronger (more favorable) for recent payday loan consumers than for new loan users.

Scarcity causes consumers' attention to shift to a current problem, making it difficult to fully understand future consequences. This pattern of behavior occurs when people are motivated to take shortcuts (Cialdini 1993). Thinking mostly about an immediate problem is easier and less stressful than thoroughly regarding future consequences. A second intervention that may overcome this scarcity effect, then, is interrupting the decision-making process and requiring consumers to elaborate on their decision (Cialdini 1993; Shah, Mullainathan, and Shafir 2012). This intervention is consistent with another form of weak paternalism called "debiasing through law" (Sunstein 2006, p. 257). This strategy guides consumers away from the bias of unrealistic optimism whereby they mistakenly believe they can handle the additional costs incurred from overborrowing. Prompting consumers to fully articulate (1) how much money they require and (2) the reasons behind the need is likely to reduce the harmful effects of perceived financial scarcity. With this intervention in mind, we expect the following:

> H_7: The effect of elaboration is stronger (more favorable) for recent payday loan consumers.

Mullainathan and Shafir (2013) suggest that scarcity causes people to "tunnel" (i.e., focus) on the current problem. Tunneling leads to lower IQ test scores by as much as 13 or 14 points. Collectively, these effects from consumers' perceptions of financial scarcity underlie poor financial decision making but may be reduced through the interventions of loan caps and prompted elaboration before a loan amount is chosen.

H_8: (a) Perceived financial scarcity mediates the effect of loan variance on loan decisions and perceptions, and (b) these indirect effects vary by elaboration (conditional indirect effects).

Therefore, the goal of our final study (see Figure 1, Panel B) is to examine the effects of a maximum loan amount and self-reflection (conceptualized here as elaboration). We utilized a controlled experiment to explore three primary questions: (1) Will consumers overborrow when they are offered a loan amount far exceeding their needs? (2) Does self-reflection reduce perceptions of financial scarcity? (3) Will changes in perceived financial scarcity have a positive impact on perceptions and behavioral outcomes?

Study Design

The online study was a 2 (loan variance: small/large) × 2 (elaboration: present/absent) between-subjects design. We manipulated loan variance by employing two maximum loan amounts. We designed this manipulation to be in accord with the proposed CFPB legislation limiting amounts borrowed. We offered a maximum loan of $300 ($800) to participants whom we presented with a small (large) loan variance. To manipulate elaboration, we asked approximately half of them (n = 129) to remember the aforementioned purpose of the payday loan. Specifically, we told participants, "In your own words, please describe why you are requesting this payday loan. Do you recall how much money you need?" Previous loan experience was measured as in Studies 1–3.

Sample and Procedure

Participants were 263 adult American consumers recruited on MTurk. Cell sizes ranged between 63 and 68. We randomly assigned participants to one of the experimental conditions and presented all of them with a brief description of payday lending. In each experimental condition, we furnished all participants with a scenario similar to those in the previous experiments. Slightly more than half of the sample (n = 146) were recent payday borrowers. The sample had a median income of $40,000–$49,999; 85% had attended at least some college, and 56% had acquired a college degree. Slightly more than half of the sample members were female (54%), and the mean age of the respondents was 37 years (SD = 11); 75% were Caucasian; 71% were employed full-time; and geo-IP measures embedded within the survey confirmed responses from 40 states.

Results

Manipulation Checks

We asked each participant to rate their agreement, on a seven-point scale, with the following statement: "In my opinion, this situation represents a financial emergency" (endpoints "disagree" and "agree"). Using a one-way ANOVA, we found no difference in perceptions across conditions ($p > .05$), and one-sample t-tests confirmed means above the scale midpoint (M = 6.2–6.6; all ps < .001). We implemented an instructional manipulation check (Oppenheimer, Meyvis, and Davidenko 2009) and two self-report questions to measure the effectiveness of each manipulation independent of our measures. We included these embedded questions after responses to our dependent measures had been recorded. We requested that participants remember how much they were approved for in the payday loan scenario (up to $100; $300; $500; $800; none of the above). We conducted a two-way contingency table analysis to determine the significance of those participants who correctly identified their experimental condition; 97.8% (small loan variance) and 98.4% (large loan variance) correctly recalled their experimental condition ($\chi^2 = 253.1$, $p < .001$, Cramer's V = .98). Finally, we asked participants whether they had been instructed to remember the purpose of the payday loan, with 96.9% of them correctly recalling the elaboration manipulation and 55% correctly identifying its absence ($\chi^2 = 104.9$, $p < .001$, Cramer's V = .63).

Effects on Loan Amount and Cost Estimations

H_6 predicted that the effect of a small variance (loan cap) is more favorable for recent borrowers. As shown in Table 5, loan variance significantly moderated consumers' loan purchase amount ($F(1, 252) = 9.7$, $p = .002$, $\eta_p^2 = .04$) and was most helpful in this moderation for recent payday loan consumers (see Figure 5, Panel A). As shown, loan amount was significantly reduced when loan variance was minimized for recent consumers. Follow-up contrasts demonstrate that the amount of overborrowing was reduced by $92 ($F(1, 252) = 27.5$, $p < .001$), and the magnitude of this effect is large ($\eta_p^2 = .1$). When both loan user types were given a larger loan variance, recent users borrowed significantly more than new users (difference between recent and new users: M = $100; $F(1, 252) = 27.9$, $p < .001$, $\eta_p^2 = .1$). A similar pattern of effects for recent borrowers is seen when they were asked to elaborate before selecting a loan amount (H_7). Specifically, contrasts show that loan amount is decreased by $30 ($F(1, 252) = 2.8$, $p = .09$). Conversely, there is no difference in loan amount for new consumers with elaboration or when loan variance is reduced (all ps ≥ .3).

We were also interested in testing loan variance and elaboration as helpful interventions in consumers' financial estimations. While there were no interactions between our factors, there were several notable main effects. For example, elaboration improves consumers' finance charge estimates by an average of $16 ($F(1, 252) = 3.74$, $p = .05$, $\eta_p^2 = .02$). While there is a consistent misestimation of costs by recent users, planned contrasts show that finance charge inaccuracy decreased for these users after elaboration was employed ($F(1, 252) = 3.2$, $p = .07$, $\eta_p^2 = .01$). Generally, most payday users are unable to accurately report the APR for their loan (Lawrence and Elliehausen 2008). Thus, reporting the loan's cost as a finance charge (i.e., in dollar value vs. APR) and elaborating beforehand are especially helpful strategies.

Effects on Attitude and Intentions

Generally, new users perceived a payday loan as financially riskier (M = 6.2) than did recent consumers (M = 5.4; $F(1, 252) = 34.4$, $p < .001$, $\eta_p^2 = .12$). However, elaboration

Table 5. Study 5: Effects of Interventions (Variance & Elaboration) and Prior Payday Loan Usage

	Univariate F-Values and η_p^2			
Independent Variables	**Loan Amount**	**Loan Cost Accuracy**	**Repurchase Intentions**	**Financial Risk**
Main Effects				
Variance (V)	14.8**** (.06)	1.53	.305	.222
Elaboration (E)	.165	3.74** (.02)	.656	.792
Loan usage (U)	19.2**** (.07)	1.71	60.9**** (.2)	34.4**** (.1)
Interaction Effects				
V × E	1.45	.594	2.88* (.01)	.105
V × U	9.71*** (.04)	0	.892	.317
E × U	3.35* (.01)	.200	.236	2.01

*$p \le .10$.
**$p \le .05$.
***$p \le .01$.
****$p \le .001$.
Notes: Consideration of future consequences, financial literacy, income, and education are covariates. Suggested norms for η_p^2 effect sizes (in parentheses): small = .01; medium = .06; large = .14. Unreported interactions (e.g., V × E × U) are nonsignificant.

moderates this effect somewhat ($F(1, 252) = 2.99$, $p = .085$) in that perceptions of risk decrease after elaboration occurs. This intervention also affects perceptions of risk differently between loan user types: perceptions of risk decrease after elaboration for recent users but increase for new users. The difference between user types is significant, and the effect size is large ($F(1, 252) = 26.1$, $p < .001$, $\eta_p^2 = .09$). For consumers' repurchase intentions, the effect of elaboration is strongest when consumers are presented with a small loan variance. The intention to repurchase a payday loan increases for small-variance loans with elaboration ($F(1, 252) = 3.2$, $p = .07$, $\eta_p^2 = .01$). Unsurprisingly, recent users' repurchase intentions are higher ($M = 4.2$) than those of new users ($M = 2.4$; $F(1, 252) = 60.9$, $p < .001$), and the magnitude of this effect is substantial ($\eta_p^2 = .2$). Thus, the overall pattern of these results offers partial support for H_6 and H_7.

The Mediating Role of Perceived Scarcity

Consistent with these interactions, H_8 predicted moderated (conditional) mediation effects of loan variance on loan amounts and perceptions of risk through consumers' perceptions of financial scarcity (i.e., a financial need greater than available resources). To test the conditional mediation predicted, we used Preacher and Hayes's (2008) bootstrap method (n = 1,000 samples) via Hayes's (2013) PROCESS SPSS macro (Model 8). As desired in all confidence intervals (CIs) across these measures, the 95% bias-corrected bootstrap intervals never contain a zero. In determining perceptions of financial risk, the direct effect of loan variance was not significant ($p > .3$), but it became fully significant when financial scarcity was entered into the model ($t = 2.7$, $p = .007$), suggesting indirect-only mediation (H_8). As predicted, the indirect effect (IE) of loan variance on risk perceptions differed by the presence (or absence) of elaboration. When elaboration was absent, there is a negative IE such that perceived scarcity increases (IE = –.103, CI = [–.28, –.011]). There was also a conditional IE for loan amount. When elaboration was not used as an intervention, the results show a negative IE on loan amount (IE = –6.6, CI = [–20.2, –.03]) With a large loan variance, this IE is due to increasing perceptions of scarcity, which, in turn, negatively influence the loan amount borrowed (e.g., overborrowing). Results suggest that loan variance works through perceptions of financial-scarcity distance to have favorable effects across consumer perceptions and behavioral outcomes, as suggested in H_8, and these effects vary by elaboration.

Results Summary

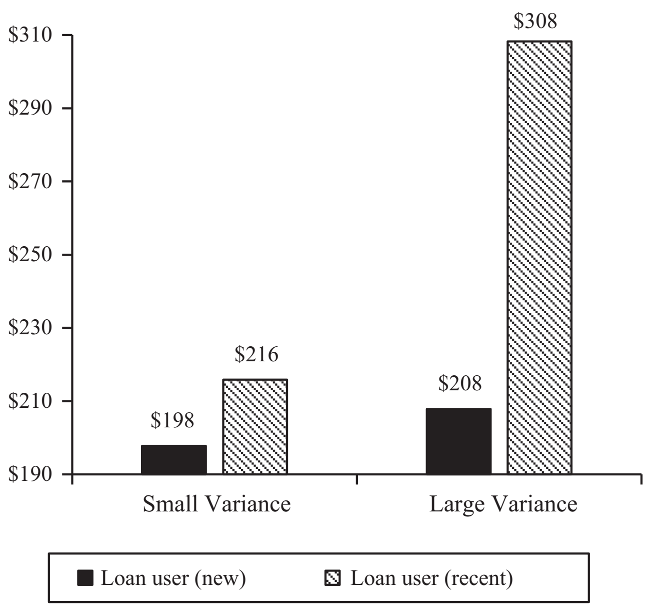
Study 5 tested the effect of loan caps (i.e., a reduced loan offering) and self-reflection (i.e., elaboration) as helpful interventions in financial decisions. In partial support of H_6, the findings indicate that prior loan usage moderates the impact of caps on loan amount. Specifically, loan caps were more helpful for recent payday borrowers. In addition, results support the moderating impact of elaboration, consistent with H_7. Notably, asking participants to elaborate for a capped loan resulted in less favorable perceptions of source credibility and a lower loan amount. Surprisingly, without a cap, the impact of elaboration changed direction, resulting in more favorable perceptions and repurchase intentions. In other words, results suggest that our interventions are more effective when they are offered *together*. Furthermore, we find support for H_8. The effect of a loan cap (i.e., small loan variance) on financial risk perception was mediated through perceived scarcity, and this effect varies as a function of elaboration. This result echoes the outcomes Oregon policy makers experienced when loan caps were introduced in 2007 and average loan amounts decreased by as much as 29% (Zinman 2010). However, some at-risk consumers turned to other, more expensive solutions (e.g., overdrafts, late fees) during liquidity shocks (Zinman 2010, p. 551). Restricting access to high-cost credit may hinder consumers in the short term, so policy makers and lenders should consider changes that work together such as the interventions discussed here.

General Discussion

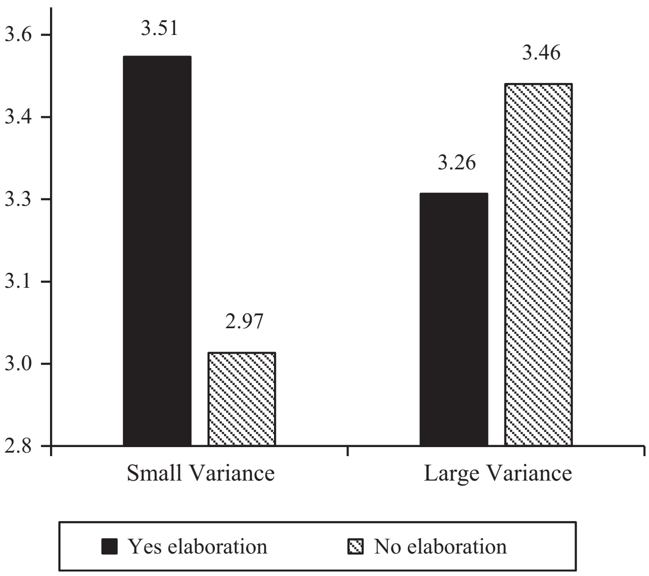
Our understanding of consumers' financial decisions is an important issue for marketers and policy makers. For payday borrowers, there is an "urgent need for marketers to study the

Figure 5. Study 5: The Moderating Effect of Loan Variance, Elaboration, and Loan User Type for Payday Loan Amounts and Purchase Intention

A: Loan Variance × Loan User Type Interaction Plot for Loan Amount



B: Loan Variance × Elaboration Interaction Plot for Purchase Intention



Notes: Panel A: A significant contrast is shown between new and recent payday users with large loan variance ($F(1, 252) = 27.9$, $p < .001$, $\eta_p^2 = .1$). Panel B: A significant contrast is found between users with and without elaboration with a small loan variance ($F(1, 252) = 3.21$, $p = .07$, $\eta_p^2 = .013$).

[payday] industry” (Koku and Jagpal 2015, p. 595). Generally, these consumers have liquidity difficulties and few lower-cost borrowing alternatives (e.g., credit cards). Little is known about their experiences with lenders and the factors that inhibit financial decisions. We address this deficit by describing the perspectives of everyday consumers and the interrelated themes in their complaints. Research investigating the underlying psychological mechanisms in overborrowing is also limited. In response, the present research also provides empirical evidence that consumers make objectively better decisions when their perceptions of financial scarcity are reduced. Results illustrate changes in the “triple scarcity effect” that have important implications for consumers. Moreover, improvements in financial decision making are most notable for consumers who are especially vulnerable to situational changes (e.g., recent borrowers).

The criticality of a situation (e.g., requiring money for a root canal vs. a routine dental exam) does not negatively influence new payday users. Loan amounts and cost estimations remain relatively unaffected by these differences. Recent payday consumers’ perceptions and behavioral responses, however, seem especially vulnerable to criticality. As the need for short-term liquidity (cash) increases, overborrowing and cost misestimation increase as well. As expected, the effect becomes more severe (i.e., less favorable) under conditions of resource scarcity (i.e., no liquidity). In addition, the presence of lending options is most helpful to new payday users, while other aspects of the triple scarcity effect, such as framing (loss vs. gain), have significant consequences for recent payday users. When these consumers need money to prevent a loss (e.g., car repossession), they overborrow an average of $200 (40% more than the amount needed) and underestimate the cost by an average of $500.

Implications for Marketers and Financial Well-Being Policy

Results from our studies offer important implications for payday lenders and consumers’ financial well-being. This form of alternative financial lending has a major role in consumption decisions, mostly of the working poor. On the one hand, supporters of payday loan providers report the industry’s growth as evidence for a market that serves a large population with unmet needs from traditional financiers (Skiba 2014). For example, there are nearly 16,000 payday storefronts in the United States, which outnumber McDonald’s restaurants by 9% (CFPB 2016). On the other hand, critics suggest that loans designed for short-term usage are regularly renewed to meet consumers’ long-term needs instead (Koku and Jagpal 2015; Pew Charitable Trusts 2012). Indeed, our results consistently reflect this outcome. For instance, a prototypical response in the CFPB complaint data (Study 4) illustrates how total debt increases for unexpected reasons and is a condition commonly known as a debt “treadmill”:

> I had understood that there would be a finance charge ... which is quite steep, I realized, but I was in a desperate pinch, and figured it was the penalty I had to pay for mediocre credit and a quick loan.... At this point I was frustrated, confused, and very upset as I felt like the company had me over a barrel and ... now I was stuck taking on more debt.... I am frightened at the prospect of paying these people for the next year and jeopardizing my credit and personal finances.

Nearly 70% of borrowers use payday loans for recurring expenses (Pew Charitable Trusts 2012) but do not fully understand the cost of their loan. This trend serves as the impetus for regulatory solutions that focus on helping consumers accurately calculate total cost.

To reduce exchange inequities, borrowers also ask for transparency in lending practices. In addition, the primary findings of Study 1 show how liquidity and criticality interact to negatively influence the severity of overborrowing, but only for recent borrowers. Cognitive impairment, described here as an effect of perceived scarcity, limits consumers' ability to understand the long-term costs associated with this type of financing. Coupled with limited lending options (Study 2) and loss-framed consequences (Study 3), present-biased decisions are made at the expense of long-term financial security (e.g., reduced debt). Consumers' perceptions of scarcity interfere with decision making when liquidity shortcomings occur (e.g., "I don't have any cash, but I need $500 to repair my car now!").

Interventions tested in Study 5 indicate that self-reflection in the form of elaboration lowers perceived scarcity, which, in turn, results in better financial decisions. In addition, we find evidence that reduced loan offerings (i.e., small loan variance) significantly decreased the amount borrowed, specifically by recent consumers. Our results suggest that payday loan companies can considerably help at-risk consumers by taking very simple steps, like asking them to elaborate on their needs or capping the loan amount offered to them. Such strategies may also be helpful in improving attitudes toward providers. Reputations continue to suffer, as one loan complainant summarizes: "It is unbelievable that a company can get away with literally robbing the consumer. It sheds a bad light on organizations that ... loan money when you really need it."

Financing for high-risk consumers with cash-related emergencies aids an underserved population. Yet advocacy groups against payday loans have disseminated strong opinions in the popular press. Furthermore, practices by some lenders (e.g., fraudulent collection tactics) have hurt the industry. In response, the interventions tested in this research and proposed in the following section may help lenders proactively and positively influence consumers' trust and attitudes. Customer relationship improvements must begin with lenders—*not* legislators. As such, lenders are encouraged to understand the factors that interfere with borrowers' ability to use their short-term credit solutions as designed. Consumers' inability to repay loans that have snowballed into recurring loans hurt all parties involved.

Together, these studies have important implications for payday lenders, marketers, and policy makers. Excessive borrowing may occur simply because consumers are influenced by perceptions of scarcity. As these perceptions change, attentional shifts can decrease in a way that is more likely to positively change behavior (e.g., borrowing less, estimating costs more accurately). Scarcity is more than a lack of liquidity. One consumer who needs money to avoid car repossession will use a payday loan differently than another consumer who needs money for a dental checkup, even when both consumers are cash-poor. Our studies highlight how other situational factors compound problems surrounding the lack of liquidity.

Limitations and Recommendations for Further Research

Changes in the marketplace and regulatory environment for payday lending provide additional factors to consider in future research. For example, substantial updates in advertising policy are likely to greatly affect lenders' search marketing efforts. In fact, Google recently banned all payday loan advertisements, describing payday loans and similar financial services as a "particular area of vigilance given how core they are to people's livelihood and well-being" (Graff 2016). All advertisements for products whereby repayment is required within 60 days, or for those with an APR greater than 36%, are affected by this ban. The goal behind the removal of these advertisements is to protect consumers—especially those who may be unaware of the variety of (lower-cost) options among financial service products (e.g., mortgages, car loans, student loans, commercial loans, credit cards). Google's ban regulates payday-related ad content well in advance of national (i.e., Federal Trade Commission or CFPB) legislation. The timing echoes concerns that human rights leaders have voiced regarding payday-loan advertising. Wade Henderson, president and CEO of the Leadership Conference on Civil and Human Rights (2016), testified in a hearing by the CFPB pertaining to its proposed ruling on payday lending:

> Payday lenders argue that they verify that borrowers can repay their loans—but what they don't do is verify that borrowers can repay their loans while also meeting their other living expenses.... Indeed, the very nature of the payday lending business depends on renewals of existing loans. What is just as troubling is the aggressive marketing of these loans to communities of color and other economically vulnerable populations.

Regulatory measures designed to ensure that consumers can repay their loans without ending up in a debt cycle or in a worse financial situation (e.g., auto repossession, bank account closure) are lauded as positive advances in civil and human rights. Payday loans, in contrast, are often a measure of last resort for consumers. Payday loan users are frequently rejected for traditional (lower-cost) bank loans. Lenders of these short-term loans could consider proactive strategies to illustrate cost more transparently (e.g., interest rates in annual terms) or by including debt warnings. For example, studies in the credit card industry suggest that cost framing may be especially beneficial to consumers with high debt and/or low financial literacy. In these cases, debt may be reduced if consumers are provided with alternative payment suggestions (e.g., "Pay $XX more than the minimum to reduce fees and speed up repayment"; Salisbury 2014).

The welfare impact of lenders for at-risk consumers (e.g., the working poor) is a growing concern for marketers. The reason is clear: this form of financing is regularly used to address long-term needs at disadvantageous and crippling costs. Finance innovations should be explored to propose alternative sources of credit. For example, prosocial lending (e.g., microfinancing, co-ops) is already heavily used in developing countries (Galak, Small, Stephen 2011) and needs additional development and testing with U.S. consumers. Alternatively, traditional financial institutions could consider their corporate social responsibility objectives and provide a portion of their loans at standard interest rates for consumers without liquidity. Such loans could be handled in a manner similar to payday loans (Koku and Jagpal 2015) but with more affordable costs. Banks and other lenders who voluntarily offered this solution would improve their corporate social responsibility image. If this does not occur, policy makers could intervene, and state (or federal) laws could make such provisions a requirement.

Future research could also examine interventions designed specifically for recent payday loan users. Policy changes in Canada and Scotland provide helpful examples. For instance, the Canadian Payday Loan Association understands the gap its financial services offer. In response, it markets payday loan companies as a metaphorical bridge for consumers to meet short-term needs. The provincial government already required payday loan caps, however, and it is considering a requirement for lenders to express interest rates in annual terms (Freeman 2016). In Scotland, suggestions include capping the APR amount (the interest cap on these loans is .8% per day), limiting the total number of loans, extending the minimum loan term, and/or requiring more robust underwriting (Citizens Advice Scotland 2015). However, introducing such policies (including cooling-off periods, i.e., the time between loans) is not always effective at stopping consumers from entering a cycle of debt (King and Parrish 2007). The authors suggest that the only proven way to negate a cycle of debt is through a comprehensive rate cap on payday loan APR at around 36%. However, payday lenders frequently charge a high APR out of necessity as the cost of doing business (Association of Chartered Certified Accountants 2014). Capping the APR could drive many payday lenders out of business, leaving consumers without options when confronted with scarce financial resources.

Other research could focus on sustainable and beneficial solutions that positively influence consumers' financial well-being, while helping payday loan providers to remain profitable. One of the most critical issues concerns the loan amount that lenders offer. With such a high percentage of consumers entering a cycle of debt, payday lenders may be too lax in their underwriting. Therefore, a stricter system that can more accurately assess how much consumers can afford to borrow might be the most efficient and widely applicable solution. Other countries also include warnings for consumers. For example, payday lenders in Scotland are required to warn consumers that "late payments can cause serious money problems" in all email and text advertisements (Citizens Advice Scotland 2015).

Consistent with the proposed ruling by the CFPB for payday loans, our objective also included identifying which consumers are especially vulnerable to the lure of payday loans, a substantive issue that is timely and important to policy makers, to the payday loan industry, and to consumers. In response to this more policy-relevant goal, we realize that the interventions we tested concern an application of theory, as opposed to providing a specific contribution (e.g., Cohen 2005). As a result, future studies could address theoretically compelling topics about the reduction of consumer choice (as in the case of loan or interest rate caps) or regarding the favorable effects of elaboration prior to decision making. Also, several nuanced results (e.g., planned contrasts) achieved only marginal significance (ps > .05 but < .1) but were presented so the overarching pattern across studies could be easily identified. In addition, extending research in this area to other high-cost installment loans (auto title loans, deposit advance products) would allow comparisons for products with varying financial profiles. Experimental studies, comparing consumers' responses to loans with interest rates expressed in annual terms, are likely to compel users to borrow significantly less. For instance, the usury rate for financial services is 60% in Canada. Consumers more easily perceive payday loans with an average rate of 546% (up to 1,000%), then, as substantially more expensive. Moreover, the CFPB has requested inquiries into other products or marketplace practices that affect consumers with cash limitations (CFPB 2016).

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